Academy for Creative Media (ACM)
College of Arts and Humanities

A grade of C or better in the prerequisite courses is required for completion of major.

ACM 215 3D Scene Design (3) Students will design, build, light and render 3D elements for animation scenes. A-F only. Pre: consent.


ACM 255 Cinema and Digital Media (3) Introduction to the study of cinema and digital media: history, aesthetics and production of cinema, computer animation and video game design. A-F only. DH

ACM 310 Cinematic Narrative Production (4) Production-intensive course with collaborative as well as individual projects. Theories and application of basic digital cinema productions, including camera, lighting, sound, and editing. ACM majors only. A-F only. Pre: B or better in 255, or consent. DA

ACM 312 Cinematography (3) Comprehensive course in visual storytelling through narrative cinematic techniques. Must have access to manually controlled still camera. ACM majors only. A-F only. Pre: 310 or consent.

ACM 315 Narrative Game Design (3) Storytelling through computer games. Effect of interactivity on narrative. Interactive plot structures, conceptual design, artwork, audio, cinematography, two- and three-dimensional computer graphics. Design and programming of game narrative using scripting languages. ACM majors only. A-F only. Pre: 215 and 216 or B or better in 255, or consent.

ACM 316 3D Character Animation (3) Creating the illusion of life through the principles of animation. Application of theory to practical scene work with emphasis on acting and personality in animated characters. ACM majors only. A-F only. Pre: 215 and 216 or B or better in 255 and ART 113, or consent.

ACM 317 3D Cinematography and Dynamics (3) Computer animation and cinematography for the design and creation of visual effects. Using particles and dynamics systems to simulate natural phenomena. Compositing of visual layers. ACM majors only. A-F only. Pre: 215 and 216, or 315 and 310 and consent.

ACM 318 Classical 2D Full Animation (3) Hand-drawn animation techniques: rough animation, inbetweening, clean up animation and digital color processes. Digital line testing, sync dialog and other advanced skills for classical 2D full animation. ACM majors only. A-F only. Pre: 215 and 216 and or B or better in 255 and ART 113, or consent.

ACM 320 Computer Animation Production I (3) 3D computer graphics production projects. Students will write, plan, execute, and deliver a 30 second computer-generated short film. Emphasis on visual storytelling and the technical aspects of 3D media authoring. ACM majors only. A-F only. Pre: 316. (Fall only)

ACM 325 Video Effects (3) Principles and techniques of visual effects. ACM majors only. A-F only. Pre: 316. (Fall only)

ACM 326 Motion Capture (3) Use of motion capture technology to generate characters with the illusion of life. Project-oriented. ACM majors only. A-F only. Pre: 215 and 216 or consent.

ACM 327 Editing for Cinema (3) Advanced course in editing and visual storytelling. ACM majors only. A-F only. Pre: 215 or consent.

ACM 328 Foundation 3D/Compositing (3) 3D modeling and compositing techniques and their application to the digital production process. ACM majors only. A-F only. Pre: 315 or concurrent.

ACM 329 3D Computer Animation Production II (3) 3D computer graphics production projects. Students will write, plan, execute, and deliver a 30 second computer-generated short film. Emphasis on visual storytelling and the technical aspects of 3D media authoring. ACM majors only. A-F only. Pre: 316. (Fall only)

ACM 330 Independent Producing (3) Fundamentals of producing for independent film/video. Focus on business acumen and role of the producer through various stages of production. Topics include proposal writing, script breakdowns, budgeting, scheduling, legal issues, festival strategy, and distribution. ACM majors only. A-F only. Pre: 255, 310 (or concurrent), or 316 (or concurrent).

ACM 350 Screenwriting (3) Introduction to the basics of writing a short narrative screenplay for film or television. Students learn the fundamentals and format of screenwriting as well as basic elements of storytelling and character development. ACM majors only. A-F only. Pre: 310 (or concurrent) or 315 (or concurrent), and minimum B- in FW or ENG 200; or consent.

ACM 352 Screening Asian Americans (3) Survey of Asian and Asian representations in American film and television from the silent era to the present. Emphasis on representation of Asian American cultures and multiculturalism, as well as performance and spectatorship. ACM majors: A-F only. Pre: junior standing or consent. (Cross-listed as AMST 352) DH

ACM 355 Orson Welles Screenplay (3) Adapting the storytelling styles, and cultural values of oral tradition storytelling to cinematic narratives. A-F only. Pre: 255 (or concurrent), or consent.

ACM 360 Indigenous Aesthetics (3) Aesthetic theories and practices of indigenous cultures of the Pacific and their adaptation to the screen in cinematic storytelling. A-F only. Pre: 255 (or concurrent), or consent.

ACM 370 Directing the Actor on Screen (3) Introduction of the screen-director to the craft of acting for the camera. Students will develop collaborative communication skills and learn practical techniques to elicit spontaneous and relaxed performance. ACM majors only. A-F only. Pre: 310 (or concurrent) or 316 (or concurrent), or consent.

ACM 374 Post Production Sound (3) Practice course on the techniques and techniques of sound recording, editing, and design for cinema. Students work on projects involving dialogue and sound effects in post production. ACM majors only. A-F only. Pre: 310 or 316.

ACM 375 Directing the Camera for the Screen (3) Detailed analysis of cinematic grammar, placement, movement, focus, and effects of the camera to create the mise en scene. Practical exercises and projects to apply theory to individual creative work. ACM majors only. A-F only. Pre: 310, and 350 (or concurrent) or 355 (or concurrent).

ACM 380 Genre and Narrative Theory in Creative Media (3) Focuses on narrative forms found in film and in other media such as television, genre films, and graphic novels. ACM majors only. A-F only. Pre: junior standing, or consent.

ACM 385 Topics in Creative Media (3) Topics of interest to faculty and students; taught by regular and visiting faculty. Repeatable one time on different topics. ACM majors only. A-F only. Pre: 255 and junior standing or consent.

ACM 386 Techniques in Creative Media (3) Specialized techniques in the creation of digital media: taught by regular and visiting faculty. Repeatable one time in different topics. ACM majors only. A-F only. Pre: 310 or 316, and 350, and consent.

ACM 390 Workshop in Creative Media (V) Short-term intensive workshop in focused area of media production. Repeatable up to six credits. ACM majors only. A-F only. Pre: 255 or consent.

ACM 399 Independent Study Project (V) Participation in a group research or creative project under supervision of ACM faculty member. Only six credits of 399/499 in any combination can be applied to meet requirements for the major. Repeatable up to six credits. ACM majors only. Pre: 310 or 316, and 350, and consent.

Key to symbols & abbreviations: see the first page of this section.

ACM 405 Documentary Production (3) Analysis and practical knowledge of the documentary process including, but not limited to, research, organization and story structure, shooting, camera coverage, and editing. ACM majors only. A-F only. Pre: 310 and 350, or consent.

ACM 410 Advanced Cinematic Production (4) Production of a major cinematic/digital narrative project. Working in groups, each student takes on creative and technical roles representative of a principle crew position. Emphasis on artistic form in narrative development; timely execution from pre- to post-production. Repeatable one time with instructor approval. ACM majors only. A-F only. Pre: 310 and 350, or consent.

ACM 415 Computer Game Production (3) Students will work as a team to produce to design and produce a computer game: 2D game, animation, music, story, music, audio, and project software. ACM majors only. A-F only. Pre: 315 or ICS 313, or consent.

ACM 420 Computer Animation Production II (3) Student teams produce a short, animated film. Prior knowledge of 2D and 3D modeling, animation, and rendering is necessary. ACM majors only. A-F only. Pre: 320 and 350 or consent.

ACM 425 Advanced Screenwriting (3) Application of narrative principles of character development, story structure and dramatic techniques to students' short and feature-length screenplays. ACM majors only. A-F only. Pre: 350 or 355 or consent.

ACM 455 Indigenous Filmmaking (3) Theories and strategies of indigenous film and cinematic project based in indigenous cultural and value systems. Students must complete a certification workshop in camera and editing processes to be enrolled in this course. ACM majors only. A-F only. Pre: 310, and 350 or 355; or consent.

ACM 460 Ethics and Film (3) Ethical theory and dilemmas as reflected in film and filmmaking. Social responsibility for filmmakers. ACM majors only. A-F only. Pre: senior standing or consent.

ACM 480 Oceanic Media and Culture (3) Involves close textual analysis of film, TV and multimedia content. The course includes cinematic and television screenings. Junior standing or higher. A-F only. Pre: 255 or consent.

ACM 482 The American Documentary (3) In-depth study of the nature and impact of documentary filmmaking in America, focusing on the interplay between filmmaker, subject, and Will. Will critically examine documentaries for their use of rhetoric, ethics, and narrative voice. Junior standing only. A-F only. Pre: 255.

ACM 485 Seminar in Creative Media (3) Individual issues in creative media are examined. Students are expected to regularly attend regular and occasional seminars. A-F only. Pre: 255 and junior standing.

ACM 490 Global Media (3) Involves close textual analysis and strategic analysis of the globalism phenomenon, with an emphasis on transnational media corporations. ACM majors only. A-F only. Pre: 255 or consent. (Fall only)

ACM 495 Creative Media Internship (V) Internship in professional cinematic, television, animation and/or digital media production company under professional and faculty supervision. Repeatable up to six credits. ACM majors only. A-F only. Pre: 310 or 316, and 350, and consent.

ACM 499 Directed Study (V) Independent research or creative project under supervision of ACM faculty member. Only six credits of 399/499 in any combination can be applied to meet requirements for the major. Repeatable up to six credits. ACM majors only. Pre: 310 or 316, and 350, and consent.

Accounting (ACC)
Shuder College of Business

ACC 201 Introduction to Financial Accounting (3) Introduction to financial accounting and methods used to record and report financial information to decision makers external to the firm. Use and limitations of financial reports. Pre: sophomore standing.

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ACC 202 Introduction to Management Accounting (3) Introduction to managerial accounting and methods used to report information to decision makers internal to the firm. Cost accounting, budgeting, tools of cost management, and performance evaluation. Pre: 201 with C- or better.

ACC 321 Intermediate Financial Accounting I (3) Accounting process and the application of GAAP to the recognition and measurement of cash, receivables, inventories, property plant and equipment, depreciation and depletion, intangibles, and current liabilities. Pre: 202 with C- or better.


ACC 395 Accounting Internship (V) On-the-job experience in the accounting community. Term paper and meetings with faculty advisor required. CR/NC only. Pre: consent.

ACC 399 Directed Reading and Research (V) Reading and research of a special area in major under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor. Pre: 202 or BUS 624 with C- or better.

ACC 401 Federal Individual Income Taxation (3) Examines federal income tax concepts, such as gross income, exclusions, deductions, exemptions, and tax credits, especially for sole proprietors. Emphasizes taxation of property transactions. Development of professional writing skills is integral to this course. Pre: 202 or BUS 624 with C- or better.

ACC 407 Taxation of Business Entities (2) A survey of the general concepts, rules, and practices involved in the taxation of sole-proprietorships, corporations, partnerships, and S corporations. Pre: 401 with C- or better.

ACC 409 Accounting Information Systems (3) Accounting systems analysis, control and design in manual and computerized environments. Knowledge and skills of information technology for auditing AIS systems. Hands-on experience with microcomputers and a computerized accounting system. A-F only. Pre: 323 (with C- or better or concurrent) and BUS 311 (with C or better).

ACC 413 Law for the Accountant (3) Intensive study of areas of law of importance to accountants. Particular attention is given to principles of law relating to contracts, sales, commercial paper, secured transactions, agency, partnerships, and accountant’s legal liability. Pre: BLAW 200 or consent.

ACC 415 Advanced Financial Accounting (3) Accounting topics relating to consolidation requirements and introduction to the fundamentals of fund accounting, including the general fund, restricted funds, debt service funds, enterprise funds, general long-term account group, general fixed assets accounting group, and accounting entries for encumbrances. Pre: 323 with C- or better.

ACC 416 Special Topics in Accounting (3) Addresses current issues impacting the accounting profession. Topics vary with availability of suitable content. Repeatable three times. MBA and MAACC majors only. Pre: 323.

ACC 418 Auditing (3) Auditing concepts including standards, objectives and ethics for external auditors. Emphasis on reporting standards, internal control, evidence, statistical sampling, IAUD audits and assurance. Development of professional writing skills is an integral part of this course. Pre: 323 and 409, both with C- or better. Repeatable one time, but credit earned one time only. A-F only. Pre: 418. Co-requisite: 407.

ACC 460 Accounting Capstone (4, 1 credit per alpha) Lectures, discussions, case analysis. Integration of numerous elements of the accounting program. Current accounting issues discussed. Relevant topics for (B) managerial; (C) financial, (D) auditing and accounting information systems; (E) tax and ethics. Topics vary with emphasis on instruction in writing. Repeatable one time, credit earned for one time only. ACC majors only. A-F only. Pre: 418 (or concurrent), no waiver for (B), (C), (D), 401 and 418 (or concurrent) for (E). Co-requisites: E for (B); D for (C); C for (D); and B for (E).

ACC 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable unlimited times. Pre: master’s Plan B or candidate and consent.

ACC 581 Financial Accounting I (5) Accounting process and the application of GAAP to the recognition and measurement of cash, receivables, inventories, property plant and equipment, depreciation and depletion, intangibles, current liabilities, and long-term liabilities. A-F only.

ACC 582 Financial Accounting II (5) Application of GAAP in recognition and measurement of investments, pensions, retained earnings, and other topics related to financial statements. Other topics include consolidation and mergers and acquisitions. A-F only. Pre: 581.

ACC 583 Cost Accounting (5) Information for managerial purposes, planning, control, job order and process costing, direct and absorption costing, standard and normal cost systems. Will also cover Government and Not-for-profit topics. A-F only.

ACC 584 Regulation and Accounting (5) Will cover tax accounting topics for individuals, estates, and business entities. Also will cover business law and professional responsibility topics important for the professional accountant. A-F only. Pre: 581.

ACC 585 Auditing and Attestation (4) Concepts include standards, objectives, and ethics for external auditors. Emphasizes reporting standards, internal control, statistical sampling, and assurance. Also covers information systems and relevant measurement topics. A-F only. Pre: 581.

ACC 602 CPA Review-Audit and Attestation (1) Auditing and Attestation (AUD) section covers the entire auditing process, including auditing procedures, generally accepted auditing standards, standards related to attest engagements, and the AICPA Code of Professional Conduct. Repeatable one time. CR/NC only. Co-requisite: 418.

ACC 603 CPA Review-The Business Environment and Concepts (1) The Business Environment and Concepts (BEC) section focuses on business concepts and the signifi cant role of a CPA’s professional duties and responsibilities within the context of the business environment. Repeatable one time. CR/NC only.

ACC 604 CPA Review-The Financial Accounting and Reporting (B) The FAR section focuses on U.S. GAAP, including concepts and standards for financial statements, typical items in financial statements, specific types of transactions and events, accounting and reporting for governmental and other entities. Repeatable one time. CR/NC only. Pre: 323.

ACC 605 CPA Review-The Regulation (1) The Regulation section focuses on federal taxation, especially taxation of business entities; individuals, and property. Topics include business law, business ethics, and professional and legal responsibilities. Repeatable one time. CR/NC only. Pre: 323.

ACC 610 International Corporate Governance (3) Understanding of complex and critical issues of international corporate governance, financial reporting, and ethical conduct. Includes corporate governance in the United States, in emerging markets, and in Asia. Emphasis on internal and external stakeholders, regulators, and gatekeepers. Graduate students only. A-F only.

ACC 616 Accounting Theory and Development (3) History, theory, and development of accounting standards. Including accounting theories, formulating and testing theories; scientific, pragmatic, syntactic and semantic theories; normative and positive theories. Literature supportive and critical of accounting theories and standards. Pre: 323 or 582 with C- or better, or consent.

ACC 619 Information and Assurance Analytics (3) Focus on auditing processes, standards, and guidance specific to IT risks. Exposure to advanced IT auditing software and its practical application and real world IT audit issues. Pre: 418 or 585 with C- or better, or consent.

ACC 620 Global Accounting (3) Theory and fundamental causes of differences in accounting. Special emphasis on problems such as variations create for financial reporting, control, and decision-making within multinational business enterprises. Pre: 323 or 582 with C- or better, or consent.

ACC 625 Accounting and Tax Research (3) In-depth examination of tax and accounting research, IRC, and SEC procedures. Extensive practice in issue identification, reading and analyzing primary authority, and communicating results. Credit not given for both 606 and 625. Pre: 401 or 584 with C- or better, orientation program, or consent.

ACC 631 Tax of Partners/Partnerships (2) Examines advanced topics in federal taxation of partners and partnerships regarding the contribution, operation, and distribution from partnerships and transfers of partnership interests. Pre: 407 with C- or better, or consent.

ACC 635 Advanced Public Sector Accounting (3) Provides the tools necessary for understanding the principles of fiscal accountability and reporting in governmental and not-for-profit organizations. ACC majors only. Pre: 415 or 582 with C- or better, or consent.

ACC 638 Estate and Gift Taxation and Planning (2) Examines estate and gift tax provisions and basic estate planning techniques to save taxes and avoid probate. Overview generated transfers and income taxes on estates and trusts. Pre: 401 or 584 with C- or better, or consent.

ACC 639 Multijurisdictional Taxation (2) Examines international, state, and local tax issues. Topics include U.S. International taxation of in- and out-bound transactions, sourcing of income and deductions and nexus. ACC majors only. Pre: 401 with C- or better.

ACC 648 Financial Statements Analysis (1) Analyses of a firm’s profitability, liquidity, and solvency using ratios and common size financial statements. Students are expected to find strengths and weaknesses of the firm based on their analysis. Repeatable one time. A-F only. Pre: 323, Co-requisite: 660.


ACC 660 Analysis and Decision-Making (2) Integrates learning through analysis and communication of comprehensive business problems. Stresses research, critical thinking, and analytical and communication skills applied to contemporary accounting and tax issues. Pre: 415 or 625 with C- or better (or concurrent), no waiver. Co-requisite: 648.

ACC 690 Current Topics in Accounting (V) Concentration on current issues impacting the accounting profession. Topics vary each semester. Repeatable up to six credits.

ACC 695 Accounting Internship (V) On-the-job experience in the accounting community. Necessary evaluation reports and meetings with faculty advisor required. ACC majors only. Pre: consent.

ACC 700 Thesis Research (V) For candidates only; six credit hours required, one must be taken during semester that degree is being awarded. Repeatable up to six credits. ACC majors only. Satisfactory/Unsatisfactory only. Pre: Macc student and School of Accountancy Director approval.

ACC 701 Financial Accounting Research (3) Provides an overview of financial accounting research. Specific research studies are examined as to their relevance, etc. Repeatable one time. A-F only. Pre: PhD student status in international management or consent.
ACC 702 Managerial Accounting Research (3)
Provides an overview of managerial accounting research. Specific research studies are examined as to their theoretical basis, design, implications, methodology, relevance, etc. A-F only, Pre: PhD student status in international management or consent.

ACC 703 Research in Behavioral Accounting (3)
Provides an overview of accounting research in behavioral accounting. Specific research studies are examined as to their theoretical basis, design, implications, methodology, relevance, etc. A-F only, Pre: PhD student status in international management or consent.

ACC 704 Research in Accounting Information Systems (3)
Provides an overview of accounting research in accounting information systems topics. Specific research studies are examined as to their theoretical basis, design, implications, methodology, relevance, etc. A-F only, Pre: PhD student status in international management or consent.

ACC 799 Directed Reading and Research (V)
Reading and research in an area of accounting under the direction of faculty member(s). Repeatable unlimited times. A-F only, Pre: PhD student status in international management or consent.

Aerospace Studies (AS)

ROTC Programs
The leadership laboratory is required for all courses. Conducted within the framework of organized cadet corps with progression of experiences designed to develop leadership potential. Involves Air Force customs and courtesies, drills, and career progression.

AS 101 Foundations of the United States Air Force (1)
Study of the total force structure, strategic offensive and defensive, general purpose, and aerospace support forces of the Air Force in the contemporary world. A-F only.

AS 101L Initial Military Training I (1) Laboratory consists of activities that focus and promote the Air Force way of life. Instruction will include leadership and followership development, teamwork, physical fitness training, and activities designed to build camaraderie and esprit de corps. Course is open to all majors. CR/NC only.

AS 102 Foundations of the United States Air Force (1) Continuation of AS 101L. CR/NC only.

AS 102L Initial Military Training II (1) Laboratory consists of activities that focus and promote the Air Force way of life. Instruction will include leadership and followership development, teamwork, physical fitness training, and activities designed to build camaraderie and esprit de corps. Course is open to all majors. CR/NC only.

AS 201 Evolution of USAF Air and Space Power (2) Study of Air Force heritage, Quality Air Force principles, ethics, and an introduction to leadership and group leadership problems. Application of written and verbal communication skills is included. A-F only.

AS 201L Field Training Preparation I (1) Laboratory consisting of two-week AFROTC cadets with the skills needed to successfully complete AFROTC Field Training. Students will learn basic military skills, Field Training skills, and participate in physical fitness training. CR/NC only. Pre: consent.

AS 202 Evolution of USAF Air and Space Power (2) Continuation of 201. A-F only.

AS 202L Field Training Preparation II (1) Continuation of 201L. CR/NC only. Pre: consent.

AS 251L Leadership Laboratory I (1) Laboratory on the basic and intermediate aspects of leadership and followership. Lab includes application of leadership/followership skills, various field trips to military installations, group projects, and physical training. Repeatable one time. CR/NC only. Co-requisite: 101 and 201; or consent. (Fall only)

AS 252L Leadership Laboratory II (1) Continuation of 251L. Repeatable unlimited times, but credit earned one time only. Sophomore standing or higher. Open to all majors. CR/NC only. Co-requisite: 102 and 202. (Spring only)

AS 301 Air Force Leadership Studies (3) Integrated management course emphasizing the military officer as a manager in an Air Force, including individual motivational and behavioral processes, leadership, communication and group dynamics. A-F only.

AS 301L Intermediate Cadet Leader I (1) Laboratory consists of demonstration of leadership and management skills needed to successfully function as an Air Force officer. Instruction will include lessons covering planning, organization and communication skills, and the ability to use available resources to complete an assigned task. CR/NC only. Pre: must have completed AFROTC Field Training; or consent.

AS 302L Air Force Leadership Studies II (3) Continuation of 301. A-F only. Pre: must have completed 301.

AS 302L Intermediate Cadet Leader II (1) Continuation of 301L. CR/NC only. Pre: must have completed AFROTC Field Training; or consent.

AS 401 National Security Affairs (3) Study of the national security studies, advanced leadership, ethics, and Air Force doctrine. Special focus placed on preparation for active duty and current issues affecting international. A-F only. Pre: 352 or consent. (Fall only)

AS 401L Senior Cadet Leader I (1) Laboratory consists of providing prospective Air Force officers opportunities to continue to develop leadership, managerial, and supervisory skills. Instruction will include preparation for active duty. CR/NC only. Pre: must have completed 351 and 352L; or consent.

AS 402 National Security Affairs (3) Continuation of 401. A-F only. Pre: 401 or consent.

AS 402L Senior Cadet Leader II (1) Laboratory consists of providing prospective Air Force officers opportunities to continue to develop leadership, managerial, and supervisory skills. Instruction will include preparation for active duty. CR/NC only. Pre: must have completed 351 and 352L; or consent.

Agricultural and Resource Economics (AREC)

College of Tropical Agriculture and Human Resources; also Natural Resources and Environmental Management (NREM)
AREC 610 Biosystems Modeling (3) Introduction to system thinkings involving system models, characteristics of important agricultural system models, computer approach to evaluation and optimization of system models. Pre: one of MATH 215, MATH 220, or MATH 251A; or consent. (Cross-listed as BE 658)

AREC 626 Econometrics I (3) Review of probability, estimation, simple sample and asymptotic properties. Bivariate and multiple regression and matrix algebra formulation. Regression diagnostics. Introduction to heteroskedasticity, autocorrelation, simultaneity, dichotomous variables, advanced topics. Pre: NREM 310 or ECON 321, and MATH 241; or consent.

AREC 634 Economic Evaluation (3) Application, statistical estimation, inference, and forecasting of economic models. Includes advanced topics for single-equation models, pooled models, qualitative dependent variables, distributed lag, and time series. Pre: 626 and ECON 628, or consent. (Cross-listed as ECON 629)

AREC 700 Thesis Research (V) Repeatable unlimited times.

AREC 800 Dissertation Research (V) Repeatable unlimited times.

American Sign Language (ASL)

American Sign Language (ASL) College of Languages, Linguistics and Literature
ASL 101 Elementary American Sign Language I (3) Development and expression; conversational and professional skills in American Sign Language; linguistic structure introduced inductively through mix of lectures and discussion; includes discussion of history and culture of Deaf community in the U.S. HSL.

American Studies (AMST) College of Arts and Humanities

The minimum required grade for prerequisites is a grade of C (not C-) or better. Sophomore standing or consent is required for all 300-level courses except as noted.

AMST 110 Introduction to American Studies (3) Introduction to different types of college-level writing through analyses of contemporary American culture and to the methodology used in American studies and the humanities. DH

AMST 111 Introduction to American Studies Writing (3) Introduction to different types of college-level writing and information literacy with a focus on American culture and society. A-F only. FW

AMST 150 America and the World (3) Examines America’s role in world history and the influence of world affairs on U.S. culture and society. Focuses on U.S. independence with Native American, Asian, and Polynesian civilizations, from 1492 to present. FGB

AMST 201 American Experience: Institutions and Movements (3) Interdisciplinary course that examines diversity and changes in American values and institutions--political, economic, legal, and social. DH

AMST 202 American Experience: Culture and the Arts (3) Interdisciplinary course that examines diversity and changes in American cultural values and cultural--literature, film, visual arts, and architecture. DH

AMST 211 Contemporary American Domestic Issues (3) Interdisciplinary exploration of such current American domestic issues; topics such as politics, economics, civil rights, family life, the justice system, and the environment. DS

AMST 212 Contemporary American Global Issues (3) Interdisciplinary exploration of such current global issues as international diplomacy, economic development, national security, demographic change, and environmental protection. DS

AMST 220 Introduction to Indigenous Studies (3) Interdisciplinary survey that examines the histories, peoples, and cultural traditions of Native American, Alaska Natives, Kanaka Maoli, Chamorro, and Samoans. DS

AMST 225 Art and Social Change (3) Will analyze examples from the visual and performing arts, including murals, digital art, film, poetry, and music, paying particular attention to the ways in which art and culture influence and influence upon American society. Historical and contemporary. Topics include: slavery and racism, community formation...
and resistance, cultural expression, African American diversity, civil rights, gender and class relations. DH

AMST 316 U.S. Women’s History (3) History of U.S. women and gender relations. Topics include women’s work in and outside the household, women’s involvement in social movements, changing attitudes about gender and sexuality, and shared and divergent experiences among women. (Cross-listed as HIST 361 and WS 311) DH

AMST 317 African Music and Culture (3) Analysis of a variety of American musical genres and histories through focused writing assignments (record and performance reviews, personal narratives, interviews, research, research papers). Pre: second year standing or consent. (Alt. years) DH

AMST 319 American, Hawaii, and World War II (3) Examines WWII as a watershed in American and Hawaiian history and culture. Topics include: Pearl Harbor, Japanese American internment, sex and racial tensions, Anti-Semitism, the Holocaust, and the dawn of the Atomic Age. DH

AMST 320 American Environments: Survey (3) Survey of social, political, and cultural relations in diverse, contemporary American environments, including urban centers, suburbs, Indian reservations, farming communities, and national parks. Special emphasis on contemporary environmental issues in Hawai’i. DS

AMST 325 Religion and Law in the U.S. (3) Surveys church-state jurisprudence since the 1940s, with special attention to difficulty of defining religion, and applies the religion clauses to current issues. A-F only. Pre: sophomore standing, or consent (Once a year) (Cross-listed as POLS 325) DH

AMST 326 American Folklore and Folklife (3) Examination of the history and ethics of folklore studies and the dynamics and social functions of traditional culture in diverse communities through topics such as ritual, storytelling, games, gossip, belief, music, and cultural tourism. Junior standing or higher. (Cross-listed as ANTH 326) DH

AMST 334 Digital America: Online Communities and Virtual Worlds (3) Seminar on the impact of the digital revolution and virtual communities on American culture and society, with an emphasis on questions of privacy, identity, and literacies that address the digital divide and changing work environment. Capitalism, unionism, race, gender, law, etc. Emphasis on 20th century. (Cross-listed as HIST 477) DH

AMST 337 Gender, Justice, and Law (3) Exploration of landmark U.S. Supreme Court cases related to sex and gender. Topics may include sexual discrimination, sexual orientation discrimination, privacy, and reproductive freedoms. A-F only. Pre: WS 151, WS 176, WS 202, WS 360, WS 381, or consent. (Cross-listed as POLS 368 and WS 346) DS

AMST 340 Race and Racism in America (3) Race and racism today: their history and significance. Pre: junior standing or consent. DH

AMST 341 Racism, American Culture and Film (3) History of American racism and its depiction in American culture and film to the present. Topics include changing work environment, unionism, racial, and gender. Pre: junior standing or consent. DH

AMST 342 Social Movements (3) Examination of major social movements in U.S. history from the Revolution forward, including abolitionism, feminism, civil rights, labor, and more. Concludes with analysis of various community organizing efforts today. DH

AMST 343 American Race, Culture and Film/ Media (3) An exploration of the critique of racial ideologies in American film. The course also examines how oppressed communities develop cultural sensibilities, aesthetic identities, and political identities through film, video and media work. DH

AMST 345 American Culture and Law (3) Survey of history and significance of U.S. law to American culture and society, with an emphasis on cultural production and community politics. Pre: sophomore standing. (Cross-listed as ES 318) DH

AMST 346 Environmental Movements (3) Examines the history and significance of major environmental movements in the U.S. from the late 19th century to the present. Pre: junior standing or consent. DH

AMST 350 Culture and the Arts in America (3) Study of the role of the arts in American society and diverse cultural practices in historical and contemporary contexts. DH

AMST 352 Screening Asian Americans (3) Survey of the history and significance of Asian-American representations in American film and television from the silent era to the present, with an emphasis on Orientalism and multiculturalism, as well as performance and spectatorship. ACM majors: A-F only. Pre: junior standing or consent. (Cross-listed as ACM 352) DH

AMST 353 Indigenous Lands and Waters (3) Examines indigenous peoples born or located in Indigenous places, and the indigenous knowledge of place informing Indigenous cultural, linguistic, intellectual, and political survivance and sovereignty, and resistance. DH

AMST 355 American Empire (3) Examines the interplay between the “American empire” and the rise of the U.S. as a superpower. Topics: imperialism and political culture, social movements and international affairs of power and class relations. (Cross-listed as HIST 379) DH

AMST 360 American Cinema (3) Introductory history of American cinema from the silent to the digital era, with an emphasis on criticism, genre and style, as well as cultural and sociopolitical context. DH

AMST 365 American Empire (3) Examines the interplay between the “American empire” and the rise of the U.S. as a superpower. Topics: imperialism and political culture, social movements and international affairs of power and class relations. (Cross-listed as HIST 379) DH

AMST 373 Filipino Americans: History, Culture and Politics (3) An introduction to the study of Filipino Americans in the U.S. and the diaspora. The course pays special attention to labor migration, cultural production and community politics. Pre: sophomore standing. (Cross-listed as ES 373) DS

AMST 375 American Studies Approach (3) Methodological approaches to American life and thought. AMST majors only. DH

AMST 401 Filipino American: Research Topics (3) A research seminar on the study of Filipino American. Special topics in film/video/media, the performing arts, or literature may be offered. Pre: junior standing or consent. (Cross-listed as ES 445) DH

AMST 405 Indigenous Literature and Film (3) Interdisciplinary, comparative course examining native literary texts (novels, short fiction, poetry), films, etc. that address issues of representation and how native peoples actively resist colonial ideology. DH

AMST 410 Asian American Music Cultures (3) An exploration of how music making is related to community formation, labor migration, and cultural sensibilities throughout the 20th century. DH

AMST 411 Japanese Americans: Research Topics (3) Research and thematic seminar on Japanese American culture, issues, and history. Pre: junior standing or consent. DH

AMST 413 Regionalism: The South (3) Definition of a Southern identity and its relation to the larger U.S. culture, using literature and cultural/political works of the 19th- and 20th-century DH

AMST 418 Hawai’i Pan-Asian Multiculturalism (3) A multidisciplinary examination of the dynamics of the Hawai’i Islands: racial and cultural diversity from the perspectives of historical trends, social processes, and contemporary political, social, and economic issues as they impact interracial relations. DS

Key to symbols & abbreviations: see the first page of this section.
linkages between American identity, representation, labor and capital through fashion theory, clothing discourses and other practices of textile production over history. Pre: junior standing or consent. DS AMST 455 U.S. Women’s Literature and Culture (3) Reading of U.S. women’s literature and cultural texts (such as art and film). Emphasis on historical and cultural context and diverse expressions of women’s gendered identities. (Cross-listed as DL 445) DL AMST 456 Art of the United States (3) Emphasis on the 18th and 19th centuries. Pre: 202 or ART 176, or consent. (Cross-listed as ART 472) DH AMST 457 Museum Interpretations (3) Studies the interpretive methods used by museum curators to communicate with visitors in museums, art galleries, historic sites, parks, and related places. Considers how interpretations contribute to cultural knowledge. Repeatable one time. Pre: consent. (Cross-listed as ART 481) DH AMST 458 Film in American Culture (3) Comprehensive survey of a variety of film experience from historical and contemporary points of view. DL AMST 459 Sports in America (3) Sports as reflected in literature, films, and TV. DS AMST 460 Early 20th Century American Art (3) American art in the first half of the 20th century and its importance in current art. Junior standing required. Pre: ART 176 or consent. (Alt. years: fall) (Cross-listed as ART 460) AMST 461 America’s World Role (3) Examination of America’s role in modern world affairs, against the backdrop of history, perceptions, and values. DS AMST 464 America and Africa (3) American attitudes toward Africa, as well as how Africa has functioned within the dynamics of American culture and history. DH AMST 465 American Experience in Asia (3) Comparison of American experiences in Japan, China, and Southeast Asia within historical and perceptual frameworks. DH AMST 466 Region, Sex, and Gender in the U.S. (3) Examines religious and ethical conflicts about sexuality and gender nonconformity in contemporary America. Students gain knowledge, practical wisdom, and communication skills to negotiate moral disagreements in a pluralistic society. Pre: junior standing or consent. DH AMST 474 Preservation: Hawai‘i, Asia, and the Pacific (3) Lectures and discussions on historic preservation in Hawai‘i, Asia, and the Pacific. Emphasis on indigenous and national expressions. Pre: junior standing or consent. (Cross-listed as ARCH 474) DH AMST 475 Documentation of Historic Architecture (V) Study and documentation of existing buildings, structures, sites of historic and/or cultural significance, including field measurements and drawings, historical research, photo documentation, and preparation of archival drawings to be deposited in the Library of Congress. Documentation conducted according to standards of the Historic American Buildings Survey/ Historic American Engineering Record (HABS/HAER). Repeatable three times, up to 24 credits. AMST, ARCH, and HIS majors only. Pre: consent. (Cross-listed as ARCH 472) DH AMST 483 Elements of Research (3) Required research methods in American Studies in preparation for the senior capstone project. AMST majors only. A-F only. Pre: 383 (Fall only) DH AMST 484 Senior Capstone Project (3) Capstone course in which advanced students undertake a major research-based project. AMST majors only. Pre: 483 and consent. DH AMST 489 World Maritime History (3) Survey of world maritime history from earliest times to the present. Emphasis on the evolution of nautical technology, motives from maritime enterprises, and the impact of cross-cultural encounters between oceanic peoples. (Cross-listed as HIST 489) DH AMST 490 (Alpha) Topics in American Studies (3) Themes, problems, and issues not addressed in other American studies undergraduate courses, focused within these areas: (A) social structure and interaction; (B) arts and environment. Repeatable one time. Pre: junior standing or consent for (D).

AMST 499 Readings in American Studies (V) Directed readings and research for majors. Pre: consent. AMST 500 Master’s Plan B/C Studies (1) Graduate standing or consent required for all 600-level courses. AMST 600 Approaches to American Studies (3) Introductory survey of methodological issues underlying research in American studies. AMST 601 Patterns of American Cultures (3) American cultural landscapes. AMST 603 Advanced Research and Professional Development (3) Prepares advanced graduate students to present original research findings to colleagues, write for peer review, design undergraduate classes in their areas of expertise, and participate actively in their fields. Graduate students only. A-F only. Pre: (600 and 601) with a minimum grade of B-. AMST 610 Early America (3) Interdisciplinary approach to understanding early American culture and history. Repeatable one time. Pre: graduate standing or consent. (Alt. years) (Cross-listed as HIST 632B) AMST 611 Asian America (3) The Asian American experience from an interdisciplinary and humanities perspective. Asian American history, literature, and theater arts. Comparative study of Hawaii and the Continental U.S. AMST 612 Women in American Culture (3) Historical/cultural context of women in the U.S.; women’s roles as defined by legal, educational, political, economic, and social institutions; implications for social science method. (Cross-listed as WS 612) AMST 614 Advanced Topics: American West (3) Examination of the U.S. colonization of the American West. Topics include: European-indigenous relations, migration and labor, regional literature, frontier ideology, ethnic conflict, and new community formation. A-F only. Pre: graduate standing and consent. (Cross-listed as HIST 639F) AMST 615 Performance, Culture, and Theory (3) Survey of Asian American performance arts and public culture (e.g., dance, theater, music, commemoration). Topics include: theoretical application for the discipline of American studies, and the impact of social movements and labor migration on the performing arts. AMST 616 Gender and the African Diaspora in the Americas (3) Explores the impact of the African Diaspora on the cultures and histories of the Americas through interdisciplinary and feminist scholarship and cultural sources including fiction, foodways, film, poetry, religion, music, and dance. A-F only. Graduate standing only. AMST 617 Social and Cultural Diversity in America (3) Examination of selected subcultures in America. AMST 618 American Sexualities (3) Aspects of sexual identity within the context of American culture. AMST 619 Slavery and the Modern Memory (3) Exploration of contemporary resonances of slavery in the Americas through literature, historical scholarship, memory and trauma studies, and the visual and performing arts. A-F only. AMST 620 Indigenous Identity (3) Interdisciplinary and comparative focus on how Indigenous identity is constructed, negotiated, asserted, ascribed, and deconstructed within and without Indigenous communities worldwide. Graduate students only. Pre: graduate level standing or higher. AMST 623 American Architecture (3) Study of the evolution of American architecture from the Colonial period to the present. Emphasis on the role of social, political, and cultural factors in the shaping of architecture. AMST 625 Material Culture (3) Physical artifacts considered as documents of American cultural and regional development. AMST 626 Environment and Society (3) Technological development in cultural perspective; its relation to the American environment, science, capitalism, public policy, and values. AMST 632 Mass Media (3) Appraisal of major media of communications in American society with attention to political, educational, cultural, and ethical implications. AMST 635 Public History and Commemoration (3) Approaches to public presentations of history and examination of various ways in which historic memory is constructed in sites such as museums, memorials, and theme parks. AMST 638 American Punishment (3) Examines the history of American criminal punishment, from the birth of the penitentiary to the rise of the prison-industrial complex. Pre: graduate standing. (Cross-listed as SOC 638) AMST 640 Writing for Publication (3) Advanced seminar designed to convert graduate research projects into publishable scholarly articles. Repeatable one time. A-F only. AMST 643 Revolutions and Social Movements (3) Examines the role of social movements in transforming American society and culture. AMST 645 Historic Preservation (3) Federal, state, and local laws and regulations that regulate and provide protection to significant archaeological and historical resources in Hawai‘i and the region. (Alt. years: spring only) (Cross-listed as HIST 639B) AMST 664 Advanced Topics: Social/Cultural/Intellectual (3) Readings and research on American social and intellectual history. Repeatable one time. Pre: graduate standing and consent. (Cross-listed as HIST 639K) AMST 669 American Intellectual Traditions (3) Examination of intellectual figures and movements in American history. AMST 670 Field Mastery (3) Prepares students to achieve specialization in an American Studies-related academic field. Repeatable two times with different contents. Graduate students only. A-F only. AMST 676 Film in America (3) Examination of various roles of motion picture film in America with particular respect to art form, cultural artifact, document, and myth. AMST 679 Arts in America: Modern to Post-Modern (3) Seminar examining the role of the performing arts in literature, film, and theater arts. Comparative study of Hawai‘i and the Pacific. AMST 683 Globalization and Transnationalism (3) Examines the socioeconomic and cultural meanings of globalization and transnationalism. Emphasis on how the deployment and flows of power beyond the nation-state have an impact on regional, national, and/ or local communities and cultures. AMST 686 Advanced Topics: America and the World (3) Historical and contemporary issues in America’s global relationships. AMST 695 Arts in America: Modern to Post-Modern (3) Seminar examines the role of the performing arts in literature, film, and theater arts. Comparative study of Hawai‘i and the Pacific. AMST 699 Advanced Topics: America and the World (3) Historical and contemporary issues in America’s global relationships. AMST 700 Comparative Methods in American Studies (3) Examines approaches to American studies that use comparison as a primary method. Comparison of histories, institutions, of phenomena between the U.S. and another nation-state as well as among communities in the U.S. Graduate standing only. Co-requisite: 600 or 601 or 602, or consent. (Every 2-3 years) AMST 767 Indigenous Curation and Museums: Practice Meets Theory (3) Seminar explores the history, evolution, and contemporary movement towards indigenous curation within museums, emphasis on the Americas and Oceania, as shaped by colonialism, globalization, multiculturalism, self-determination, and nationalism. (Fall only) AMST 767 20th Century U.S. Literature (3) Selected works of 20th-century literature as cultural document. AMST 767 African American Literature (3) Examines the role of American literature from African American authors.
AMST 675 Preservation: Theory and Practice (3) History and philosophy of historic preservation movement. Analysis of values and assumptions, methodologies and tactics, implications for society and public policy. (Cross-listed as ARCH 628 and PLAN 675)

AMST 676 Recording Historic and Cultural Resources (3) Techniques in recording and evaluation of historic buildings and other resources, with an emphasis on Federal, state and local laws and regulations. (Cross-listed as ANTH 676 and PLAN 676)

AMST 677 Historic Preservation Planning (3) Local-level historic preservation, with an emphasis on historic districts, design guidelines, regulatory controls, and community consensus-building. (Cross-listed as ANTH 677)

AMST 679 Elements of Style (3) The manifestations, visual characteristics, and social/cultural meaning of "style" in American architecture and decorative arts from the early settlement period through the present. (Cross-listed as ARCH 679)

AMST 680 Historic Building Technology (3) History of buildings, building technologies, materials, and finishes, including construction techniques and methods of investigating older buildings. Emphasis on North America from 1600 to 1960. (Cross-listed as ARCH 680)

AMST 681 Vernacular Architecture (3) Methods and approaches in the study of vernacular architecture, cultural landscapes, and material culture, with an emphasis on traditions and innovations in the Americas. (Cross-listed as ARCH 681)

AMST 683 Museums: Theory, History, Practice (3) History and theory of museums and related institutions (art galleries, historic houses, zoos, parks). Relationships between museums, collections, and communities. Introduction to governance, planning, legal, and ethical concerns. (Cross-listed as EDCS 683)

AMST 684 Museums and Collections (3) Work of museums and professionals (registrars, collections managers, conservators, and educators) in the care of collections, interpretive studies of museum displays and collections and field trips. Pre: 683 (or concurrent) or consent.

AMST 685 Museum and Education (3) Overview of museum education including museum learning theories, informal learning programs, audience research, national and international policies and reports, and community projects. Pre: 683 (or concurrent) or consent. (Cross-listed as EDCS 685)

AMST 686 Museum Studies Practicum (3) Applies coursework in museum studies to hands-on activities under the direction of practicing professionals and university faculty. May be counted as museums study courses students only. A.F only. Pre: consent.

AMST 688 Indigenous Studies Practicum (3) Applies course work in Indigenous studies to hands-on activities under the direction of practicing professionals and university faculty. Repeatable one time. Graduate students only. A.F only. Pre: consent.

AMST 690 Research Seminar (3) Themes, problems, and issues not addressed in other American studies graduate courses; emphasis upon research methods. Repeatable unlimited times.

AMST 695 Historic Preservation Practicum (3) Applies course work in historic preservation to hands-on activities under the direction of practicing professionals and University faculty. Historic preservation certificate students only.

AMST 696 (Alpha) Preservation Field Study (6) On-site historic preservation field study. Site will rotate. Academic and hands-on preservation training. (B) Hawai‘i; (C) Asia; (D) Pacific. Each alpha repeatable up to 18 credits. Pre: consent.

AMST 699 Directed Reading/Research (V) Repeatable limited times.

AMST 700 Thesis Research (V) Repeatable limited times.

AMST 800 Dissertation Research (V) Repeatable limited times.

Key to symbols & abbreviations: see the first page of this section.

Animal Sciences (ANSC)

College of Tropical Agriculture and Human Resources

ANSC 101 Success Skills Development in Human Nutrition, Food and Animal Sciences (1) Combined lecture-discussion course for majors in ANSC and FSHN with opportunities to learn about skills, competencies, and university resources necessary to succeed in college. FSHN and ANSC majors only. A.F only. Pre: consent. (Cross-listed as FSHN 101)

ANSC 200 Humans, Animals, and Agriculture (2, 1-3 hr Lab) Introduction to animal agriculture, animal science, and the use of animals by humans. Ethics and importance of human use of animals in agriculture emphasized. DB

ANSC 201 Principles and Practices of Animal Science (3) Biology, behavior, and management of animals of economic and social importance. Topics include physiology, genetics, nutrition, reproduction, behavior, care, and management to achieve productivity, performance, and welfare. (lecture, discussion, and field trips) DB

ANSC 244 Comparative Nutrition (3) Digestive systems and nutrient functions, interactions and metabolism are compared among animal species, including humans. An intermediate, general nutrition course for Food Science and Human Nutrition and Animal Sciences students. Pre: BIOL 101L (or concurrent), CHEM 161/L or higher. (Cross-listed as FSHN 244) DB

ANSC 301 Anatomy of Domestic Animals (3) Micro- and gross anatomy as a review of tissues and organ systems of domestic animals. Pre: 200 (or concurrent). Co-requisite: 301L. DB

ANSC 301L Domestic Animal Anatomy Laboratory (1) Laboratory to accompany 301. Dissection and identification of anatomical arrangements of tissues and organ systems of domestic animals. A.F only. Pre: 301 (or concurrent). CR/NC only. (Fall only) DB

ANSC 321 Applied Animal Nutrition (3) (2 Lec, 1-3 hr Lab) Application of the principles of nutrition to feeding of farm animals; composition and nutritional value of feed stuffs; nutritional requirements of beef cattle, dairy cattle, horses, and swine. Pre: 201 (or concurrent), and 244 or FSHN 244. DB

ANSC 350 Humans, Food, and Animals: Ethics, Issues, and Controversies (2, 1-3 hr Lab) Ethical issues and other controversies related to human and animal needs; their impact on resource sustainability and quality of life are explored from scientific perspectives. A.F only. Pre: 200 or 201 or BIOL 171L or FSHN 185 or 350. DB

ANSC 353 Horses and Horsemanship (3) (2 Lec, 1-3 hr Lab) Origin of species, breeds, nutrition, care, management. Lab on management practices with work on light horses. Pre: 200, or 201 (or concurrent). DB

ANSC 431 Beef Production (3) (2 Lec, 1-3 hr Lab) Principles of economic beef production, including beef breeds, selection, breeding, management systems, feeding, and marketing under tropical conditions. Pre: 221 and 445. DB

ANSC 432 Swine Production (3) (2 Lec, 1-3 hr Lab) Principles of efficient pork production, including comparative breed evaluation, breeding, feeding, management, marketing, and business aspects, introduction to swine nutrition and environment emphasized. Pre: 321 and 445. DB

ANSC 433 Tropical Dairying (3) (2 Lec, 1-3 hr Lab) Principles involved in economical milk production in the tropics, including management, recordkeeping, breeds, breeding, selection, culling, feeding, housing, milking, quality control, and raising young animals. Pre: 321 and 445. DB

ANSC 445 Genetics and Animal Breeding (3) Genetics and application of genetic principles to livestock, poultry, companion, aquatic, and laboratory research animals. Current practices and future developments. Pre: BIOL 101L, or ZOOOL 101L, and MATH 140 or higher. Recommended: biochemistry and genetics or equivalent. DB

ANSC 446 Genes and Animal Biology (3) An understanding of animal biology at the level of genes and their regulation; emphasis on gene structure, recombinant DNA, transgenic animals and functional genomics being used for agricultural, nutritional and biomedical sciences. Open to non-majors. A.F only. Pre: BIOL 171L or ZOOL 101L or higher. DB

ANSC 450 Aquaculture Production (3) Theory and practice of aquaculture: reproduction, yield trials, management, economics and business case studies of fish, crustaceans, and molluscs. Field classes held at commercial farms and hatcheries. Pre: BIOL 172/L and CHEM 162/L or higher. (Cross-listed as OCN 450) DB

ANSC 451 Physiology of Domestic Animals (3) Functions and relationships of organs and organ systems of domestic animals excluding reproduction and lactation. Problem-based learning and case studies are emphasized. Pre: 301 or consent. DB

ANSC 453 Animal Diseases and Their Control (3) Disease problems of livestock and companion animals; their economic significance, causes, public health implications, and control. Pre: 200 (or concurrent), and 201 or BIOL 101L. DB

ANSC 454 Meat Science and Muscle Biology (3) Development, growth, function, carcass evaluation of muscle tissue. Pre: 301 (or concurrent). DB

ANSC 454L Meat Science and Muscle Biology Lab (1) (1-3 hr Lab) Livestock and poultry slaughter, carcass evaluation, meat chemistry, muscle anatomy, histology, paleopathology, and biochemistry, meat microbiology, and meat processing. Pre: 454 (or concurrent). DY

ANSC 455 Companion Animals and Society (3) Exploring human and non-human relationships in biological, social, cultural, economic, legal, health, and welfare contexts to prepare students for careers in the various animal-related fields in Hawai‘i, the Pacific rim, and worldwide. ANSC majors only. A.F only. Pre: 200, 201, 301 (or concurrent), and 321 (or concurrent); or consent. (Fall only)
ANSC 460 Biology and Culture of Shrimp and Prawns (2) Aspects of the biology and culture of the freshwater shrimp Macrobrachium rosenbergii and marine shrimp Penaeus (sp) species. Scientific research results and case studies presented and analyzed. Pre: 450 or consent.

ANSC 462 Reproduction and Artificial Insemination (3) Introductory exploration of anatomy, development, and physiology of reproduction in ruminants and artificial insemination. Repeatable one time. Pre: 301. DB

ANSC 462L Reproduction and Artificial Insemination Lab (1) Reproductive anatomy and physiology of domestic animals, estrus synchronization, breeding soundness, and artificial insemination laboratory, field trips. One week off-island field trip. Repeatable one time. ANSC majors or consent. Pre: 301 and 462.

ANSC 465L Aquaculture Production Laboratory (4) Intensive, hands-on course involving the culture of larvae and juveniles of marine shrimp, freshwater prawns, molluscs, fish, and their food. Must have strong interest in hands-on rearing and flexible time for continuous live animal care. Lab fee required.

ANSC 472 Comparative Endocrinology (3) Structure and function of endocrine systems across vertebrate and invertebrate taxa. Describe how hormones mediate adaptive responses to dynamic environments and coordinate key aspects of growth, development, metabolism, osmoregulation, and stress. Pre: 301. DB

ANSC 490 Aquaculture Business Planning and Entrepreneurship (2) Practical aspects of planning and developing an aquaculture business from conceptualization to a final business plan. Topics include species/technology, project planning, business structuring, permitting, contracts, production plans, financial planning and analysis, market/competition analysis, capital acquisition, intellectual property and legal issues. Pre: 450 or DS-CN 450. Must have strong interest in hands-on rearing aquatic animals and flexible time for live animal care.

ANSC 491 Topics in Animal Sciences (V) Study and discussion of significant topics, problems. Offered by visiting faculty for extension programs. Repeatable five times, up to 18 credits. Pre: junior or senior standing.

ANSC 492 Field Experience (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Writing a learning plan and field report. A-F only. Pre: senior standing. (Cross-listed as FSHN 492)

ANSC 499 Directed Study or Research (V) Limited to exceptional undergraduate students, generally with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in major. Exceptions may be granted for students in their last three semesters. Repeatable unlimited times. Pre: junior or senior standing.

ANSC 500 Master's Plan B/C Studies (1)

ANSC 601 The Science of Food Systems (2) (50-min Lec, 1 2-hr Discussion) Discussion of food systems as they apply to animal science, food science, and human nutrition. Repeatable one time. Pre: graduate standing or consent. (Cross-listed as FSHN 601)

ANSC 603 Experimental Design (4) (3 Lec, 1 3-hr Lab) Design of experiments and variance analyses in biological and agricultural research. Pre: graduate standing or consent. Recommended: ZOOL 652. (Cross-listed as TPSS 603)

ANSC 641 Seminar in Animal Sciences (1) Topics of current interest and current research related to nutrition, genetics, and physiology. Repeatable three times. Per consent.

ANSC 642 Advanced Animal Nutrition (3) An advanced course in the nutrition of monogastric, ruminant, avian, and aquatic species. Topics include digestive system structures, utilization of nutrients, energy balance, and experimental techniques used in the study of animal nutrition. A-F only. Pre: graduate standing or consent.

ANSC 643 Physiology of Reproduction (3) Comparative differentiation, development, growth, and function of the reproductive systems of mammals and birds; external factors that influence response; artificial insemination. Pre: graduate standing or consent.

ANSC 644 Growth Biology of Meat Animals (2) Growth and development of meat-producing animals; skeletal muscle, adipose tissue, and bone; protein turnover, lipid metabolism, and bioenergetics; regulation of animal growth. Pre: graduate standing or consent.

ANSC 650 DNA and Genetic Analysis (2) Combined lecture and lab in genetic analysis of general genetic analysis of humans, animals, and other species. Molecular techniques, such as PCR, DNA marker identifications, transgenics, expression analysis and functional genetics, are included. Open to nonmajors. Pre: graduate standing or consent. (Cross-listed as FSHN 650 and MBBE 650)

ANSC 652 Information Research Skills (1) Examines the use of libraries and information technology for scholarly investigation in support of scientific research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as FSHN 652, NREM 652, and TPSS 652)

ANSC 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Designed to produce graduate students to grants and grant proposal writing through lectures, class discussion, writing assignments, and peer review. Open to CTAHR graduate students only; others with consent. (Cross-listed as FSHN 657 and TPSS 657)

ANSC 687 Advanced Laboratory Techniques (3) (Lec, 2 3-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. A-F only. Pre: graduate standing or consent. (Cross-listed as FSHN 687 or DS-CN 687)

ANSC 699 Directed Research (V) Pre: consent. Repeatable unlimited times.

ANSC 700 Thesis Research (V) Repeatable unlimited times.

**Anthropology (ANTH)**

**College of Social Sciences**

Most 300- and 400-level courses have a prerequisite of one of the 200-level courses. Additionally, 300- and 400-level courses may be taken for graduate credit with prior approval of the student's advisor. A grade of C or better in the prerequisite courses is required for all courses. (A grade of C is not acceptable.)

ANTH 151 Emerging Humanity (3) Introduction to human evolution, the development of the archaic human in the culture prior to AD 1500. Open to nonmajors. Recommended for majors. FGA

ANTH 151A Human Origins (3) Introduction to human evolution and the archaeology of culture in the world prior to AD 1500. Restricted to students in the Honors Program. FGA

ANTH 152 Culture and Humanity (3) Introduction to cultural anthropology. How humans create, understand, order and modify their natural, social, supernatural and physical environments, and make meaning and order. Open to nonmajors, required for ANTH majors. A-F only. FGB

ANTH 152A Culture and Humanity (3) Introduction to cultural anthropology. How humans create, understand, order and modify their natural, social, supernatural, and physical environments, and make meaning and order. Restricted to students in the Honors Program. FGB

ANTH 210 Archaeology (3) Introduction to prehistoric archaeology: methods and techniques of excavation and laboratory analysis; brief survey of theory in relation to change and diversity in prehistoric human groups. DS


ANTH 215L Introduction to Biological Anthropology Laboratory (1) Laboratory to accompany 215. DB

ANTH 220 Quantitative Reasoning for Anthropologists (3) Achieve basic quantitative literacy and to familiarize them with statistical reasoning so that they are prepared to carry out anthropological (and other social science) research. A-F only. FQ

ANTH 300 Study of Contemporary Problems (3) Significance of anthropology for contemporary life, particularly in ethnic and minority group relations. Relevance to various professions, governmental policy, political action, and accomplishment of change. Pre: 152 (or concurrent). DS

ANTH 301 Culture and Health (3) Social and cultural aspects of medicine; the relationship of medicine to the beliefs, social systems, ecological adaptations, and cultural changes of human groups. DS

ANTH 310 Human Origins (3) Theory of evolution, evolutionary systematics, and taxonomy; evolutionary biology of primates; fossil records for primate and human evolution. Laboratory included. Pre: 215, ZOOL 101; or consent. DB

ANTH 313 Visual Anthropology (3) Historical development of documentary films of non-Western peoples; critical examination of ways in which ethnographic films represent different cultures. Pre: 152 (or concurrent). DH

ANTH 315 Sex and Gender (3) Cross-cultural theories and perceptions of sexual differences; linkage between biology and culture of gender; relationship of gender ideology to women’s status. Pre: 152 (or concurrent). (Cross-listed as WS 315) DS

ANTH 316 Anthropology of Tourism (3) Anthropological perspectives on the subject of the global phenomenon of tourism. Includes issues of cultural performance, identity, and commoditization. Open to nonmajors. DS

ANTH 325 Pacific Islands Archaeology (3) Origins of Pacific peoples; chronology of settlement; sequences of culture in Australia, Melanesia, Micronesia, and Polynesia. Pre: sophomore standing or consent. DH

ANTH 325 Origins of Cities (3) Combined lecture/discussion on the emergence and development of ancient cities in comparative perspective and the dynamics of (pre)modern urban life. Examples are drawn from the Near East, Mediterranean Sea, India, China, and the Americas. A-F only. Pre: sophomore standing or consent. DS

ANTH 326 American Folklore and Folklore (3) Examination of the history and ethics of folklore studies and the dynamics and social functions of traditional culture in diverse communities through topics such as ritual, storytelling, games, gossip, belief, music, and cultural tourism. Junior standing or higher. (Cross-listed as AMST 326) DH

ANTH 327 Ethnography of Review of ethnography, i.e., the interdisciplinary, holistic and inclusive investigation of the histories of native peoples drawing not only on documented sources, but also on ethnohistory, linguistics, ecology and other disciplines as an alternative to conventional Eurocentric history. A-F only. Pre: HIST 152, or consent. (Alt. years) (Cross-listed as DS 322) DS

ANTH 328 Food Origins, Food Culture (3) Lectures and discussion offer an anthropological introduction to how humans created and transformed food through time. Sophomore standing or higher. (Spring only) DS

ANTH 333 Climate Change and Cultural Response: Past, Present, and Future (3) Climate change is a reality, yet there is much uncertainty about how it will affect our lives. Investigates cultural response to climate change, using studies of the past to plan for the future. (Alt. years: spring) (Cross-listed as SUST 333) DS

ANTH 341 Anthropology of Virtual Worlds (3) Anthropological study of computer mediated interaction. Focus on the implications of massively multiplayer online games, text-based chat rooms, and blogs. Pre: 152 or consent. (Once a year)

ANTH 345 Aggression, War, and Peace (3) Biocultural, evolutionary, and cross-cultural perspectives on the subject of violence, war, nonviolence, and peace. Pre: 152. (Cross-listed as PAG 345) DS

ANTH 350 Pacific Island Cultures (3) Introduction to cultures of Polynesia, Micronesia, and Melanesia from time of first settlement to emergence of modern
as sites of intervention from public health, development, and biomedical specialists, while also considering local strategies. A-F only. Junior standing or higher. Pre: 502 or 503 or WS 151. (Alt. years: Fall) (Cross-listed as 467) DS

ANTH 467 Biomedicine and Culture (3) Examination of the social and cultural foundations of, and responses to, the values, technologies and practices of modern medicine. Pre: junior standing or higher, 152, or consent. (Alt. years) DS

ANTH 472 Ceramic Analysis in Archaeology (3) Concepts, methods, and approaches used in the analysis of ceramic materials. Emphasis placed on ceramic technology, stylistic analysis. Pre: 210. DH

ANTH 473 Lithic Artifact Assemblage Analysis (4) Combined lecture/lab on the manufacture and analysis of stone tools. Students work with experimental collections and engage in stone tool production. The ways in which lithics enlighten us about past human behavior are discussed. Pre: 210 and 380, or consent. DS

ANTH 475 Faunal Analysis in Archaeology (3) Analysis of archaeologically recovered faunal collections with emphasis on identification and interpretation of nonhuman vertebrate remains. Pre: 210. DH

ANTH 477 Spatial Analysis in Archaeology (3) Lecture/lab. Introduction to the use of Geographical Information Systems (GIS) and spatial statistics in archaeological research. Topics include: map creation; spatial database management; spatial analysis; image processing, data reporting; and data display. Junior standing or higher. Pre: 466. (Alt. years) DS

ANTH 478 New World Rituals and Ideologies (3) Study of cross-cultural patterns in ritual behaviors and creation of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include: microcosms (caribou, castrum). Ancestral Christianity, spirit possession, conquests of death, etc. Sophomore standing or higher. Minimum C- required grade for prerequisites. Pre: LADS 560, or consent. (Fall only) (Cross-listed as LADS 478 and REL 478) DH

ANTH 481 Applied Anthropology (3) The application of anthropological methods and concepts to solving practical human problems such as homelessness, violence, economic deprivation, conflict, or resources of others, and the meanings of nature. Pre: 512 or 415 or consent. (Alt. years) DS

ANTH 482 Anthropology and the Environment: Culture, Power, and Politics (3) Investigates environmental problems from an anthropological perspective, and examines the cultural politics of contortions over resources, rights, and the meanings of nature. Pre: 512 or 415 or consent. (Alt. years) DS

ANTH 483 Japanese Culture and Behavior (3) Sociocultural factors in Japanese behavior. Social structure; traditional institutions. DS

ANTH 484 Japanese Popular Culture (3) Explores contemporary popular culture through themes such as gender, consumerism, globalization and nostalgia. Rather than a survey of popular culture genres, the course is organized thematically around issues and problematics. DS

ANTH 485 Pre-European Hawai‘i (3) Pre-European society and culture from an anthropological viewpoint. Pre: junior standing or consent. DH

ANTH 486 Peoples of Hawai‘i (3) Critically examines the contemporary experiences of various people of Hawai‘i and utilizes anthropological and ethnic studies approaches to study identity, race, ethnicity, culture, language, gender, sex, class, and other dimensions. Pre: junior standing or consent. (Once a year) (Cross-listed as ES 486) DS

ANTH 487 Anthropology of Okinawa and Its Diaspora (3) Explores the ties of identity that exist within and between Okinawa and its diasporic populations. Pre: 152. (Alt. years)

ANTH 488 Chinese Culture: Ethnography (3) Critical interpretations of ethnographic and biographic texts depicting individual and family lives in different socioeconomic circumstances, geographical regions, and historical periods of modern China. DS

ANTH 490 History of Anthropology (3) Development of anthropological ideas, focusing on theoretical issues concerning culture, society, and human nature. Required of majors. Pre: 152. DS

ANTH 491 Special Topics in Southeast Asian Art History: Monuments and Nationalism in Southeast Asia (3) Focused study of particular periods, regions and iconic themes in Southeast Asian art and architectural history. Monuments and nationalism in Southeast Asia, 1750-1970. (Once a year) (Cross-listed as ART 490D) DH

ANTH 493 Oral History: Theory and Practice (3) Literature and methodology; project design. Students develop and execute an oral history project. Junior standing and consent of instructor. Pre: consent. (Cross-listed as ART 495) DS

ANTH 495 Senior Thesis I (3) Preparation of a major paper in anthropology with a committee of one chairperson and one other. First semester of a two-semester sequence with 495. May be taken concurrently with 495. Optional for majors. Pre: 490 and senior standing.

ANTH 496 Senior Thesis II (3) Preparation of a major paper in anthropology with a committee of one chairperson and one other. Second semester of a two-semester sequence with 495. May be taken concurrently with 495. Optional for majors. Pre: 490 and senior standing.

ANTH 500 Master's Plan B/C Studies (1) Preparation of a major project in anthropology. A-C only. Pre: graduate standing. (Alt. years: spring only) (Cross-listed as 603). DS

ANTH 501 Anthropological Perspectives on Southeast Asia (3) Prehistory and protohistory of Southeast Asia, and of Southeast Asian contacts with East Asia, India, Australia, and Oceania. Pre: background in archaeology or Southeast Asian history and culture. Pre: consent. (Alt. years: spring only) DS

ANTH 600 Paleoenthropology of Asia (3) Survey of the Asian paleoenthropological record, particularly in its paleoenvironmental setting. Out of Africa I: modern human origins. Pre: graduate standing and relevant background in archaeology or related field. (Alt. years)

ANTH 661 Archaeological Perspectives on Southeast Asia (3) Prehistory and protohistory of Southeast Asia, and of Southeast Asian contacts with East Asia, India, Australia, and Oceania. Pre: background in archaeology or Southeast Asian history or consent. Pre: graduate standing and relevant background in archaeology or related field. (Alt. years)

ANTH 662 Archaeological Data Analysis (4) Advanced introduction to the fundamental principles of statistical as applied to the analysis of archaeological data. Pre: consent. (Alt. years)

ANTH 665 Anthropology of Global Aid (3) Examines ideologies of development, humanitarian, and global health interventions from an anthropological perspective. Explores the discrepancy between discourses that portray global aid as easing suffering and those that accuse it of maintaining relationships of domination. A-F only. (Alt. years: spring)

ANTH 666 Archaeological Field Methods (5) (7 hr Lab) Comprising field work, field instruction in the principles and practice of methods of archaeology—survey, mapping, excavation, conservation. Repeatable one time, up to 12 credits. Pre: graduate standing. (Alt. years: spring only) DS

ANTH 670 Applied Archaeology Practicum (V) Applies course work in archaeology to hands-on activities under the direction of practicing professionals and university faculty. MA track in Applied Archaeology students only. Repeatable one time, up to 12 credits. Pre: consent.

ANTH 671 Applied Method and Theory in Hawaiian Archaeology (3) Graduate seminar focused on method and theory in the practice of applied archaeology in Hawai‘i. Pre: graduate standing or consent. (Alt. years)

ANTH 676 Recording Historic and Cultural Resources (3) Techniques in recording and evaluation of historic buildings and other resources, with an emphasis on field recordings and state and federal registration procedures. (Cross-listed as AMST 676 and PLAN 676)

ANTH 681 Applied Cultural Anthropology (3) Theory, methods, and results of application of cultural anthropological concepts to practical problems. Graduate students only.

ANTH 682 Applied Cultural Anthropology Practicum (3) Applies course work in cultural and identity formation. (Cross-listed as GEOG 610)

ANTH 611 Contemporary Anthropological Theory (3) Graduate seminar that examines the history of theory in sociocultural anthropology from 1960 to present. Designed to be taken in sequence after 601. Pre: 601 or consent. (Only) DS

ANTH 620 Alpha Theory in Social and Cultural Anthropology (3) Major theoretical problems in (B) kinship; (C) cognitive systems; (D) religion; (E) political institutions; (F) economics; (H) ecology; (I) other to be announced. Repeatable nine times. Pre: graduate standing.

ANTH 623 Advanced Pacific Islands Archaeology (3) Advanced theoretical and methodological examination of archaeological research in the Oceania, a region including the islands of Polynesia, Melanesia, and Micronesia. (Fall only)

ANTH 640 (Alpha) Methods and Theory in Anthropology (3) Focused seminars pertaining to different areas of archaeological method and theory. (B) analytical; (C) environment/landscape; (D) applied archaeology; (E) economic/resources; (F) survey/locational. Repeatable two times. Pre: 603.

ANTH 645 Historic Preservation (3) Federal, state, and local laws and regulations that regulate and provide protection to significant archaeological and historical resources in Hawai‘i and the region. (Alt. years: spring only) (Cross-listed as 645). DS

ANTH 660 Paleoenthropology of Asia (3) Survey of the Asian paleoenthropological record, particularly in its paleoenvironmental setting. Out of Africa I: modern human origins. Pre: graduate standing and relevant background in archaeology or related field. (Alt. years)

ANTH 661 Archaeological Perspectives on Southeast Asia (3) Prehistory and protohistory of Southeast Asia, and of Southeast Asian contacts with East Asia, India, Australia, and Oceania. Pre: background in archaeology or Southeast Asian history and culture. Pre: consent. (Alt. years: spring only) DS

ANTH 662 Archaeological Data Analysis (4) Advanced introduction to the fundamental principles of statistics as applied to the analysis of archaeological data. Pre: consent. (Alt. years)

ANTH 665 Anthropology of Global Aid (3) Examines ideologies of development, humanitarian, and global health interventions from an anthropological perspective. Explores the discrepancy between discourses that portrays global aid as easing suffering and those that accuse it of maintaining relationships of domination. A-F only. (Alt. years: spring)

ANTH 666 Archaeological Field Methods (5) (7 hr Lab) Comprising field work, field instruction in the principles and practice of methods of archaeology—survey, mapping, excavation, conservation. Repeatable one time, up to 12 credits. Pre: graduate standing. (Alt. years: spring only) DS

ANTH 670 Applied Archaeology Practicum (V) Applies course work in archaeology to hands-on activities under the direction of practicing professionals and university faculty. MA track in Applied Archaeology students only. Repeatable one time, up to 12 credits. Pre: consent.

ANTH 671 Applied Method and Theory in Hawaiian Archaeology (3) Graduate seminar focused on method and theory in the practice of applied archaeology in Hawai‘i. Pre: graduate standing or consent. (Alt. years)

ANTH 676 Recording Historic and Cultural Resources (3) Techniques in recording and evaluation of historic buildings and other resources, with an emphasis on field recordings and state and federal registration procedures. (Cross-listed as AMST 676 and PLAN 676)

ANTH 681 Applied Cultural Anthropology (3) Theory, methods, and results of application of cultural anthropological concepts to practical problems. Graduate students only.

ANTH 682 Applied Cultural Anthropology Practicum (3) Applies course work in cultural and identity formation. (Cross-listed as GEOG 610)
anthropology to hands-on activities under the direction of practicing professionals and university faculty. Repeatable one time. ANTH majors only. Graduate students only. Pre: 681.

ANTH 695, 696 Professions in Archaeology (3) Seminar prepares graduate students for entry into profession, including employment opportunities, research, presentations, ethics and outreach. Required of all Plan B students. Pre: graduate standing in anthropology or consent.

ANTH 710 Seminar in Research Methods in Cultural Anthropology (3) Ethnographic research methods. Introduction to the approaches and techniques of participatory research, including the collection, analysis, and interpretation of social and cultural data. Politics and ethics of research practice. Repeatable one time. Pre: graduate standing in anthropology or consent.

ANTH 711 Seminar in Research Design and Proposal Writing (3) Research design and proposal writing. For students preparing for advanced research. Pre: graduate standing or consent.

ANTH 720 Anthropology of Japan (3) Japan examined through three dimensions of cultural anthropology: cultural/symbolic, social/organizational, and individual/psychological. Selected topics analyzed and interpreted in terms of conjunctions of these dimensions. Pre: 483 or 484.

ANTH 750 (Alpha) Research Seminar (3) Selected problems in current research. (B) archaeology; (C) physical anthropology; (D) ethnology; (E) social; (G) biological. Repeatable nine times. Pre: graduate standing.

ANTH 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable nine times.

Arabic (ARAB)

College of Languages, Linguistics and Literature Students choosing Arabic for the language requirement should realize it may not be offered if demand is limited.

ARAB 101 Elementary Modern Standard Arabic (4) Designed to provide students with basic knowledge of Modern Standard Arabic. Focuses on developing proficiency in the standard written Arabic language, as well as formal spoken Arabic. HSL

ARAB 102 Elementary Modern Standard Arabic (4) Focuses on developing proficiency in the standard written Arabic language as well as formal spoken Arabic. It introduces a wide range of situation-based texts and topics that build vocabulary, grammar, and general comprehension skills. Pre: 101. HSL

ARAB 201 Intermediate Modern Standard Arabic (4) Designed for students who have successfully completed a year of Elementary Arabic. Focus is on acquisition of more complex grammatical structures, expanding vocabulary, and developing competence in a wide range of communicative situations. Pre: 102 or exam or consent. (Fall only) HSL

ARAB 202 Intermediate Modern Standard Arabic (4) Designed for students who have successfully completed three semesters of Arabic. Focus is on intensive practice of interactive functional skills such as listening comprehension and fundamental conversation strategies. Pre: 201 or exam or consent. (Spring only) HSL

ARAB 301 Third-Level Arabic I (3) Develop proficiency in reading/listening comprehension in Modern Standard Arabic. The instructional materials consist of authentic Arabic written and audio materials. Classes meet 3 hours weekly. Pre: 202 (or equivalent), or consent.

ARAB 302 Third-Level Arabic II (3) Continuation of third-level Arabic I. Focuses on developing writing and interaction ability at advanced levels of proficiency. Course includes extensive reading, composition exercises, listening skills, conversation practice and exercises, and interaction in Arabic grammar. Developing fluency is the main objective of this course. Classes meet 3 hours weekly. Pre: 301 (or equivalent), or consent.

Architecture (ARCH)

School of Architecture

All courses are restricted to declared architecture majors, unless otherwise specified.

ARCH 100 Introduction to the Built Environment (3) Introduction to the breadth of design in today’s global culture. Examines responses to place, climate, culture, communication, and technology, with emphasis on the impact of scientific knowledge on environmental design. Open to nonmajors. A-F only. Pre: 201. DA

ARCH 101 Basic Design Studio (4) Introduction to creative design processes focusing on the investigation of composition within defining perceivable space. Hands-on exploration of materials and structures as an introduction to design processes. ARCH and ENVY majors only. A-F only. DA

ARCH 132 Design Communication (4) Exploration of critical judgment and means to conceptualize, develop, present, and both visually and orally communicate form and space, including fundamentals of freehand drawing, mechanical drawing, physical model making, diagramming, and graphic techniques. ARCH and ENVY majors only. A-F only. DA

ARCH 200 Collaboration in Environmental Design (2) Investigation of the various disciplines in the environmental design field, including architecture, landscape architecture, interiors, historic preservation, urban design, and urban management. Emphasis given to collaborative methods to address critical issues. Open to non-majors. A-F only. Pre: 201, 202, 271, and 272. DA

ARCH 201 Architecture Design Studio (4) Development of design study precedents and explore solutions responding to human needs in built and natural environment with emphasis on analysis and representation architectonic space and form using hand and computer techniques. ARCH and ENVY majors only. A-F only. Pre: 235. DA

ARCH 220 Introduction to Environmental Systems A (3) Introduction to building systems, including structural, environmental, life-safety, building envelope, building materials and building assemblies. Development of design skills with emphasis on elevating skills in assessing and selecting appropriate building systems. ARCH and ENVY majors only. A-F only. Pre: 132 and MATH 140. Pre: 201, 202, 271, and 272. DA

ARCH 235 Computer Applications in Design (4) Exploration of digital design fundamentals and their application to design analysis, conceptualization, design process, and communication of design intent. Pre: 100, 101, and 132. Pre: 201, 202, 271, and 272. DA

ARCH 251 Introduction to Landscape Architecture (3) Principles and practice of landscape planning, design, and technology. Ecological, sociocultural, and natural science design form and pattern. ARCH and ENVY majors only, open to nonmajors if space available.

ARCH 271 World Architecture and Urbanism A (3) Investigation of the history and theory of architecture in the world’s major cultural regions, from early agricultural settlements to 1500 C.E. Investigation of architecture in relationship to social, political, technological, and material forces. ARCH and ENVY majors only. A-F only. Pre: HIST 151.

ARCH 272 World Architecture and Urbanism B (3) Investigation of the history and theory of architecture from 1500 C.E. to the present. Investigation of architecture in relationship to social, political, technological, and material forces. ARCH and ENVY majors only. A-F only. Pre: HIST 152.

ARCH 321 Introduction to Environmental Systems B (3) Introduction to environmentalisms; focusing on the impact of building systems of the global environment; the impact of environmental regulations/certifications, and understandings of sustainable principles (economic, social, and natural systems). ARCH and ENVY majors only. A-F only. Pre: 220 and PHYS 151/151L.

ARCH 341 Intermediate Design Studio A (4) Building and site design with emphasis on site development, analysis, and climatic response. Introduction to sustainable design, land use ordinances, description and delineation of property and land features, and urban and community design influences. ARCH and ENVY majors only. A-F only. Pre: 200 and 201.

ARCH 342 Intermediate Design Studio B (4) Architectural design with emphasis on space planning, building materials, technology, climatic responses, and codes including complex functional requirements, multi-story design issues, vertical transportation, structure, and finishes. Production of complete schematic design documents for a residential project. ARCH and ENVY majors only. A-F only. Pre: 341.

ARCH 350 Introduction to Planning (3) Perspectives on planning; uses and effects of public policies; specific Hawai’i planning/research problems from a multidisciplinary approach. ARCH and ENVY majors only. Pre: consent. DS

ARCH 351 Introduction to Landscape Design (3) Principles and practice of urban design within the comprehensive planning process. Sociocultural, economic, political, environmental determinants of urban form and pattern. ARCH and ENVY majors only, open to nonmajors if space available.

ARCH 352 Landscape Architecture History (3) Survey of the history of landscape architecture from Mesopotamia to present. Review of the physical, cultural, social, economic, and political factors, as well as the environmental concerns, horticultural techniques, and technological innovations of historic landscapes. ARCH and ENVY majors only. A-F only. (Spring only) (Cross-listed as TPSS 352) DA

ARCH 353 Landscape Graphics Studio (4) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques, the use of graphic presentation software, and develops the skills necessary to use design graphics. ARCH and ENVY majors only. Pre: consent. (Alt. years) (Cross-listed as TPSS 353) DA

ARCH 354 Tropical Landscape Planting Design Studio (4) Students will develop basic skills of residential landscape graphic and design processes in order to clearly articulate the ability to think, analyze, and extend a physical solution in the proper scale. Repeatable one time. ARCH and ENVY majors only. A-F only. (Alt. years) (Cross-listed as TPSS 354) DA

ARCH 371 Design Theory (3) Examination of theories, movements, and periods in architectural history focusing on contemporary issues. Requires a minimum of 4,000 words of writing, and three oral communication assignments. ARCH and ENVY majors only. A-F only. Pre: 201, 220, 271, and 272. DA

ARCH 372 Special Topics in Architectural History and Theory (3) An examination of contemporary theories, movements, or periods of architectural history. Changing topics to be taught by both regular and visiting faculty. ARCH, ENVY, and AMST majors only. Repeatable for credit. (Fall only) DA

ARCH 381 Landform and Water (3) Essential topographic site design concepts and skills needed to reshape the land for human use, circulation, water management, and resilience. Topics will be reinforced through problem sets and analytical, computational, graphical, and technical exercises. ARCH and ENVY majors only. A-F only. Pre: 201 and 220.

ARCH 399 Directed Work (V) ARCH and ENVY majors only. Pre: consent.

ARCH 400 Project Management (3) Exploration of the management of architectural services from project initiation through project completion. Investigation of project delivery options; management of project design teams, project operations and services; design parameter definition; design service documentation; and project execution. ARCH and ENVY majors only. A-F only. Pre: 200.

ARCH 415 Concentration Design Studio (6) Professional experience combined with scholarly and research activity occurring in an off-campus location with a focus on architectural concentration areas. ARCH and ENVY majors only. A-F only. Pre: 342.

ARCH 422 Green Building Evaluation and Rating Systems (3) Introduction to green building design, construction, and operation standards and rating systems. Emphasis on the intent, criteria, and process of the LEED system in preparation for application in a professional setting. ARCH and ENVY majors only. A-F only.
ARCH 432 Construction Project Management (3) Introductory treatment of the management of construction. Construction supervision, contract documents, estimating and bidding, organization, planning and scheduling, business methods, safety, and labor. ARCH and ENVD majors only. A-F only. (Cross-listed as CEE 472)

ARCH 433 Professional Practice Law and Ethics (3) Exploration of the practice of architecture including office organization and administration; public, client, consultant, and other contractor relations; project administration, procedure and compensation, construction law and contract administration. ARCH and ENVD majors only. A-F only. Pre: 200 and 341.


ARCH 436 Design Exchange (3) Seminar centered on academic and cultural exchanges, focused on advanced topics related to the design of built environments only. A-F only.

ARCH 442 Introduction to Urban Design (3) Principles and practice of urban design within the comprehensive planning process. Sociocultural, economic, political, and environmental determinants of urban form and pattern. ARCH and ENVD majors only; open to non-majors if space available. A-F only.

ARCH 451 Landscape Architecture Design Seminar (3) Principles and practice of landscape architecture within the comprehensive design processes of the built environment. Focus on context-specific sociocultural, economic, political, and environmental determinants of landscape form and pattern. ARCH and ENVD majors only; open to non-majors if space available. Repeatable three times. DA

ARCH 471 Historic Architecture Design Seminar (3) Introduction to historic preservation. Exploration of design principles and elements as applied to interiors. Basic materials and methods of interior construction; basic professional and business practices. Critical analysis of an existing interior space. ARCH and ENVD majors only; open to non-majors if space available. Repeatable three times.

ARCH 472 Documentation of Historic Architecture (V) Study and documentation of existing buildings, structures, and sites of historic and/or cultural significance, including field measurements and drawings, historical research, photo documentation, and preparation of archival drawings to be deposited in the Library of Congress. Course conducted according to standards of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER). Repeatable three times, up to 24 credits. ARCH and ENVD majors only. Pre: consent. (Cross-listed as AMST 475)

ARCH 473 History of American Architecture (3) History of American architecture in terms of style, technique, and symbolic meaning. ARCH and ENVD majors only. (Cross-listed as AMST 423) DH

ARCH 474 Preservation: Hawai‘i, Asia, and the Pacific (3) Lectures and discussions on historic preservation issues in Hawai‘i, Asia, and the Pacific. Emphasis on local and national expressions. ARCH and ENVD majors only. Pre: junior standing or consent. (Cross-listed as AMST 474) DH

ARCH 477 Research Seminar (V) Research methodology for the qualitative development of an original project. Repeatable three times. ARCH and ENVD majors only. Pre: consent.

ARCH 483 Urban Ecological Analysis and Design (3) Applied urban and landscape ecology principles and strategies for analysis, design, and management of urban regions and sites; emphasis on structure, functions, and processes that form urban landscapes at multiple scales and in diverse contexts. ARCH and ENVD majors only. A-F only. Pre: 381.

ARCH 484 Plants in Design (3) Introduction to the use of plants in the built environment across diverse scales. Examination of the spatial, sensory, ecological, and performative qualities of vegetation through analysis of historic and contemporary landscapes. ARCH and ENVD majors only. A-F only. Pre: 381.

ARCH 490 Special Topics (3) Selected topics in any aspect of architecture. Content to be announced. Repeatable four times. ARCH and ENVD majors only.

ARCH 491 Special Topics in Architecture History (3) Specialized work on the history and theory of architecture. Repeatable unlimited times. ARCH and ENVD majors only.

ARCH 492 Special Topics in Architectural Technology (3) Specialized investigation of technological developments in structural systems, environmental control systems, or materials and methods of construction. Repeatable unlimited times. ARCH and ENVD majors only. A-F only.

ARCH 495 (Alpha) Foreign Exchange (3) Various course work including design, history, theory, technology, and sustainability offered for international exchange students. (E) elective: (L) laboratory; (P) project; (S) seminar. ARCH and ENVD majors only. A-F only. Pre: departmental approval.

ARCH 496 Preservation: Theorizing and Practicing Design (3) History and theories of preservation movement. Analysis of values and assumptions, methodologies and tactics, implications for society and public policy. (Cross-listed as AMST 676 and PLAN 676)

ARCH 613 Design Communication for Landscape Architects (3) Theory and application in design communication, including drawing and presentation skills; emphasis on the design process and critical thinking through analog and digital media, diagramming, three-dimensional modeling, and various other presentation techniques. ARCH majors only. A-F only.

ARCH 633 Computer Applications in Landscape Architecture (3) Introduction to the use of computers in landscape architecture, emphasizing two- and three-dimensional computer-aided drafting and graphics suitable to landscape architectural design and practice. ARCH majors only. A-F only.

ARCH 634 Landscape Plants: Identification and Use (3) Introduction to the identification, recognition, and use of plants in landscape design and built environment applications. Students will be introduced to a variety of landscape plants commonly used in Hawai‘i and the tropics. ARCH and TPSS majors only. A-F only. Pre: TSS 634.

ARCH 635 Landscape Materials and Construction (3) Examination of materials and methods of landscape construction from source, extraction, and manufacturing, to use and reuse. Assignments include drawing standards and a report on the history of material use, properties, and qualities. ARCH majors only. Graduate students only. A-F only. Pre: 381.

ARCH 636 Landscape Architectural Professional Practice (3) Introduction of practices and core architectural topics to be directed by both visiting and regular faculty. Repeatable three times.

ARCH 637 Landscape Plants: Identification and Use (3) Specialist work at an advanced level on the history and theory of architecture. Repeatable unlimited times.

ARCH 692 Special Topics in Architectural Technology (3) Specialist work at an advanced level of technological developments in structural systems, environmental control systems, or materials and methods of construction. Repeatable unlimited times.

ARCH 693 Special Topics in Architecture and Design (3) Intensive work on specialized topics in the fields of architecture and design. May include research and/or studio experiences in architecture, interior architecture, computer-aided design, professional practice, advanced visual design, and architectural graphics. Repeatable unlimited times.

ARCH 695 Applied Theories of Landscape Architecture (3) Graduate seminar on discussion of critical ideas and theories in landscape architecture and environmental design, drawing on primary literature and speculative or built design work over many decades of thought. Graduate students only. A-F only.

ARCH 696 Special Topics in Landscape Architecture (3) Seminar on a wide range of landscape architectural topics to be directed by both visiting and regular faculty. Repeatable three times. Pre: consent.

ARCH 697 Special Topics: Architecture History/Theory (3) Specialist work at an advanced level on the history and theory of architecture. Repeatable unlimited times.

ARCH 710 Environment and Culture: Modern EP in Asia (3) Theoretical and practical exploration of the history of material use, properties, and qualities of vegetation through analysis of historic and contemporary landscapes. Repeatable unlimited times.

ARCH 765 Vernacular Architecture (3) Methods and approaches in the study of vernacular architecture, cultural landscapes and material culture, with an emphasis on traditions and cultural landscapes in the Americas. (Cross-listed as AMST 681)

ARCH 765 Fundamentals of Landscape Design Studio (6) Theory and application of foundational landscape design principles, programming, and systematic design methods to critical projects. Visual, formal, spatial, and functional design principles are applied to ecological and cultural influences in landscape design. ARCH majors only. Graduate students only. A-F only.

ARCH 762 Site Design Studio (6) Landscape project design at the site scale; from concept development through detailed design. Synthesis of foundational skills into more complex, layered spatial, and functional problems. Emphasis on site research and design methods. ARCH majors only. Graduate students only. A-F only.

ARCH 765 Environmental and Cultural Landscape Studies (4) Exploring, understanding, and implementing Hawaiian and Western cultural and environmental landscape design principles. A concentrated look at how to think about creating and respecting a sense of place in landscape design. A-F only. (Cross-listed with TPSS 655)

ARCH 765 Environmental Landscape Technologies and Systems (3) Understanding the science and art of green landscape technologies, with a comprehensive understanding of LID (low impact design) principles and practices; to increase knowledge to help produce more viable and enduring built landscapes. A-F only. (Cross-listed with TPSS 655)

ARCH 769 Landscape Architecture and Design: Asia and Pacific (3) Cultural and historical impact on urban form, continuing of tradition and modernity in urban space, spatial expression of state and society, perception and utilization of urban design, evolution of urban form in selected Asian capitals. Pre: 341, ASAN 312, PLAN 310 or PLAN 600. (Cross-listed as ASAN 636 and PLAN 636)

ARCH 769 Special Topics Seminar (3) Seminar on a wide range of architectural topics to be directed by both visiting and regular faculty. Repeatable three times. Pre: consent.

ARCH 769 Special Topics: Architecture History/ Theory (3) Specialist work at an advanced level on the history and theory of architecture. Repeatable unlimited times.

ARCH 769 Special Topics in Landscape Architecture (3) Graduate seminar on discussion of central ideas and theories in landscape architecture and environmental design, drawing on primary literature and speculative or built design work over many decades of thought. Graduate students only. A-F only.

ARCH 769 Special Topics in Landscape Architecture (3) Seminar on a wide range of landscape architectural topics to be directed by both visiting and regular faculty. Repeatable three times. ARCH majors only. Graduate students only. SATISFACTORY/UNSATISFACTORY only. Pre: consent.
ARCH 715 Asia-Pacific Architectural History and Theory (3) Study of the history and theory of culture and the built environment with particular focus on the Asia-Pacific region. ARCH majors only. Graduate students only. Pre: F. A-F only.

ARCH 716 Architecture and Urban Design Theory (3) Detailed investigation of major theories in architecture and urban design and examination of their impact on contemporary architectural practice in varied geo-political contexts. Open to non-majors. A-F only.

ARCH 722 Architecture Systems I: Introduction to Systems (3) Study of building materials, assemblies, and integrated design including structural, environmental, life-safety, and building envelope systems. Development of ability to design, analyze and assess appropriate systems. ARCH majors only. A-F only. Pre: MATH 176.

ARCH 723 Architecture Systems II: Qualitative Bioclimatic and Structural Performance (3) Introduction to the theory of bioclimatic principles and structural systems and the ability to analyze, assess, select, design, and integrate them as initial determinants into the building design. ARCH majors only. A-F only. Pre: graduate status.

ARCH 724 Architecture Systems III: Quantitative Structural Design (3) Introduction to procedures and wood, steel, concrete, and masonry material properties used for structural analysis and design of individual structural elements and building structural systems. ARCH majors only. A-F only. Pre: 723.

ARCH 725 Architecture Systems IV: Environmental Technology, Sustainability, and Analysis (3) Application and analysis of high-performance building design principles. Emphasis on climate-appropriate passive design, energy-efficient lighting and conditioning strategies, innovative water systems, and renewable energy production. ARCH majors only. A-F only. Pre: 724, 725, 733, and 742.

ARCH 726 Architecture Systems V: Building Systems Integration (3) Properties, evolution, and range of building materials, assemblies, and systems and their applications in integrated high-performance building design with a focus on the role of detail and systems in the design process. ARCH majors only. A-F only. Pre: 724, 725, 755, and 742.

ARCH 731 Advanced Design Communication I (3) Exploration of digital technologies, their relationship to design, and their application to architectural analysis, conceptualization, design processes, communication, representation, and construction. ARCH majors only. A-F only. Pre: departmental approval.

ARCH 733 Advanced Design Communication II (3) An interdisciplinary investigation of design theory as connected to the practice and applications to current developments in practice and research within architecture and design. ARCH majors only. Graduate students only. A-F only.

ARCH 734 Forms and Frames of Practice (3) Comprehensive study of architectural practice within the global context with emphasis on the Asia Pacific region. Exploration of information technology systems, materials and design process research, construction, computer aided manufacturing, and entrepreneurial approaches. ARCH majors only. Graduate students only. A-F only.

ARCH 737 Advanced Design Communications III (3) Interdisciplinary investigation of design theory as connected to architectural presentation techniques, particularly oral and written, to current developments in architectural practice. A-F only.

ARCH 739 Research Methods Seminar (3) Comprehensive study and function of research in architecture and landscape architecture. Lecture, seminar, independent work with emphasis on research project topic and proposal development. ARCH majors only. A-F only. Pre: 715 or 761.

ARCH 740 Architecture Studio I: Intro to Design (6) Design theories and systematic analytic and synthesis methods applied to creation of building and site spaces responsive to environmental and human needs. Several individual projects. ARCH majors only. A-F only.

ARCH 741 Architecture Studio II (6) Design of a medium complexity building and site engaging social, cultural, codes, building systems, and sustainable design. Production of program and schematic design documents. Individual projects. ARCH majors only. A-F only.

ARCH 742 Architecture Studio III (6) Design of complex, large scale building and site engaging social, cultural, code, sustainable systems, and acoustic issues. Production of schematic and partial construction documents. ARCH majors only. Graduate standing only. A-F only.

ARCH 743 Architecture Studio IV: Urban Design (6) Urban design focused on Asian cities investigating social, cultural, political, and technological factors; study of historical precedents, building/block typology, circulation, infrastructure, and context response. ARCH majors only. A-F only. Pre: 733 and 742, or 761.


ARCH 747 (Alpha) Studio Research in Studio Professional Setting (6) Scholarly and research activity combined with professional experience occurring in an off-campus location. (B) business; (C) community design; (E) alternative experience; (G) global; (H) Hawaii; (P) practicum; (T) China. Repeatable one time per alpha. ARCH majors only. Graduate standing only for (G), (H), and (T). A-F only. Repeatable one time per (B), (G), and (H); 744 and 745 for (C), (E), (H), and (P).

ARCH 749 (Alpha) Research Studio in Professional Setting (6) Scholarly and research activity combined with professional experience occurring in an off-campus location. (C) China; (G) global. ARCH majors only. Graduate students only. A-F only. Pre: 745 for (C).

ARCH 750 (Alpha) Architecture Studio (6) Urban design focused on investigating social, cultural, political, and technological factors; study of historical precedents, building/block typology, circulation, infrastructure, and context response. (C) China; (G) design research. A-F only. ARCH Global Track only. Graduate standing only. Pre: 744 for (C); 739 and 743 for (G).

ARCH 751 Architecture Topics (1) Range of topics allowing acquisition of knowledge and ability needed for professional architectural practice offered online. Repeatable two times. ARCH majors only. A-F only. Pre: 415.

ARCH 754 Research Seminar (3) Varied topics furthering knowledge and ability needed for professional design practice emphasizing communication methods for collaborative and integrated design using digital technologies. ARCH majors only. A-F only. Pre: 739.


ARCH 761 Ecology, Community, and Design (6) Exploration of the interaction of landscape and community necessities in urban ecological design. Studio problems, design research projects, lectures, and discussion applied to the integration of ecological and social factors. ARCH majors only. Graduate students only. A-F only. Pre: 483 and 652.

ARCH 763 Advanced Project Design Studio: Comprehensive (6) Design and programming for a moderately complex building and site. Project design, analysis and materials exploration. Production of in-depth, comprehensive design development and partial construction documents. ARCH majors only. Graduate students only. A-F only. Pre: 634, 635, 743, and 761.

ARCH 764 Capstone Design Research Studio (9) Advanced landscape architectural design inquiry and applied research investigation. Serves as a capstone experience, synthesizing theory, values, and practice. Limited to MLA students under Plan B. Repeatable one time. ARCH majors only. Graduate students only. A-F only. Pre: 743 and 763.

ARCH 771 Architecture History (3) Investigation of architectural history and theory in the world from the ancient times to present. Examining social, political, technological, material, and environmental forces. ARCH majors only. A-F only.

ARCH 777 History of Hawaiian Architecture (3) Investigation of social, cultural, political, climatic, and technological factors influencing the historical development of architecture in Hawai’i. ARCH majors only. A-F only.

ARCH 781 Advanced Research Methods and Design Inquiry (3) Individual development of a doctorate proposal that advances architectural knowledge through analysis, research, scholarship, and design. ARCH majors only. Graduate standing only.

ARCH 782 Case Study and Analysis (3) Individual development of a case study project that advances architectural knowledge through analysis, research, scholarship, design, and engages theoretical and architectonic propositions. ARCH majors only. Graduate students only. A-F only. Pre: instructor consent.

ARCH 784 (Alpha) Doctorate Project I (6) Individual development of a doctorate project with an approved chair and doctorate project committee that advances architectural knowledge through analysis, research, scholarship, and design; (H) Hawaii; (T) Tongji. Repeatable one time per (H). ARCH majors only. Graduate students only. A-F only. Pre: 747C or 747P or 747E for (H); 750C or 750G for (T).

ARCH 786 (Alpha) Doctorate Project II (6) Individual development of a doctorate project with an approved chair and doctorate project committee that advances architectural knowledge through analysis, research, scholarship, design, and engages theoretical and architectonic propositions; (H) Hawaii; (T) Tongji. Repeatable one time per (H). ARCH majors only. Graduate students only. A-F only. Pre: 784H1 for (H); 784T1 for (T).

ARCH 788 Doctorate Project II Extension (3) Extension of the development of a doctorate project with an approved committee that advances architectural knowledge through research, scholarship, design, and engages theoretical and architectonic propositions. Repeatable one time. ARCH majors only. CR/NC only.

ARCH 794 Digital Design and Fabrication (3) Theoretical and design investigations into fabrication and construction techniques using computer-aided design and manufacturing technologies. ARCH majors only. A-F only. Pre: 733.

Art and Art History (ART)  

College of Arts and Humanities  

ART 101 Introduction to the Visual Arts (3) Nature of the world’s visual arts and their influences on personal expression. Lectures, demonstrations, and studio practice. (Not for art majors or minors) DA

ART STUDIO CORE COURSES  

It is recommended that art majors complete 113 and 116 of the art studio core prior to undertaking studio courses at the 200 level.

ART 113 Introduction to Drawing (3) Descriptive, expressive, and formal aspects of visual language through drawing practice. DA

ART 116 Introduction to Three-Dimensional Composition (3) Basic concepts, elements, and principles of art. DA

ART HISTORY & THEORY CORE COURSES  

It is recommended that art majors complete both 175 and 176 prior to undertaking studio courses at the 300 level. 175 and 176 is required of all Art majors; 302
is required of all BFA's and 395 is required of all Art History majors.

ART 175 Survey of Global Art I (3) Art produced in Asia, Africa, Native America, Europe, and the Pacific Islands, from prehistory to the 15th century. Religious and philosophical ideas expressed in architecture, painting, prints, sculpture, applied art, body art, and textiles. (Fall only) FGA

ART 176 Survey of Global Art II (3) Art produced in Africa, Native America, Europe, and the Pacific Islands, from the 15th century to the present. Religious and philosophical ideas expressed in architecture, painting, prints, sculpture, applied art, body art, and textiles. (Fall only) FG

ART 302 Introduction to Contemporary Critical Theory (3) Examination of the significant themes and issues in contemporary critical theory as they relate to the production and reception of art. Pre: 176 or consent. DH

ART 395 Art Historical Methodology (3) Introduction to the methods and approaches of art history. Students will develop skills in perception and comprehension of visual art forms, and a critical understanding of the methods used by art historians to analyze them. A-F only. Pre: 175 and 176 and consent. DH

HISTORY OF ART

ART 301 Medieval Art (3) Arts of Europe from early Christian era to Renaissance. Pre: 175 or consent. DH

ART 373 Art of Greece and Rome (3) Minoan and Mycenaean arts; Greece and Rome. Pre: 175 or consent. DH

ART 477 Art of the 19th Century (3) Architecture, sculpture, and painting of Europe. Pre: 176 or consent. DH

ART 380 Early Art of Japan (3) Major developments, prehistoric through Kamakura; architecture, painting, sculpture. Pre: 175 or consent. DH

ART 381 Later Art of Japan (3) Major developments, Muromachi to modern period; painting, sculpture, architecture. Pre: 175 or consent. DH

ART 384 Art of Korea (3) Ceramics, sculpture, painting, and architecture; neolithic through Yi periods. Pre: 175 or consent. DH

ART 385 Art and Culture of Early China (3) A culturally oriented study of Chinese visual arts; emphasis on jade, bronze, secular and religious sculptures, and paintings from prehistory to the 7th century. Pre: 175 or consent. DH

ART 386 Art and Culture of Late China (3) A culturally oriented study of Chinese visual arts; emphasis on the rise of literati painting and theory individualism in art and theory, garden, and architecture. Pre: Chinese pursuit of modernity and post-modernity in art. Pre: 176 or consent. DH

ART 390 Art of Africa, Pacific North America (3) Contextual study of art from selected areas in Africa, the Pacific, and North America. Pre: 176 or consent. DH

ART 396 (Alpha) History of Photography (3) History of photography from its beginnings to the present; emphasis on the evolution of photography as an art form (B) nineteenth century, from the invention of photography through pictorialism; (C) twentieth century, from World War I to the present. Repeatable one time for different alphas. Pre: 176 or consent. DH

ART 460 Early 20th Century American Art (3) American art in the first half of the 20th century and its impact on American culture. Junior standing or higher. Pre: consent. (Alt. years: fall) (Cross-listed as AMST 460)

ART 470 (Alpha) Renaissance Art (3) Painting, sculpture, and architecture; (B) early Renaissance in Italy; (C) northern Europe; (D) High Renaissance in Italy; (E) Baroque in Italy; (F) Baroque in northern Europe. Pre: 176 or consent. DH

ART 471 Baroque and Rococo Art (3) Architecture, sculpture, and painting of Europe in the Baroque and Rococo periods. Pre: 176 or consent. DH

ART 472 Art of the United States (3) Emphasis on the 18th and 19th centuries. Pre: 176 or AMST 202 or consent. (Cross-listed as AMST 450) DH

ART 473 Art of the First Half of 20th Century (3) Development of modern art in Europe 1900–1939. Pre: 176 or consent. DH

ART 474 Art Since Middle 20th Century (3) Art since 1945, with a focus on the global expansion of the avant-garde. Pre: 176 or consent. DH

ART 475 (Alpha) Art of the Pacific (3) Visual form and function of the arts in cultural context: (B) Melanesia and Australia; (C) Polynesia and Micronesia; (D) Indian, Eskimo. Repeatable one time for different alphas. Pre: 176 or consent. DH

ART 476 Art of Tribal Africa (3) Visual form and function of arts in cultural context. Mali, Burkina Faso, ivory coast, Nigeria, Ghana, Cameroon, Congo, Zaire. Pre: 176 or consent. DH

ART 478 Topics in Contemporary Art (3) Thematic approaches to contemporary art and visual culture. Course themes may include identity, local/global issues, and appropriation. A-F only. Pre: 176 or consent. (Alt. years) DH

ART 479 Art of Hawai‘i (3) Stylistic and aesthetic characteristics of art of ancient Hawai‘i; relationship to art from other parts of Polynesia. Pre: 176 or consent. DH

ART 483 Applied Art of Japan (3) Ceramics, metalwork, lacquer, and textiles throughout Japanese history. Pre: 175 and 176; or consent. DH

ART 486 Traditional Chinese Painting (3) Stylistic and historical dimensions; traditional and modern painting and calligraphy from prehistory through 18th century. Pre: 175 or consent. DH

ART 487 Modern and Contemporary Art of China (3) Introduction to the arts of China in the modern and contemporary periods, in all media and genres, from 1840 to the present. Pre: 176 or consent. DH

ART 490 (Alpha) Special Topics in Southeast Asian Art (3) Focused study of particular area(s), region(s), or period(s) in Southeast Asian art and architectural history. (B) Angkor & art of Khmer civilization; (C) art & architecture of Thailand; (D) monuments & nationalism in Southeast Asia. Repeatable one time for up to two different alphas. A-F only. Pre: 175, or consent. (Once a year) (D) Cross-listed as ANTH 491) DH

ART 491 (Alpha) Art of Southeast Asia (3) Critical analysis of the historical and cultural development of Buddhist and Hindu cultures of Southeast Asia; (B) island Southeast Asia; (C) mainland Southeast Asia. Repeatable one time for different alphas. Pre: 175 or consent. DH

ART 492 (Alpha) Art and Architecture of South Asia (3) Art and architecture of South Asia in historical and cultural context; (B) introduction to art of India and South Asia; (C) Hindu visual culture. Pre: 175 or consent. DH

ART 493 Art of Islam (3) Major developments in art and architecture. Pre: 175 or consent. DH

ART 494 Photographic: Critical Issues (3) Seminar on theoretical, ethical and aesthetic issues relating to the practice of photography. A-F only. Pre: 396B or 396C, or consent. DH

ART 495 History of Modern Design (3) Major design movements in Europe and America from late 19th century to present; arts and crafts movement, art nouveau, modernist trends of the 20th century. Pre: 176 or consent. DH

ART 496 Topics in the History of Cinema (3) Specific period or national style of cinema studied in a historical context. Repeatable two times. Pre: 176 or consent. DH

ART 690 Seminar in Contemporary Critical Theory (3) Research and discussion seminar supporting advanced critical theory in the context of contemporary art and other creative practice. Pre: consent.

ART 691 Seminar in Global Contemporary Art (3) Selected topics in global contemporary art history. Repeatable one time. A-F only. Pre: consent. (Alt. years) DH

ART 695 Seminar in Western Art History (3) Selected topics in European and American art history. Pre: consent.


ART 791 Seminar in South/Southeast Asian Art History (3) Selected topics in South and/or Southeast Asian art and architectural history with an emphasis on Hindu and Buddhist traditions. Repeatable unlimited times. Pre: consent, repeatable with consent.

ART 792 Orientalism and Visual Culture (3) Investigates artistic representations, appropriations, and exchanges constructed on the basis of East/Orient vs. West/Occident differences. Includes analysis of: Orientalizing artistic traditions throughout history, history and concept of Oriental, post-colonial critique of Orientalism. A-F only. Pre: graduate standing or consent. (Alt. 2-3 years) (Cross-listed as ASAN 792)

ART 242 Introduction to Ceramics (3) Three-dimensional concepts in clay: hand-building and wheel-throwing techniques. Projects, lectures, demonstrations. DA

ART 343 Ceramics—Sculpture (3) Sculptural concepts and techniques specifically related to the medium of clay; advanced hand-building, throwing, glazing, and firing techniques. Repeatable one time. Pre: 242 or consent. DA

ART 344 Ceramics—Vessels (3) Exploration of the ceramic vessel as function, metaphor, and expression. Advanced hand-building, throwing, glazing, and firing techniques. Repeatable one time. Pre: 242 or consent. DA

ART 346 History of Western Ceramics (3) Western ceramics history from chronological, developmental, contextual, and theoretical standpoint; influence of Asian ceramics. Pre: 242, with 175 and 176 recommended; or consent. DH

ART 347 Technical Ceramics (3) Clay body development, glaze development, empirical and calculation methods. Emphasis on glaze maturity, surface, and color. A-F only. Pre: 242, and one of 343, 344, or 345; or consent. DA

DIGITAL IMAGING

ART 202 Introduction to Digital Imaging (3) Combined theory and practice examining major techniques, concepts, and aesthetics in contemporary digital image production. Direct studio experience in essential software, printing techniques and hardware necessary in producing the gallery quality inkjet print. A-F only. Pre: 113. DA


DRAWING/PAINTING

ART 123 Introduction to Painting (3) Theory and practice of painting; material and technical procedures.
A standalone course aimed at non-majors. ART majors should start with ART 223 after taking ART 113. DA
ART 213 Intermediate Drawing (3) Extension of the observational foundation established in 113 to address contemporary conceptual and expressive approaches to drawing. Pr: 113 or consent. DA
ART 214 Introduction to Life Drawing (3) Investigations of the figure concerning anatomical construction, light, space, diagrammatic analysis, and thematic content. Repeateable one time. Pr: 213 or consent. DA
ART 223 Painting for Majors (3) Theory and practice of painting; contemporary conceptual and expressive approaches. Pre: 113 and 213. DA
ART 313 Advanced Drawing (3) Studio practice in drawing emphasizing contemporary developments in art. Repeatable one time. Pr: 213 or consent. DA
ART 314 Intermediate Life Drawing (3) Further investigations of the figure concerning anatomical and diagrammatic construction, light, space, and thematic content. Repeatable one time. Pr: 213 or consent. DA
ART 322 Advanced Color (3) Theory and application of color as related to studio practice. Pre: 125 or consent. DA
ART 323 Advanced Painting I (3) Studio practice in painting emphasizing contemporary developments in art. Repeatable one time. A-F only. Pre: 225 or consent. DA
ART 324 Painting from Life (3) Painting from the model; a survey of the figurative tradition. Repeatable one time. Pre: 125 or 232, and 213. DA
ELECTRONIC ARTS ART 201 Introduction to Electronic Arts (3) Theory and practice course investigating language common to all arts activity particularly as related to the contemporary arts. Pre: any studio art course; or consent. DA
ART 301 (Alpha) Electronic Arts Studio (3) (Lec/Lab) Combined theory and practice studio course(s) that investigate the latest processes, and personalized composing systems related to the use of technological media and its application to a variety of contemporary art areas and related disciplines. (B) imaging systems; (C) sound; (D) interactive systems. Pre: 201 and one 200-level studio; or consent. DA
ART 401 Advanced Electronic Arts Studio (3) Tutorial studio that encourages exploration in combined and new media through independent work within an environment of theoretical and critical discourse. Repeatable one time. Pr: 301 or consent. DA
FIBER ART 103 Introduction to Fiber Arts (3) Broad-based studio exploration of materials, techniques, concepts in contemporary fiber art. May include surface patterning/manipulation, papermaking, woven, other 2D/3D hand construction techniques. Focus on creative problem solving, experimentation in a cooperative studio setting. DA
ART 237 Woven Structures (3) Structured studio exploration of creative potential of working with threads under tension. In-depth introduction to a variety of traditional and experimental processes/materials. Tradition of pattern weaving to experimental woven forms. A-F only. Pre: one of 103, 116; or consent. DA
ART 238 Fiber Forms (3) In-depth studio exploration of non-loom fiber techniques for creating/manipulating 2D and 3D forms. Emphasis on concept development, skill mastery, innovative application of materials/techniques, include felting, knotting, netting, piecing, quilting, found object/sewn constructions, papermaking. A-F only. Pr: one of 103, 116; or consent. DA
ART 335 Papermaking (3) Studio emphasis on handmade papermaking techniques, conceptual exploration in two and three dimensions. Repeatable one time. A-F only. Pre: one fiber course or one of 104, 113, 116; or consent. DA
ART 336 Wearable Art—Body and Material (3) Studio exploration of clothing as art form and the body as living armature and performance. Emphasis on development of concept, skill, collaborative and individual voice through material investigation, research, discussions, lectures, individual and group projects. Repeatable one time. A-F only. Pre: one 200-level fiber course and 116 and one 200-level studio course; or consent. DA
ART 337 Fiber Sculpture—Endurance and Impenetrability (3) Studio exploration in contemporary dimensional fiber using both conventional and experimental processes. Emphasis on concept-development, sensitivity to the evocative potential of materials, context, surface treatment and its relationship to concept and structure. Repeatable one time. A-F only. Pre: one 200-level fiber course or one 200-level studio course; or consent. DA
ART 339 Designing Surface (3) In-depth studio exploration of fiber techniques for patterning and manipulating cloth and other related experimental surfaces. Engages conceptual exploration through experimentation with traditional fiber patterning techniques such as dyeing, embellishment drawing with thread and piecing, and individual projects. A-F only. Pre: 113 and 116; or consent. DA
ART 436 Use, Re-use, and Radical Re-use (3) Explores the related concepts of use, re-use, and radical re-use through an exploration of new applications of traditional fiber techniques and contexts of making. A-F only. Pre: 113 and 116 or one 200-level fiber course, and consent. (Cross-listed as SUST 436) DA
ART 437 Textile Conservation/Research (V) Independent study of textile conservation and research. Individualized directed work (internship/practicum) in the museum environment. Repeatable up to twelve credits. A-F only. Pre: two 200-level or above fiber courses, and consent. DA
ART 438 Applied Fiber History (3) Investigation of historical and contemporary fibers as an art form with direct studio workshop experience in basic related fiber processes and concepts. Includes lectures, demonstrations, and hands-on collaborative studio projects. Pr: 175 and 176 and one 200-level or above studio course; or consent. DA
ART 439 Installation/Performance-Material in Context (3) Studio investigation of the definition/transition of space through artist intervention. Emphasis on the evocative potential of materials in context (physical, social, political, psychological) as well as experiments in non-object based interventions. Repeatable one time. Pre: one 200-level or above studio courses, or consent. DA
GLASS ART 130 Introduction to Glass (3) Basic techniques of working with cold and molten glass. Theory of glass studio operation and glass studio practice. DA
ART 230 Glass Casting: Sand and Metal Molds (3) Expressive explorations in glass casting with wet sand, bonded sand, and metal molds. Repeatable one time. Pr: 116 (or concurrent) and 130, or consent. DA
ART 234 Cold Glass Fabrication (3) Expressive explorations using architectural sheet glass. Development of 2D and 3D forms using engraving, sandblasting, and cold joint techniques. Repeatable one time. Pre: 116 (or concurrent), 116 (or concurrent), and 130; or consent. DA
ART 303 Kiln-Formed Glass (3) Expressive explorations in the use of kiln-formed, fusible-sheet glass, and kiln forming glass. Repeatable one time. Pre: 234 or consent. DA
ART 306 Lost Wax Glass Casting (3) Glass kiln casting techniques, lost wax fuse casting, pâte de verre. Repeatable one time. Pr: 230 and either 254 or 356, or consent. DA
ART 330 Advanced Glass (3) Glass as an expressive medium. Individual problems; construction of studio equipment. Readings and discussions of contemporary glass issues. Repeatable one time. Pr: 230 and either 254 or 356, or consent. DA
GRAPHIC DESIGN ART 265 Design Studio I (3) Introduction to graphic design. Explorations of rhetorical and semiotic structures and their relationship to visual form and content. ART 176 is recommended as a prerequisite. A-F only. Pre: 113 or consent. Co-requisite: 265L and 266. DA
ART 265L Design Studio I Lab (1) Beginning instruction in the Macintosh computer environment, including hardware, software, and lab networking as it relates to graphic design production. ART 176 is recommended as a prerequisite. CR/NC only. Pr: 113 or consent. Co-requisite: 265 and 266. DA
ART 266 Design: Typography I (3) Introduction to typography. Explorations of letterform and word compositions in the context of single-page structures. ART 176 is recommended as a prerequisite. A-F only. Pr: 113 or consent. Co-requisite: 265 and 265L. DA
ART 365L Design: Studio II Lab (1) Intermediate instruction in the Macintosh computer environment, software, and peripheral devices, including intermediate layout. Introduction to graphic design industry standard multi-media and web design programs. CR/NC only. Pr: 265, 265L; and 266; or consent. Co-requisite: 365L. DA
ART 466 Design: Typography III (3) Advanced typographic design. Exploration of 2D, 3D, electronic, and intermedia. Emphasis on contemporary typographic models. A-F only. Pr: 365, 365L, and 366; or consent. DA
ART 467 Design: Production Techniques (3) Advanced techniques in design production from printed and digital media. A-F only. Pre: 465, 465L, and 466; or consent. DA
ART 467L Design: Production Techniques Lab (1) Advanced study of digital media for graphic designers. Focuses on skills and software instruction to complement material covered in 467. CR/NC only. Pr: 465 and 465L and 466. Co-requisite: 467. (Spring only) DA
ART 469 Design: Advanced Studio (3) Individual and team investigations of complex problems in graphic design. Emphasis on projects with actual clients (when available) and/or independent investigations addressing advanced and current questions in the graphic design field. A-F only. Pr: with a minimum grade of B- for 465 and 466 and credit for 465L. (Spring only) DA

PHOTOGRAPHY ART 107 Introduction to Photography (3) Studio/lecture examining the major themes and issues in historical and current photographic production. Direct black and white darkroom experience. Students must have 35mm film-based camera with adjustable shutter speed, aperture, and focus. DA
ART 207 Intermediate Photo: Black and White (3) Black and white photography emphasizing communication and self-expression. Lectures, demonstrations, and projects using black and white camera and material. Pr: 107 with a minimum grade of B. DA
ART 307 Advanced Lighting (3) Emphasis on aesthetic and critical analysis. Techniques covered include continuous light, strobe and handheld flash. Repeatable one time with consent. Pr: 202 and 207 with a minimum grade of B. DA
ART 308 (Alpha) Advanced Photographic Techniques (3) Emphasis on aesthetic and critical
Key to symbols & abbreviations: see the first page of this section.
ASAN 411 Comparative Muslim Societies in Asia (3) will compare Muslim societies and cultures in Asia with each other and with the so-called “core” Middle Eastern Muslim societies. Junior standing or higher. A-F only.

ASAN 420 Korean Cinema (3) Develop an understanding of Korean culture and society through visual, narrative, and contextual analysis of Korean films. Topics include the aesthetic, political, and ideological underpinnings of the film industry, and the role of film in society. Pre: 100 or 300-level DL or DH course. Cross-listed as EAL 473)

ASAN 422 Contested Issues Korea and Japan (3) In-depth analysis of Japanese and Korean relations in the past and present by examining conflicting views and interpretations by Japanese, Korean, and Western scholars on issues that divide the people of East Asia. A-F only.

ASAN 438 Sustainable Asian Development: Impact of Globalization (3) Investigates the impact of globalization on sustainable development in Asia. Globalization and sustainability often contradict, raising serious planning issues. Examines how these issues affect Asian development policies and urban planning. Pre: 310 or 312 or PLAN 310, or consent. (Cross-listed as PHIL 312)

ASAN 442 Globalization and Identity in the Himalayas (3) Examines the influence of local culture and global flows on identity formation in the Himalayan region. Topics include: Hindu caste and gender, religion, and gender, and the ways in which pilgrims and tourists, Sherpas and mountaineers, development ideologies, and consumerism, shape identity or change. Sophomore standing or higher. Pre: 202 or ANTH 152 or ANTH 301 or consent. (Alt. years: fall) Cross-listed as ANTH 442)

ASAN 449 Asian Cities: Evolution of Urban Space (3) Reviews the evolution of Asian urban space. Political history, migration, culture, and production are the determinants of urban changes. Uses visual material to illustrate the change in Asian cityscape. Pre: 310 or PLAN 310 or ASAN 312, or consent. (Cross-listed as PHIL 349)

ASAN 462 Contested Issues in Contemporary Japan (3) Familiarizes students with public discourse in Japan by analyzing key current issues widely debated in the Japanese media and in public forums in light of their political, historical, cultural, social, and economic contexts. A-F only. Pre: 312 or any of 320J, ANTH 348, ECON 317, POLS 307H, SOC 357, or knowledge of Japan with consent. DS

ASAN 463 Gender and Muslim Societies in Asia (3) Construction of gender identities in contemporary Asian. How these interface with other aspects of social difference and inequality (e.g., with class, religion, ethnicity). (Cross-listed as EAL 363)

ASAN 464 K-pop and J-pop: Korean and Japanese Popular Music and Society (3) Examines modern Japan and South Korea through popular music. Examines genres from early popular music, today’s K-pop and J-pop music. A-F only. (Summer only)

ASAN 465 Japan Cool: Anime, Manga, and Film (3) Focus on the world of Japanese anime, manga, and films. What can one learn about Japan from these products? Focus on gender, national identity, and race. A-F only. (Summer only)

ASAN 469 Ethnic Diversity in China (3) Surveying Tibetans, Mongols, Manchus, Muslims, and other minorities, as well as analyzing the nature of minority-majority identity in China in an anthropological perspective. DS

ASAN 470 Sustainable Development in East Asia (3) Interdisciplinary investigation of development in East Asia is an interdisciplinary, transnational. Repeatable two times.

ASAN 471 Introduction to Contemporary Asian Cinema (3) Examines significant films from the major countries in Asia and how these films reflect and comment on profound social, political, and historical changes that have occurred in recent decades. DH

ASAN 473 Topics in Chinese Cultural Studies: Visual Culture–Chinese Diaspora (3) Multi-disciplinary and historically located study of Chinese culture through the examination of literary/visual texts and critical essays from cultural studies. Specific topics will depend upon term. Repeatable one time with consent. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EAL 473)

ASAN 474 Transnational Chinese Popular Culture (3) Survey of contemporary Chinese popular entertainment forms that have been produced and appreciated transnationally. Examples include martial arts genres, kung fu films, commercial novels, ballroom dancing, karaoke culture, music videos and rock music. Material will be selected based upon availability and readings will include critical essays from the fields of popular culture, media studies, and literary criticism. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EAL 474)

ASAN 478 Music Cultures: India (3) Approaches the cultural study of music and performance through a specific focus on South Asia. Pre: junior standing or consent. (Cross-listed as MUS 478H)

ASAN 480 Culture and Economy of Southeast Asia (3) An exploration of the cultural and economic development of the countries of Southeast Asia from early times to the present day, with an emphasis on the effects of outside influence. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EAL 480)

ASAN 481 Film, Culture, and Modernity in Southeast Asia (3) Examines the interplay between tradition and modernity; religion and secularism; individual and collective; youth, wisdom, and the wisdom of the elderly. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EAL 481)

ASAN 483 Imperialism, Colonialism, and Nationalism in Southeast Asia (3) Theoretical and historical analysis of a global, nineteenth, and twentieth century phenomenon using an interdisciplinary approach organized around lectures, readings, and discussion. (Cross-listed as EAL 483)

ASAN 487 Food, Culture, and Politics in Asia (3) Examines Asia’s role in the development of global foodways. Topics include the relationship between spices and imperialism, global popularity of Asian cuisines, Asian-influenced “hapa” cuisine in Hawaii, McDonaldization in Asia, and food security and sustainability. A-F only.

ASAN 490 Food, Culture, and Politics in Asia (3) Examines Asia’s role in the development of global foodways. Topics include the relationship between spices and imperialism, global popularity of Asian cuisines, Asian-influenced “hapa” cuisine in Hawaii, McDonaldization in Asia, and food security and sustainability. A-F only.

ASAN 495 Encountering Tourism in Asian-Pacific Societies (3) A critical assessment of the current impact of tourism on contemporary Asian and Pacific Island societies. Topics include colonial antecedents, social impacts, cultural and environmental concerns, case studies (including Hawai‘i). (Cross-listed as PACS 495)

ASAN 496 Religions of India Southeast Asia (3) A comparative, interdisciplinary examination of indigenous beliefs, Islam, Buddhism, and Hinduism in island Southeast Asia, and how they have been adjusted because of economic and social change. DH
ASAN 499 Directed Research (V) Repeatable three times. Pre: consent.

ASAN 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable six times. ASAN majors only. Pre: master’s Plan B or C candidate and consent.

ASAN 600 Approaches to Asian Studies (3) Major issues in and approaches to the interdisciplinary study of Asia and Asian regions: resources for the advanced interdisciplinary study of Asia. Pre: UH developing a research focus; preparing and presenting research proposals. (C) China; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia; (Z) Inter-Asia. Pre: graduate standing.

ASAN 605 Practicum in Asian Studies (V) Repeatable two times (for a maximum of three times) with consent.

ASAN 608 Politics and Development: China (3) Consists of three parts: key theories for socialist transformation as basis for seminar discussion, policy evolution to illustrate the radical changes, and emerging and prominent current development and practice. (Cross-listed as POLS 645C and PLAN 608) ASAN 611 Comparative Muslim Societies in Asia (3) Will compare Muslim societies and cultures in Asia with each other and with the so-called “core” Middle Eastern Muslim societies. Pre: 600 or consent.

ASAN 612 Century Chinese Literary and Cultural Studies (3) Critical scholarship in Chinese literature and cultural studies, broadly defined to include the People’s Republic of China, Taiwan, and all others. Reading knowledge of Chinese desirable but not required. Repeatable one time with consent. Pre: consent. (Cross-listed as EALL 611)

ASAN 618 Contemporary Chinese Development and Culture (3) Selected topics on contemporary China. Center for Chinese Studies has details of current offering. Repeatable one time with consent. Pre: 312 or 320C, consent.

ASAN 620 Problems/Issues of Contemporary Asia (3) Analysis from multidisciplinary perspective: rural development, urbanization, international relations, ethnicity, religion, language, etc. Repeatable one time with different topics. Pre: 312 or consent.

ASAN 623 Gender in Asian Performing Arts (3) Performance is a rich site for gender construction, critique, and articulation in Asia. This seminar examines gender reflected in traditional music, dance, and theatre, including character role and performer persona; approaches of performance and culture studies, and an “Asian way.” A-F only. (Once a year)

ASAN 624 Culture and Colonialism (3) Analysis of theoretical and cultural studies, feminist writings, post-colonial issues). Case studies of the transformation and creation of “traditional” cultures under colonialism. Pre: 310 or 312, or consent.

ASAN 625 Comparative Development in East and Southeast Asia (3) Comparative developmental analysis of Asia’s leading economic powers. Considers Japanese political and economic developmental model; discusses problems for continued Asian growth; examines Korea, Taiwan, China, Indonesia, Thailand, Philippines and other Asian nations. Pre: 312, 600, or consent.

ASAN 626 Capitalism in Contemporary Asia (3) Historically grounded theoretical examination of capitalism in 20th-century Asia: multidisciplinary approach to fundamental change in political and economic structures and institutions, prospects for the future. Pre: 600 or 625, or consent.

ASAN 627 Ethnic Nationalism in Asia (3) Contemporary theories of ethnic and cultural nationalism from perspective of Asia. Issues of nation-state, power hierarchies, modernity, and identity in contemporary Asia. Pre: 310 (for concurrent) or 312 (or concurrent), or consent.

ASAN 628 Southeast Asian Development: Costs and Benefits (3) Interdisciplinary approach to broad economic and political issues. Focus on benefits and costs of economic development and effects on local cultures. Exploration of dilemmas of modernization and comparison of societal responses to development. Repeatable one time. Pre: 312 or consent.

ASAN 629 Asian Security Cultures (3) Comparative study of conceptualizations, practices and institutions of national security in Asia in light of their geographic and historic contexts. Pre: 310 and 312, or consent.

ASAN 630 Cultural Change and Globalization in Southeast Asia (3) Examines the ways global influences are shaping the cultural developments in the diverse societies of contemporary Southeast Asia. (Spring only)

ASAN 636 Culture and Urban Form in Asia (3) Cultural and historical impact on urban form, content of tradition and modernity in urban space, spatial aggregation of state and society, perception and utilization of urban design, evolution of urban form in selected Asian capitals, Pre: 312, ARCH 341, PLAN 310, or PLAN 600. (Cross-listed as ARCH 687 and PLAN 658)

ASAN 638 Asian Development and Urbanization (3) Theories of globalization and sustainability in development, impacts of globalization and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development. A-F only. Pre: (600 or PLAN 630) with a grade of B or above. (Cross-listed as GEOG 638 and PLAN 638)

ASAN 640 Topics in Japanese Literature (3) Intensive study of selected topics in Japanese literature, primarily of the modern period. English translations of original texts will be provided whenever available. Repeatable without consent with permission. Pre: consent. (Cross-listed as JPN 640)

ASAN 649 Asian Cities: Historical Evolution of Urban Form (3) Examination of the impact of economy, society, and history on urban form; case studies of the evolution of Asian urban form. Pre: 312 or PLAN 310. (Once a year) (Cross-listed as PLAN 649)

ASAN 650 Marriage and Family in East Asia (3) Examines gender/generational practices, expectations, and ideologies of marriage, childrearing, and caregiving; state’s role in legitimizing certain kinds of families; how transnational marriage migration is changing notions of belonging, loyalty, and national identity in East Asia. Graduate standing or consent.

ASAN 651 East Asia Now (3) Views East Asia as an interactive region: examines common historical and cultural, economic and political themes including various experiences with the West. Focus upon present state of the region. A-F only. Pre: 310, 312, or consent.

ASAN 652 Contemporary Japanese Studies Seminar (3) Selected human and physical features that represent economic, social, and political life. Pre: consent. (Cross-listed as GEOG 652)

ASAN 653 Modern Authors in Modern Korean Literature (3) Intensive study of selected topics and issues in modern/contemporary Korean fiction, focusing on texts that problematize critical socio-cultural issues in the evolving contexts of modern Korean intellectual history. Repeatable one time. Pre: KOR 494 or consent.

ASAN 654 South Asia Now (3) Views South Asia as an interactive region: examines common historical and economic themes, including impacts of globalization and global interactions. Focus upon present state of the region. Graduate students only. A-F only. (Fall only)

ASAN 664 Topics and Issues in Modern Korean Literature (3) Intensive study of selected topics and issues in modern/contemporary Korean fiction, focusing on texts that problematize critical socio-cultural issues in the evolving contexts of modern Korean intellectual history. Repeatable one time. Pre: KOR 494 or consent.

ASAN 665 Special Topics in East Asian Literature Culture & Society (3) In-depth study of selected topics and issues in modern/contemporary East Asian literature. Culture and Society, and an interdisciplinary, inter-regional, and transnational approach, from an intercultural perspective. Repeatable two times in different topics, but need consent for second repeat. Pre: consent. (Cross-listed as EAL 665) Pre: consent. (Cross-listed as EAL 665)

ASAN 671 The Splendor that was Southeast Asia (3) Interdisciplinary examination of the classical civilizations of Southeast Asia, the 9th to 14th centuries. Includes Pagan, Sukhothai, Angkor, Dai Viet, Srivijaya, and Majapahit. Considers historical themes and patterns, issues in Southeast Asian studies. A-F only. Pre: 310, 312, or consent.

ASAN 686 Law and Society in China (V) Overview of the historical foundations of Chinese law and introduction to the present legal system in the People’s Republic of China. Repeatable one time. (Cross-listed as LWPA 586)

ASAN 688 China’s International Relations (3) Examination of China’s rise and world view, review of China’s regional relations, China and U.S. relations, formation of a new world order. Pre: 600, 608, or POLS 645C, or consent.

ASAN 693 Field Study in Asia (V) With prior consent and supervision of an Asian Studies faculty, students design, conduct, and write the results of a field research project. Repeatable one time, up to six credits. Graduate students only.

ASAN 694 Topics in Buddhist Studies (3) Seminar on selected topics in Buddhist studies. Repeatable three times. Pre: PHIL 368, PHIL 406, REL 475, or REL 490; or consent.

ASAN 695 Asian Studies Master’s Plan B Culminating Experience (1) Students work with their advisor to select, revise, and defend a portfolio of work produced in seminars under faculty committee. Repeatable unlimited times, but credit earned one time only. ASAN majors only. Graduate students only. Pre: any 600(Alpha) or 700(Alpha).


ASAN 700 Thesis Research (V) Repeatable nine credits. Graduate students only. Pre: any 600(Alpha) or 699(Alpha) DP.

ASAN 705 Asian Research Materials and Methods (3) Bibliography, reference tools, and research methods in sources on Asia in Western and Asian languages. Discussion of published and archival repositories. Repeatable one time. (Cross-listed as LIS 645)

ASAN 750 (Alpha) Research Seminar in Asian Studies (3) (C) China; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia. Pre: 600 or consent.

ASAN 792 Orientalism and Visual Culture (3) Investigates artistic representations, appropriations, and exchanges constructed on the basis of East/Orient vs. West/Occident differences. Includes analysis of: Orientalizing artistic traditions throughout history, and concept of Orient, post-colonial critique of Orientalism. A-F only. Pre: graduate standing or consent. (Alt. 2-3 years) (Cross-listed as ART 792)

Astronomy (ASTR)
College of Natural Sciences
Credit not given for more than one of 110, 120, and 140. Credit not given for both 210 and 241. A grade of C (not C-) or better is required for all prerequisites.

ASTR 110 Survey of Astronomy (3) Introduction to the astronomical universe: sky and celestial objects, planetary motion, planets and the Solar System, Sun and stars, the Milky Way and galaxies, cosmology and the universe. DP

ASTR 110L Survey of Astronomy Laboratory (1) Observations of constellations and the night sky, the sun and moon, planets and the sky-body objects; laboratory and observational experiments illustrating basic concepts in astronomy. Offered in the evening. Pre: 110 (or concurrent), or consent. DP

ASTR 120 Astronomical Origins (3) Formation of the sun and stars, origin of the solar system, formation and evolution of galaxies, including the Milky Way Galaxy; origin of chemical elements, and the beginnings of the cosmos. A-F only. DP

ASTR 130 Introduction to Archaeoastronomy (3) Astronomy and celestial lore in ancient cultures: Neolithic Europe, Mayan, Mesoamerican, Egyptian, Mesopotamian, American Indian, Chinese, and Polynesian. Concepts of the cosmos, calendars, eclipse predictions, motion of celestial bodies, and navigation. Construction of simple observing tools. DP

ASTR 140 History of Astronomy (3) Covers the
major discoveries in astronomy and astrophysics from the Babylonians through the 20th century, and the evolution of modern astrophysics. A-F only. (Fall only)

ASTR 150 Voyage through the Solar System (3) An illustrated voyage through the Solar System based on recent scientific results. The class highlights the origin, evolution, and current knowledge of the eight planets, their moons, asteroids, comets, and other bodies, the Sun. Field trip. (Climax of spring term, 105) DP

ASTR 210 Foundations of Astronomy (3) A rigorous overview of modern solar system, stellar, galactic and extragalactic astronomy and cosmology. For science and engineering students. Pre: PHYS 151 or PHYS 170. DP

ASTR 241 Foundations of Astrophysics I: The Solar System (3) Solar system astrophysics. Dynamics of planets, satellite systems, asteroids and comets; planetary structure and thermal structure; evolution of the Sun and the solar system. DP

ASTR 280 Evolution of the Universe (3) The Big Bang, origin of the elements, formation and evolution of galaxies and stars. DP

ASTR 281 Astrobiology (3) Are we alone in the universe? Examine the relevance of astrobiology and its role in understanding and helping to use Earth life to explore other planets. Pre: PHYS 151 or 242, PHYS 245 (or concurrent) or 253 (or concurrent) or M TH 215; 241, or 251. (Fall only)

ASTR 300 Observational Astronomy (3) Principles and techniques of optical and near-infrared observational astronomy. Astronomical coordinate systems. Telescopes, cameras, spectrographs, and detectors. Astrometry, photometry, and spectroscopy of astronomical objects. A-F only. Pre: 210 or 242; PHYS 152 or 274; MATH 215, 241, or 251A. (Fall only) DP

ASTR 300L Observational Astronomy Laboratory (2) Optical and near-infrared laboratory astronomy. Error analysis, properties of light, data, and image processing. Instrumentation, photographic and spectroscopic measurement. A-F only. Pre: 300 (or concurrent); PHYS 152 or 274; PHYS 152L or 274L; MATH 215, 241, or 251A. (Fall only) DY

ASTR 301 Observational Astronomy Projects (4) Practical astrophysical observing. Students select objects to study, plan, and conduct remote observations using research-grade telescopes, reduce data, present results in written and verbal form. Introduces LaTeX, literature research, time allocation. A-F only. Pre: 300 and 300L. (Spring only) DY

ASTR 320 Astronomical Spectroscopy (3) Introduction to astronomical spectroscopy. Stellar atmosphere: spectral lines and elements of radiative transfer. Phases of interstellar medium. Emission line diagnostics. Doppler shift and kinematics. A-F only. Pre: 210 or 242; PHYS 152 or 274; MATH 216 or 242 or 253A. (Spring only)

ASTR 380 The Cosmos in Western Culture (3) History and intellectual context of astronomical discovery; the evolution of ideas of space, time, and motion from the Babylonians to relativistic cosmology; empires and interaction of astronomy with the history of ideas. Pre: 110 (or concurrent). (Spring only)

ASTR 399 Directed Study (V) Individual reading, observation, research, or experimentation in astronomy and astrophysics. Repeatable four times. Pre: consent.

ASTR 423 Stellar Astrophysics (3) Advanced survey of stellar astrophysics, including application of astrophotometry, photometry, and spectrophotometry to determine fundamental stellar properties; stellar structure and evolution of single and binary stars; astrophysical distance determination methods; stellar nucleosynthesis. Pre: 242 and 300, and PHYS 480. DP

ASTR 426 Galaxies & Cosmology (3) Survey of extragalactic astronomy and cosmology, including: galaxy morphology and kinematics; luminosity function and galaxy group/cluster; gravitational lensing; redshifts; cosmological models; the Big Bang; thermal history of the Universe; structure formation. A-F only. Pre: 300; PHYS 152 or PHYS 274; MATH 216 or MATH 242 or MATH 252A. (Alt. years) DP

ASTR 430 The Solar System (3) Observations and physical nature of planets and moons, asteroids, comets, dwarf planets, formation of the Solar System; discovery of other planetary systems; solar activity. Pre: 300; and PHYS 152 or 274; and MATH 216, 242, or 252A. (Alt. years) DP

ASTR 494 Senior Research Project (V) Research in observational and theoretical astronomical instrumentation development, supervised by Institute for Astronomy faculty. Alternatively, research combining astronomy with additional field, conducted with cooperating faculty. Significant written products required. Repeatable one time, up to eight credits. A-F only. Pre: 301; A-F only.

ASTR 500 Master’s Plan B/C Studies (1) DP

ASTR 622 The Interstellar Medium (3) Astrophysics of diffuse matter, interstellar molecules, molecular clouds. Pre: consent. (Alt. years)

ASTR 623 Stellar Interiors and Evolution (3) Structure and evolution; energy sources, radiative processes; relations to observables. Pre: consent. (Alt. years)

ASTR 626 Galaxies (3) Observations and stellar dynamics of elliptical and spiral galaxies including our galaxy, globular clusters, and dark matter. Galaxy formation and evolution. Pre: consent. (Alt. years)


ASTR 630 The Solar System (3) Survey of observational data and physical concepts on planets and smaller bodies: formation of planetary systems; solar activity. Pre: consent. (Alt. years)

ASTR 631 Radioactive Transfer Stellar Atmospheres (3) Excitation, ionization, and radiative transfer in stellar atmospheres; models of atmospheres, formation of line and continuum radiation. Pre: consent. (Alt. years)

ASTR 633 Astrophysical Techniques (3) Telescopes, positional astronomy, photon detection, error analysis, photometry, spectroscopy. Pre: consent. (Fall only)


ASTR 640 General Relativity (3) Introduction to gravity and general relativity. Tensor basics, classical scaler, vector and tensor field theories. Exact symmetries; Einstein’s equation, gravito-magnetic weak field, and radiation solutions. Pre: consent. (Alt. years)

ASTR 641 Active Galaxies (3) Phenomenology of active galactic nuclei, black holes, accretion flows and jets, emission mechanisms, host galaxies, and cosmic evolution. Pre: consent. (Alt. years: spring)

ASTR 657 Astrochemistry: A Molecular Approach (3) Formation of astrophysically important molecules and their precursors in the interstellar medium and in our galaxy. Latest principles and latest trends. Pre: consent. (Fall only) (Cross-listed as CHEM 657 and GG 657)

ASTR 699 Directed Research (V) Repeatable unlimited times. Pre: consent.

ASTR 700 Thesis Research (V) Repeatable unlimited times.

ASTR 734 Astronomy Seminar I (V) Selected advanced topics in astronomy and astrophysics. Available for 1 to 3 credit hours by arrangement. Repeatable unlimited times. Pre: consent.

ASTR 735 Astronomy Seminar II (V) Selected advanced topics in astronomy and astrophysics. Available for 1 to 3 credit hours by arrangement. Repeatable unlimited times. Pre: consent.

ASTR 736 Astronomy Seminar III (V) Selected advanced topics in astronomy and astrophysics. Available for 1 to 3 credit hours by arrangement. Repeatable unlimited times. Pre: consent.

ASTR 740 Astrobiology Seminar: Origin, Evolution and the Role of Water for Life in the Universe (1) Interdisciplinary research topics in astrobiology as they relate to the theme of water: formation in space, role in creating pre-biotic molecules, delivery to earth, and terrestrial planet habitability. Repeatable three times. Pre: graduate level sciences and ideas, or consent.

ASTR 777 Star Formation (2) Molecular clouds, collapse, protostars, properties of circumstellar disks and accretion, properties of young stars, outflows and jets, formation of binaries, extrasolar planets and planet formation, meteorites and the early solar system. Pre: graduate standing or consent. (Alt. years: spring)

ASTR 800 Dissertation Research (V) Repeatable unlimited times.

Atmospheric Sciences (ATMO)

School of Ocean and Earth Science and Technology

ATMO 101 Introduction to Weather and Climate (3) Introductory physical characteristics of the atmosphere. Undergraduate students in any major. A non-mathematical introduction to basic atmospheric variables, Earth’s past climates, global warming, air pollution, El Nino, hurricanes, tornados, and forecasting weather in Hawaii. DP

ATMO 101L Introduction to Weather and Climate Lab (1) (3-hr Lab) Exercises with meteorological data and measurement systems. Characteristics of Hawaiian winds, temperatures, and rainfall. DY

ATMO 102 Pacific Climates and Cultures (3) Highlights the interface between the observed weather and climate of the Pacific and the past and future cultures of the people of the Hawaiian and Pacific islands. A-F only. (Alt. years)

ATMO 150 Introduction to Quantitative Earth and Environmental Science (3) Introduction to pre-calculus math and physics applied to Earth and environmental science. Students work on real-world problems and engage in participatory learning. Preparatory for classes in calculus and physics. Pre: MATH 134, 151, or 152 (with score required for MATH 140). (Fall only) (Cross-listed as GG 150 and OCN 150) FQ

ATMO 199 Introduction to MET Undergraduate Directed Research (V) Students gain familiarity with ATMO research. Students can select 1-3 credits per semester for maximum 6 credits over 4 semesters. Students must pre-arrange research and reading content with instructor. Repeatable three times, up to six credits. Freshman and sophomore standing only. CR/NC only. Pre: instructor approval.

ATMO 200 Atmospheric Processes and Phenomena (3) Atmospheric variables, gas laws, radiation processes, thermodynamics, static stability, storage and transfer, molecular dynamic approximations, clouds and precipitation, convection, atmospheric circulations, mid-latitude and tropical weather systems, forecasting, climate. Pre: PHYS 170 and MATH 241. (Alt. years: spring)

ATMO 302 Atmospheric Physics (3) Energy and thermodynamics, statics and stability, physical processes of cloud formation, radiation and Earth-atmosphere heat balance, kinetic theory, optical effects. Pre: 200, MATH 242, and PHYS 272; or consent. DP

ATMO 303 Introduction to Atmospheric Dynamics (3) Scalar and vector development of basic laws of hydrodynamics, equations of motion, thermodynamics, divergence and vorticity, viscosity and turbulence, introduction to numerical weather prediction, general circulation. Pre: 302 and MATH 244. DP
ATMO 305 Meteorological Instruments and Observations (3) (2 Lec, 1-3 hr Lab) Each week targets a different meteorological instrument and culminates in a lab exercise and report. The focus is on accurate scientific-style observational writing. A-F only. Pre: 302 and PHYS 272/272. DP

ATMO 310 Global Environmental Change (3) Global environmental change problems such as carbon dioxide and the greenhouse effect, acid rain, chlorofluorocarbons and the ozone layer, global deforestation and the effect on climate, etc. Pre: 200, OCN 201, GG 101, GG 103, or GG 170; or consent. (Cross-listed as OCN 305) DP

ATMO 320 Programming for Meteorologists (3) Scientific programming in FORTRAN 77, graphics software and meteorological applications. A-F or Audit. Pre: 302 or (concurrent) and MATH 241; or consent.

ATMO 395 Undergraduate Internship (V) Experiential approach to earth science; students serve as interns to field professionals; responsibilities include supervised field work. Open to undergraduate SOEST majors. Repeatable one time. CR/NC only. Pre: junior/senior standing and consent. (Fall only)

ATMO 399 Undergraduate Directed Reading (V) Individual reading in Atmospheric Sciences. Repeatable one time, up to three credits. ATMO students only. Junior and senior standing only. A-F only. Pre: consent.

ATMO 402 Applied Atmospheric Dynamics (3) Advanced concepts in dynamics: vorticity, cyclogenesis, jet streams, fronts, mesoscale circulations. Pre: 303. DP

ATMO 405 Satellite Meteorology (3) (2 Lec, 1-3 hr Lab) Orbital elements, ephemerides, viewing geometry, radiation, satellite sensors; interpreting satellite data; applications to synoptic meteorology and forecasting. Pre: 302. DP

ATMO 406 Tropical Meteorology (3) History; tropical clouds and hydrometeors; typhoons; monsoons; low pressure; internal effects. Pre: 303. DP

ATMO 412 Meteorological Analysis Lab (4) (2 4-hr Lab) Techniques of portraying and analyzing atmospheric structure and weather systems in middle and high latitudes; modern methods of forecasting extratropical systems. Pre: 303 or concurrent. (Alt. years)

ATMO 416 Tropical Analysis Lab (4) (2 Lec 2 3-hr Lab) Techniques of portraying and analyzing atmospheric structure and weather systems in tropical and equatorial regions; forecasting tropical systems. Pre: 303 or concurrent.

ATMO 449 Climate Modeling, Data Analysis, and Applications (3) Introduction to regional and global climate modeling for environmental scientists and engineers. Learn principles of climate modeling, how to access and use climate data for sustainable engineering and environmental management solutions, and effectively communicate results. Repeatable one time. ATMO, CEE, GG,GES, OCN, NREM majors only. Senior standing or higher, or consent. (Cross-listed as CEE 449 and SUST 449)

ATMO 499 Undergraduate Thesis (3) Capstone for senior Meteorology majors. Undergraduate thesis project includes literature review, experiment or research design, data collection and analysis, technical writing, a final oral and oral presentation of the paper. Junior and senior standing only. A-F only. Pre: 302, 303 or (concurrent).

ATMO 600 Atmospheric Dynamics I (3) Governing equations for moist atmospheric processes, approximations, basic theoretical models, boundary layer dynamics, atmospheric waves, quasi-geostrophic theory for mid-latitudes. Pre: 402, and either MATH 402 or MATH 405; or consent.

ATMO 601 Atmospheric Dynamics II (3) Overview of dynamic meteorology, numerical weather prediction, geophysical fluid instabilities, approximate dynamical systems, atmospheric general circulation, stratospheric dynamics. Pre: 600 or consent. (Alt. years)

ATMO 606 Cumulus Dynamics (3) Dynamics of convective systems: tornadoes, waterspouts, squall lines. Interactions with synoptic scale. Pre: 620 or consent. (Alt. years)

ATMO 607 Mesoscale Meteorology (3) Scale analysis. Observational and theoretical aspects of mesoscale circulation systems. Pre: 600 or consent. (Alt. years)

ATMO 610 Tropical Climate and Weather (3) Climate and general circulation of the tropics; El Niño and Southern Oscillation; intraseasonal oscillation; trade winds; tropical weather systems; energy balance; typhoons. Pre: 600 or concurrent.

ATMO 611 Satellite Data Applications (3) (2 Lec, 1-3 hr Lab) Principles and practices of satellite remote sensing as used in the atmospheric sciences, specifically clouds, aerosols, precipitation, ocean and land cover data from various satellites. Develop skills including data manipulation, analysis, and visualization using Matlab. A-F only. Pre: 620 or consent. (Alt. years)

ATMO 614 Tropical Cyclones (3) Lecture covering fundamentals of tropical cyclone structure, motion, and impacts on society. Observations from satellites, aircraft, ships and buoys, and numerical simulations focusing on storm structure and track. Some forecasting exercises. Repeatable one time. Pre: 600 and 610, or consent. (Alt. years)

ATMO 616 Monsoon Meteorology (3) Synoptic components of monsoons, regional and temporal variability, number, future research exercises. Pre: 610 or consent. (Alt. years)

ATMO 620 Physical Meteorology (3) Molecular kinetics, atmospheric thermodynamics, cloud physics, precipitation processes, atmospheric electricity, scattering and absorption of solar radiation, absorption and emission of infrared radiation, radiative transfer. Pre: 302 or consent.

ATMO 628 Radar Meteorology (3) (2 Lec, 1-3 hr Lab) Radar hardware, electromagnetic propagation, and scattering, radar equation, signal processing, precipitation estimation and polarimetric applications, Multi-Doppler wind synthesis, mobile and spaceborne radars, forecasting and data assimilation applications. A-F only. Pre: 620 (with a minimum grade of B- or higher) or consent. (Alt. years)

ATMO 631 Statistical Meteorology (3) Probability; frequency distributions of atmospheric variables; linear models; time series analysis (frequency and time domain); principal component analysis; statistical weather forecasting and verification. Pre: MATH 371. (Alt. years)

ATMO 632 Advanced Statistical Methods in the Geosciences (3) Methods for numerous multivariate analyses will include singular spectrum, extended empirical orthogonal function, singular-value decomposition, canonical correlation, discriminant and cluster analysis. Other advanced topics include wavelet analysis, statistical downscaling and Bayesian analysis. A-F only and audit. Pre: 631 or consent. (every 3rd year)

ATMO 665 Small-Scale Air-Sea Interaction (3) Observations and theory of small-scale processes which couple the atmosphere and ocean boundary layers, including introduction to turbulence theory and parameterization of turbulent fluxes. Pre: MATH 402 and 403 (or their equivalents) and either 600 or OCN 620; or consent. (Alt. years) (Cross-listed as OCN 665)

ATMO 666 Large-Scale Ocean-Atmosphere Interactions (3) Lecture/seminar introduces physical oceanography and meteorology students to the state-of-the-art theories and observations of large-scale ocean-atmosphere interaction, as well as conveying the fundamental understanding that has been developed during the past 30 years. Emphasis will be on phenomena such as El Niño/Southern Oscillation, the North Atlantic Oscillation, the Paciﬁc Decadal Oscillation, and global climate change. Repeatable one time. Pre: 600 or OCN 620, or consent. (Alt. years) (Cross-listed as OCN 666)

ATMO 699 Directed Research (V) Repeatable unlimited times. Pre: consent.

ATMO 700 Thesis Research (V) Repeatable unlimited times.

ATMO 702 Numerical Weather Prediction (3) (2 Lec, 1-3 hr Lab) Numerical methods and specific techniques in numerical weather prediction: time differencing, spatial finite differencing, spectral methods, numerical stability, explicit and implicit methods. Modern operational and research forecast models. Hands-on laboratory includes simple to complex dynamic models, with a term project. Repeatable one time. Pre: 600 or OCN 620; MATH 407 or 408; or consent. (Alt. years)

ATMO 704 Climate and Climate Variability (3) Physical basis of climate, numerical climate models, paleoclimatic indicators, past and current climate records, assessment of human impact on climate, predictions of future climate. Repeatable one time. Pre: 600 or OCN 620, or consent. (Alt. years)

ATMO 706 Tropical Climate Dynamics and Meteorology (3) Overview of recent progress in tropical climate dynamics with a particular focus on large-scale atmosphere-ocean interactions; introduction of basic numerical techniques for students to construct and run immediate tropical atmosphere and ocean models. Pre: 600.

ATMO 708 General Circulation of the Atmosphere (3) Theory, observations, large-scale analyses, and global model simulations that describe characteristic large-scale circulation of the Earth’s atmosphere. Includes zonally averaged climatology, asymmetric features of the general circulation, and El Niño-Southern Oscillation phenomena. Repeatable one time. Pre: 600 or consent. (Alt. years)

ATMO 752 Special Topics in Meteorology (3) Concentrated studies on selected atmospheric problems. Repeatable two times. Pre: 600 or consent. (Alt. years)

ATMO 765 Seminar in Meteorology (1) Participation in preparation and presentation of a seminar on research results. Includes written critiques of departmental seminars. Repeatable three times. Pre: consent.

ATMO 800 Dissertation Research (V) Repeatable unlimited times.

Biochemistry (BIOC)

School of Medicine

Adaptable preparation in chemistry (through physical chemistry, physics, and mathematics) is helpful, and a background in biological sciences is desirable. The minimum grade required for undergraduate prerequisites is a D or better, and graduate prerequisites is a C (not C-) or better.

BIOC 241 Fundamentals of Biochemistry (3) Biological chemistry stressing integration of concepts of general, inorganic, and biochemistry and application to life chemistry. Pre: beginning algebra and high school science. DP

BIOC 341 Elements of Biochemistry (3) Biochemical principles and concepts as applied to living systems, including sufficient organic chemistry to understand these principles. Pre: 241 or consent. DP

BIOC 441 Basic Biochemistry (4) Function and composition of biological substances and their metabolic transformation in animals, plants, microorganisms. Pre: BIOL 275 and CHEM 273 with a D grade; or consent. DB

BIOC 499 Directed Research and Reading (V) Independent research or selected reading of current literature in the area of biochemistry and biophysics. Repeatable unlimited times. Pre: consent.

BIOC 545 Topics in Biochemistry (4) Fourth-year elective in which medical students take an in-depth study of selected topics in biochemistry. Pre: fourth-year medical student or consent. DB

BIOC 595 Highlights of Organ-System Biochemistry (1) Provides highly interactive, small group discussions on concepts of biochemistry that are important to the various organ systems; such as cardiac, respiratory, hematology, gastrointestinal, endocrine, musculoskeletal and neurological systems, and relevant to clinical medicine. MD majors only. CR/NC only. Pre: MDEV 554. (Fall only)

Biotechnology (BE)

College of Tropical Agriculture and Human Resources

Minimum grade for prerequisite courses is C, unless otherwise noted.

BE 110 Introduction to Sustainable Engineering (3) Sustainability and its social and technical significance; global population growth; resource

Key to symbols & abbreviations: see the first page of this section.
management and quantification; designs for sustainable society; challenges interfacing technology and culture/religion; green and ecological engineering; life cycle analyses; engineering ethics; selected case studies. A-F only. (Fall only) DP

BE 120 Introduction to Quantitative Biology (3) Quantitative approach to applied topics in biology including synthesis and metabolism, kinetics, physiological systems, cellular processes and signaling, information, and emerging technologies for health, biological production/processing, and discovery. Pre: PHYS 241 (or concurrent) and CHEM 162 (or concurrent), and consent. A-F only. (Fall only) DP

BE 150 Introduction to Biological Engineering (2) Discussion and experimental investigation of physical and chemical principles underlying representative biological processes and systems. Bioproduction, energy conversion, environmental systems, biological treatment, biosensors, biomechanics, and related natural and engineered systems. A-F only. Pre: MATH 140 or consent. (Once a year) DP

BE 191 Introduction to Applications in Biological Engineering (V) Discussion of and investigation of special topics, problems and applications of biological engineering. Pre: consent.

BE 260 Mass and Energy Balances (3) Introduction of the principles of mass and energy conservation; development of systematic approaches to apply these principles in calculations for design and analysis of biochemical, chemical, and physical processes. Pre: BIOL 171, CHEM 171, or BIOL 181, PHYS 170, and MATH 242 or 252A; or consent. DP


BE 373 Transport Phenomena (3) Fundamental principles and applications relating to mass, momentum, and energy transfers in biofluids and other systems for engineers and scientists. Pre: 260, CEE 270, MATH 243 or 253A, CHEM 320 (or concurrent) or ME 322 (or concurrent), ME 311 (or concurrent). DP

BE 405 Engineering Economics (3) Economic analysis in engineering. Decision-making; interest, depreciation, income tax, cost classification, break-even analysis, economic comparisons of alternatives, benefit-cost analysis. A-F only. Pre: ECON 120, 130, and senior standing. (Cross-listed as CEE 405) DP

BE 410 Biomass Conversion to Biofuels and Bioenergy (3) Overview of biofuel/bioenergy production; fundamental concepts in biofuel/bioenergy production; renewable feedstocks; thermochemical and biochemical conversions of biomass to biofuel/bioenergy/biodiesel production; environmental impacts, economics and life-cycle analysis; value-added processing of biofuel residues; selected case studies. A-F only. Pre: 373 or consent. (Once a year) DP

BE 411 Food Engineering (5) Principles and applications of food science and technology, electricity, fluid mechanics, heat transfer, psychrometry, and material and energy balances of food processing and preservation. Pre: (BIOL 171, CHEM 162 or CHEM 171 or CHEM 181) and MATH 243 or MATH 253A, PHYS 151 or PHYS 170 with a minimum grade of C; or consent. (Once a year) (Cross-listed as FSHN 411) DP

BE 420 Sensors and Instrumentation for Biological Systems (3) Design course focused on fundamentals of electronic interfacing, control and automation, including biological processes. Topics include sensor physics, basic instrumentation, digital communication, and programmable controllers and other portable computer systems. Pre: EE 160, EE 211, and BE 350 or MATH 302 or MATH 307 or EE 326; or consent. (Cross-listed as FSHN 420) DP

BE 421 Bioprocess Control (3) Process control in both time and Laplace domains with an introduction to the frequency domain; selection and design of appropriate control systems for bioprocesses with consideration of how control impact on the total system: identification of safety concerns in designing control systems and process equipment. Pre: 260, MATH 243; or consent. DP

BE 431 Environmental Biotechnology (3) Environmental impact and control; the microbiological and its nutrition and growth conditions; microbial growth and substrate removal kinetics; bioreactors; biological treatment systems; biodegradation of xenobiotic organic chemicals; case studies. A-F only. Pre: 373 or consent. (Spring only) DP

BE 457 Biosystems Unit Operations (3) Introduction to unit operations in biological, environmental, food, and manufacturing processes. Integration of biology and chemistry into engineering using basic concepts in mass and energy conservation and transport in reacting and non-reacting systems. A-F only. Pre: 373; and either CEE 320 or ME 322; or consent. DP

BE 440 Bioremediation: Principles and Practices (3) (2 Lec, 1 3-hr Lab) Soil environment, fate and transport of contaminants; hydrocarbon, metalloid, and energy production; biodegradation of selected compounds. In situ treatment, solid-phase bioremediation, slurry-phase bioremediation, and vapor-phase biological treatment. Open to nonmajors. Repeatable one time. Pre: 260, CHEM 161, PHYS 170; or consent. DP

BE 460 Bioreactor Design and Analysis (3) Application of mass, momentum and energy balances and reaction kinetics for the design and analysis of bioreactors for microbial, plant, and animal cell cultures. Pre: 373 or CEE 320 or ME 322; or consent. DP

BE 470 Bioprocess Design and Analysis (3) Combined lecture/computer lab on theory and practice of bioprocess design and analysis, involving biological and engineering principles of bioprocessing, computer-aided unit operations, process integration, and economic evaluation. A-F only. Pre: 373, 437 (or concurrent) or 460 (or concurrent); or consent. (Alt. years) DP

BE 481 Senior Engineering Design I (3) (1 1-hr Lab) First of a two-semester sequence that provides a major design experience for senior students in biosystems engineering. Design process; project management; design methods; modeling and simulation; design for sustainability; design for manufacturing and engineering; economics; engineering statistics, initiation of an open-ended design project. A-F only. Pre: 350/350L, 373, CEE 320 or ME 322, 311, EE 211; or consent.

BE 482 Senior Engineering Design II (3) (1 1-hr Lab) Continuation of 481. Properties of biological materials; risk and reliability; design ethics; guest lectures on engineering design by practicing engineers; extension and completion of the design project with submission of a final design report. A-F only. Pre: 481 or consent.

BE 491 Biological Engineering Topics (V) Study and discussion of significant topics and problems. Offered by visiting faculty and/or for extension programs. Repeatable nine times.

BE 492 Internship (4) Internship and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: consent.

BE 493 Directed Research (V) Research in the area of biofuel/bioenergy/biodiesel production; renewable feedstocks; thermochemical and biochemical conversions of biomass to biofuel; biodiesel production; algal-biofuel; environmental impacts, life-cycle analysis; value-added processing of biofuel residues; selected case studies; term paper and presentation. A-F only. Pre: consent. (Once a year)


BE 625 Biological Instrumentation (3) System integration for computer-based control, automation, and study of biological systems. Topics include physical, chemical, and biological sensors, actuators, digital interfacing/communication, image analysis, and structured code for microcontrollers and other control systems. Pre: consent. (Cross-listed as MBBE 625) DP

BE 634 Biological Treatment (3) Fundamentals of applied microbiology and biochemical reactor engineering, quantitative description of microbial growth, operational theory and design basis of aerobic, anaerobic and anaerobic treatment processes. Applications for water, wastewater, air, solid wastes, and soil. A-F only. Pre: consent. (Alt. years: spring) (Cross-listed as CE 634) DP

BE 638 Biosystems Modeling (3) Introduction to system thinking, procedures for developing system models, characteristics of important agricultural, environmental, and biosystems models and the evaluation and optimization of system models. Pre: one of MATH 215, MATH 241, MATH 251A; or consent. (Cross-listed as AREC 610)

BE 664 Hydrologic Processes in Soils (3) (2 Lec, 1 3-hr Lab) Hydrologic properties in soils and the processes involved in water infiltration drainage and solute transport. Emphasis on key parameters required for modeling. Recommended CE 324 (Fall only) (Cross-listed as CEE 665 and NREM 660)

BE 699 Directed Research (V) Repeatable unlimited times.

BE 700 Thesis Research (V) Repeatable unlimited times.

BE 750 Seminar (1) Use of computer and video technology in technical presentation, review of current biosystems engineering research. Pre: consent.

Biology (BIOL)

BIOL 101 Introduction to Biological Sciences (5) Characteristics of science, historical development of scientific concepts, and interaction of society with science illustrated by topics from biological science. Not a BIOL major elective. DP

BIOL 101L Biology and Society Laboratory (1) (3-hr Lab) Lab experiments illustrating topics and methods in the biological sciences. Not a BIOL major elective. DP

BIOL 104 Marine Option Program Seminar (1) Overview of ocean issues and organizations involved with marine activities, management, education, research, and business. Exploration of internships, research, and career opportunities. Preparation of resumes, proposals, and professional presentations. Not a BIOL major elective. (Cross-listed as IS 100)

BIOL 123 Hawaiian Environment Science (3) Characteristics of science and interaction with society illustrated by topics in geology, astronomy, oceanography, and biology of Hawaiian Islands. Not a BIOL major elective. DP

BIOL 171 Introduction to Biology I (3) Introduction to biology for all life science majors. Cell structure and chemistry; growth, reproduction, genetics, evolution, viruses, bacteria, and simple eukaryotes. Pre: CHEM 131, 151, 161, 171, or 181A; or concurrent, and BIOL 171L (or concurrent), or consent. DP

BIOL 171L Introduction to Biology I Lab (1) (3-hr Lab) Laboratory to accompany 171. Pre: CHEM 131, 151, 161, 171, or 181A; or concurrent, and BIOL 171L (or concurrent), or consent. DP

BIOL 171L Introduction to Biology II Lab (1) (3-hr Lab) Laboratory to accompany 171L. Pre: CHEM 131, 151, 161, 171, or 181A; or concurrent, and BIOL 171L (or concurrent), or consent. DP

BIOL 172 Introduction to Biology II (3) Anatomy, physiology, and systematics of plants and animals; behavior; ecosystems, populations, and communities.
BIOL 350 Sex Differences in the Life Cycle (3) Human sex differences, their biological basis and significance. Genetic, hormonal, and behavioral determinants of sexual differentiation; biology of gonads; sexual dimorphism; development, and aging. Pre: one semester of biological science. (Cross-listed as W S 350) DB

BIOL 360 Island Ecosystems (3) Characteristics of island biota: examples from Hawai‘i and the Pacific. Impact of island and continental ecosystems; policy and ecosystem endangerment; contemporary legislation, policy, and management practices. Pre: one semester of biological science or consent. Not a BIOL major elective. DB

BIOL 363 Biological Field Studies (V) Biological survey, collection, and analysis techniques will be reviewed and applied through field studies. Students will be introduced to the uniqueness of the Hawaiian environment and its diversity of life. Emphasis on diversity, evolution and ecology. Repeatable up to six credits. A-F only. Pre: C (not C-) or better in 265/265L and consent.

BIOL 375 Genetics (3) Genetic concepts at advanced undergraduate level; genetic transmission, recombination, gene action, mutation, population and evolutionary genetics. A-F only. Pre: 275 or consent. DB

BIOL 375L Genetics Laboratory (2) (1 4-Hr Lab) Experiments with a variety of organisms to illustrate principles discussed in BIOL 375. Pre: 275/275L. 375 (or concurrent). Consent. DB

BIOL 390 Communicating in Biological Sciences (3) Combined lecture/lab impart essential knowledge and skills in technical writing, poster design, oral presentations for communication in life science majors. Research papers, lab reports, project proposals, conference presentations are covered. A-F only. Pre: C (not C-) or better in 171/171L, 172/172L, and ENG 1402. DB

BIOL 395 Internship in Biology Teaching (2) Supervised laboratory internship in the preparation and demonstration of laboratory experiments in selected laboratory courses. Repeatable one time. Pre: consent.

BIOL 400 Ocean Internships and Research (V) Students carry out marine-related internships, practica, research projects or field experience on-or-off-campus with faculty guidance. Repeatable one time. A-F only. Pre: minimum sum GPA of 2.5, junior or senior standing in any field of study and IS 100/BIO 104 or consent, project proposal. (Cross-listed as IS 400) DB

BIOL 401 Molecular Biotechnology (3) General principles, advanced developments in the rapidly growing science of biotechnology. Topics include impact of biotechnology on medicine, animal sciences, environment, agriculture, forensics, and economic and social development. Pre: C (not C-) or better in 275/275L and CHEM 273; consent. (Cross-listed as MBBE 401) DB

BIOL 402 Principles of Biochemistry (4) Molecular basis of living processes in bacteria, plants, and animals; emphasis on metabolism of carbohydrates, lipids, proteins, and nucleic acids. Pre: C (not C-) or better in 275/275L and CHEM 273; consent. (Cross-listed as MBBE 402) DB

BIOL 403 Field Problems in Marine Biology (4) Integrated program of intensive lectures, laboratory experiments, and field research that focus on the biological processes that shape the lives of marine organisms. A-F only. Limited space; enrollment by GPA; consent. Pre: C (not C-) or better in 301/301L and consent. DB

BIOL 404 Advanced Topics in Marine Biology (3) Current themes in marine biology and experience in scientific research. Select topics. BIOL majors only. A-F only. Pre: C (not C-) or better in 301/301L and consent. DB

BIOL 406 Biology of Marine Organisms (3) Biology, physiology, and taxonomy of marine organisms and marine ecosystems, and the physical and chemical factors, which influence them. Cannot be used to satisfy BS-MB major requirements. Credit granted for at most only one of ZOOL 406, BIOL 406, or ZOOL 406L. Junior standing or consent. A-F only. Pre: 171 and 172. (Spring only) DB

BIOL 407 Molecular Cell Biology I (3) Relationship between structure and function at macromolecular level. Pre: C (not C-) or better in 275/275L and CHEM 273, or consent. (Cross-listed as MCB 407) DB

BIOL 408 Molecular Cellular Biology II (3) Cell structure and function. Structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in 407; or consent. (Cross-listed as MCB 408) DB

BIOL 408L Advanced Molecular and Cellular Biology Laboratory (2) (3 1-Hr Lab) Laboratory to accompany 407 and 408. Pre: 407 (or concurrent) or 408 (or concurrent). Consent. Pre: CHEM 171/172L. (Cross-listed as MCB 408L) DY

BIOL 410 Human Role in Environmental Change (3) Human impacts through time on vegetation, animals, landforms, soils, climate, and atmosphere. Special reference to Asian/Pacific region. Implications of long-term environmental change on human habitation. Pre: with a minimum grade of B, one of 101, 125 or GEOG 101 and either 310 or GEOG 322; or consent. (Cross-listed as GEOG 410) DB

BIOL 425 Wildlife and Plant Conservation (3) Principles of conservation biology and wildlife management techniques, illustrated with animal, plant, and ecosystem examples. Examination of ethical, cultural, legal, political, and socioeconomic issues. Plotting and field trips. Pre: C (not C-) or better in 265/265L and consent. DB

BIOL 430 Psychoactive Drug Plants (3) Taxonomy, ecology, biochemistry, distribution, cultural history, and contemporary use of mind-altering drug plants: examples from primitive, traditional, and modern societies. Pre: junior standing, one semester of biological science, and either ANTH 200 or GEO 151; or consent. DB

BIOL 468 The Rise of Fishes: an Evolutionary History (3) The origins and early evolution of fishes, with focus on morphological and molecular advancements that have led to lineage divergence and adaptive radiation, and the nature of underlying processes associated with novel character trait evolution. A-F only. Pre: 265. (Alt, year) DB

BIOL 472 The Biology of Cancer (3) Integrative, in-depth focus on the genetics, cell biology, and molecular basis of cancer. Combination of classroom lectures and problem-based discussions in small groups. Addresses ethical implications of cancer research and treatment. A-F only, MCB or BIOL majors only. Senior standing or higher. Pre: 407 (or concurrent) and 408 (or concurrent) or consent. (Spring only) (Cross-listed as MCB 472) DB

BIOL 483 Introduction to Bioinformatics Topics for Biologists (3) Focuses on the use of computational tools and approaches to analyze the enormous amount of biological data (DNA, protein) available today. A-F only. Pre: 171 (or equivalent), or consent. (Once a year) (Cross-listed as MBBE 483) DB

BIOL 490 Mathematical Biology Seminar (1) Reports on research in mathematical biology, reviews of literature, and research presentation. Required for Certificate in Mathematical Biology. Repeatable one time. Pre: junior standing or higher and consent. (Cross-listed as MBBE 490) DB

BIOL 499 Biological Problems (V) Directed reading and research. For juniors and seniors majoring in life science 1-12 credits. Repeatable one time, up to 8 credits, up to 6 credits apply towards BA and BS Biol, junior major requirements. Pre: 2.5 GPA minimum, written proposal and consent.

BIOL 650 Population Genetics (3) Mathematical, observational, experimental results on effects of mutation, selection, and systems of mating on distribution of genes. Analysis of non-experimental data. BIOL majors only. Pre: consent. (Cross-listed as CMB 650) DB

BIOL 501 (Alpha) Biology Workshop for Science Teachers (V) Principles taught in aconceptual and/ or hands-on manner either in a laboratory setting or in the field. (B) biotechnology: (C) ecology, evolution and conservation; (D) marine biology; (F) biological science majors. Pre: C (not C-) or better in 171/171L, 172/172L, and ENG 1402. DB

BIOL 603 Molecular Ecology (3) Practical introduction to molecular methods used to address
freshwater, and marine habitats considered. A-F only. Pre: 202/202L and consent. (Once a year) DB DY

BOT 305 Ecology (3) General survey of the principles of ecology. Focus on processes influencing the distribution and abundance of organisms, interactions among organisms, and interactions between organisms and the environment. A-F only. Pre: BIOL 171; BIOL 172 or BOT 201. (Cross-listed as BIOL 305)

BOT 350 Resource Management and Conservation in Hawai‘i (3) Management of native Hawaiian organisms and terrestrial ecosystems with particular attention to strategies, planning, research, and management, including control of alien species and conservation of native species. Pre: general biology. DB

BOT 399 Botanical Problems (V) Individualized directed research. Intended for upper division botany majors. Repeatable one time. BOT majors only. CR/NC only. Pre: 101; BIOL 172; or consent. DB

BOT 400 Senior Seminar (1) Current research themes in botany presented in discussion format; reading current research papers. Oral presentations of primary research. Repeatable one time. BOT majors only. Senior standing and consent. A-F only. (Once a year)

BOT 401 Teaching Internship (1) Teaching Internship (TIL) allows upper division undergraduate students to experience assisting in laboratory courses for BOT 101, 105, 201, 202, 203, or other lab courses in Botany or peer-mentoring for BOT 100, 200, or 400. Repeatable one time. BOT majors only. CR/NC only. Pre: 301 or SUST 313, and 301L or SUST 313L, and 303; or consent.

BOT 410 Plant Anatomy (3) Structure of vascular plants; photosynthesis and distribution of tissues; relation of structure to function. Pre: 201. Co-requisite: 410L. Recommended: 470. DB

BOT 410L Plant Anatomy Lab (1) (1 3-hr Lab) Lab study of plant structure. Co-requisite: 410L. DY

BOT 420 Comparative Form and Function (4) (3 1-3 hr Lab) Lecture/laboratory to examine the anatomy, physiology, morphology, and functional ecology of plants. Labs will develop skills in microscopy, experimentation among organisms, and interaction among plants. Lecture, physiology, and basic functional ecology. A-F only. Pre: 101/101L or BIOL 171/171L; BOT 201/201L; or consent. (Spring only)

BOT 430 Mycology (2) Morphology, physiology, ecology of fungi; identification. Pre: 201; BIOL 172; or consent. DB

BOT 430L Mycology Lab (2) (2 3-hr Lab) Laboratory to accompany 430. Pre: 450 (or concurrent) or consent.

BOT 440 Advanced Ethnobotany (4) (2 2-hr Lab) Advanced studies of plant uses in cultural contexts, focusing upon impacts of plant-culture interactions in development of cultures, cultivars, medicinals, ethnobotanies, ethics, and intellectual property. Lecture/discussion, term paper. Pre: 105 or 107 or consent. DB

BOT 442 Medical Ethnobotany (3) Survey and theory of plants used as medicines, cultural perspectives of herbal medicine, and the botanical/chemical basis of allopathic and naturopathic medicine. Lecture/discussion, term paper or project. Pre: 461. or consent.

BOT 444 Ethnobotany and Conservation (3) Ecological implications of cultural uses of plants. Examines the biological basis for, and ecological effects of traditional and local resource management systems. Pre: one of 201, 202/202L, 265/265L or consent. (Cross-listed as SUST 445) DB

BOT 446 Hawaiian Ethnobotany (3) (2 Lec, 1-3 hr Lab) Methods and techniques of handling and identifying plants used by early Hawaiians and modern Hawaiians for house and canoe construction, clothing, household and fishing items, medicine, and food preparation. Reading, laboratory, and fieldwork. Pre: 440 or consent. (Cross-listed as SUST 446) DS

BOT 450 Natural History of Hawaiian Islands (3) (2 Lec, 1-hr Lab) Geography, geology, climatology, biotic environment of Pacific Basin and Hawaiian Islands; endemic evolution in terrestrial and marine biota of islands. Pre: one semester of biological sciences at college level. (Cross-listed as SUST 450 and ZOOL 450) DB


BOT 454 Plant Community Ecology (4) (2 Lec, 2 3-hr Lab, 2 2-hr Lab) Overview of plant populations and community ecology. Strong emphasis on how ecology is practiced as a science. Labs take advantage of working outdoors in local natural areas. Pre: 202 or consent. DB

BOT 455 Analysis of Biological Data (3) Application of computers to analysis of biological data: preparation and storage, report production, database analysis procedures, univariate and bivariate statistical analyses. Pre: 172 or consent. DB

BOT 456 Plant-Animal Interactions (3) Interdependence of plants and animals, emphasizing the influence of animals on plant fitness and evolution. Topics include pollination, fruit/seed dispersal, herbivory, and ant-plant mutualisms. Pre: 201/201L, or BIOL 265/265L. DB

BOT 457 Aina Maoliolu: Hawaiian Ecosystems (3) Comprehensive analysis of traditional Hawaiian agricultural and horticultural practices. Rigorous overview of the dominant physical and biological processes from the uplands to the oceans in Hawai‘i. Pre: 105 or 107, HWST 345, and junior standing; or consent. (Cross-listed as HWST 457 and SUST 457) DB

BOT 458 Natural Resource Issues and Ethics (4) Overview of the history of land, resources and power in Hawai‘i; players and processes influencing land and natural resource policies today explored from Native Hawaiian and other viewpoints. Extensive use of case studies. Pre: 457/HWST/SUST 457. (Cross-listed as HWST 458) DB

BOT 459 Strategies in Hawaiian Resource Use (3) Examining land use and water use strategies of O‘ahu, from traditional Hawaiian, scientific and economic perspectives, through classroom and on-site lectures. Topics include traditional Hawaiian methods, modern development, threatened ecosystems, ecotourism and scientific research. A-F only. Pre: BOT/HWST/SUST 457 (or concurrent) or consent. (Cross-listed as HWST 460) DB

BOT 460 Hui Konohiki Internship: Applied Resource Management (3) A "hands-on" internship in an environmental or resource-management organization in Hawai‘i. The experience will be broadened and extended by classroom lectures, discussion and analysis from traditional Hawaiian, scientific and economic perspectives. A-F only. Pre: BOT/HWST/SUST 457, BOT/HWST 458 (or co-requisite), BOT/HWST 459, and junior standing; or consent. (Spring only) (Cross-listed as HWST 460)

BOT 461 Systematics of Vascular Plants (4) (2 Lec, 2 3-hr Lab) "Hands-on" experience with Hawaii's unique tropical flora; emphasis on recognition and identification of vascular plant families and the unique tropical fora; emphasis on recognition and identification of common Hawaiian algae. Pre: 201/201L, or BIOL 265/265L. DB

BOT 462 Hughes Konoiki Internship: Applied Scientific and Economic Perspectives (4) -F only. Pre: BOT/HWST/SUST 457; or consent. (Spring only) DB

BOT 463 Forest Ecology and Management in the Tropics (3) Practices from around the world that focuses on the tropics. Integrates across disciplines, considers how science based management interacts with world views and considers management plans that are scientifically rigorous but culturally sensitive. Pre: BIOL 265 and an upper level ecology course, or consent. (Once a year)

BOT 479 Advanced Directed Research (V) Performance of research project under the direction of an advisory committee. Pre: permission of professor. Final oral presentation to be given to the Botany Department audience and written report required. Preference given to BOT majors. Repeatable up to eight credits. CR/NC only. Pre: 201 or SUST 313, and 301L, or SUST 313L, and 303, and consent.

BOT 500 Master's Plan B/C Studies (1) BOT 600 Grant Writing and Your Career in Science (2) Scientific grant writing and proposal preparation through management to completion; students will write a DDIG and participate in a panel. Professional skills including "rules," job applications, interviews, transitioning from graduate student to academic or non-academic job. A-F only. Pre: current standing as a graduate student, or consent.

BOT 601 Foundations of Current Botany I (2) Discussion of current research and classical papers important to major advances in history of science, plant diversity, plant interactions with the environment, and plant integration. Pre: graduate standing in BOT or consent. (Fall only)

BOT 602 Foundations of Current Botany II (2) Discussion of current research and classical papers important to modern concepts in ecology, plant interactions with other plants or animals, and ecosystem functioning. Pre: graduate standing in BOT or consent. (Spring only)

BOT 603 Darwin’s Origin of Species (2) Study and discussion of Charles Darwin’s Origin of Species, 1st edition 1859, and related current literature. Graduate students only. A-F only. Pre: 101, 201, NTH 200, or BIOL, GEOL, or related field; or consent. (Spring only)

BOT 606 Graduate Research Skills (2) (1 Lec, 1 3-hr Lab) Survey of major research areas in the botanical sciences with emphasis on research opportunities in Hawai‘i and an overview of 1) skills needed by botanical researchers including writing scientific papers and proposals, practicing ethical research procedures, and protection of specimens; and 2) equipment used by botanical researchers including computers, cameras, measuring and monitoring equipment, and global positioning systems. Lecture/discussion, laboratory. Repeatable one time. Pre: graduate standing in biological science or approval.

BOT 610 Botanical Seminar (1) Study and discussion of significant topics and problems in botany. Repeatable three times.

BOT 612 Advanced Botanical Problems (V) Investigation of any botanical problem; reading and laboratory work. Repeatable nine times. Pre: consent.

BOT 620 Perspectives in Modern Botany (2) Lectures by distinguished visiting professor on contemporary botanical topics in the lecturer’s area of expertise. No more than 6 credit hours may be counted toward the MS degree requirements. Repeatable five times.

BOT 621 Ecological Hydrology: Theory and Modeling (3) Vegetative response to hydrologic controls and nutrient cycles; quantitative linkages between hydrological dynamics and ecological patterns/processes. Mat Lab is used to develop and simulate ecological models. Pre: college level calculus or computer science. (Once a year)

BOT 640 Quantitative Ethnobotany (3) Modern ethnobotanical field research project design, execution, data analysis, and documentation methods. Intended for students preparing for research studies. Lecture/discussion, term paper. Pre: 105 and one of 201, 461, ANTH 200, or BIOL 172.

BOT 643 Ethnobotanical Methods (3) Field techniques for assessing the ecological effects of cultural uses of plants. Emphasis on combining traditional and local patterns of plant use and measuring the effects on plant individuals, populations, communities, and landscapes. Pre: previous course work in anthropology or biology.

BOT 648 Conservation Ethnobiology (3) Practical field training experience for a scientific career.
conducted ethobiological research. Repeatable one time. Pre: 640 or consent. (Summer only)

BOT 651 Invasion Biology (3) Theories, models, patterns, and predictive methods relating to the introduction, establishment, and spread of introduced organisms. Application of principles of invasion biology to conservation and natural resource management. Pre: one of 453, 456, MICR 485 or ZOOL 439; and 462 or BIOL 375; or consent.

BOT 652 Population Biology (3) Theory and applications of population biology; behavior of population models, as revealed by analytical methods and computer simulation; application to population problems such as endangered species; discussion of classical and current literature in population biology. Pre: one of 453, 454, 456, NREM 680, PEPs 671, ZOOL 439, ZOOL 467, ZOOL 620, or ZOOL 623; or consent.

BOT 653 Population Dynamics Models with R (3) Learn advanced modeling techniques to investigate the dynamics of size-structure populations (using matrix and integral population models in R), and discuss various applications in ecology and conservation biology. Recommended: students have working knowledge of calculus. (Alt. years: fall)

BOT 654 Advances in Plant Ecology (2) A research-oriented course advancing selected areas of plant ecology. Involves critical review of recent literature, independent research project, oral and written presentation of project results. Repeatable three times. Pre: consent.

BOT 660 Ecological Statistics with R (3) Learn how to choose appropriate statistical methods to test hypotheses in ecology, evolution, and conservation biology and applications using R as a platform. Lecture/discussion, term paper. Pre: ZOOL 631 or consent. (Alt. years: fall)

BOT 661 Hawaiian Vascular Plants (3) (2 Lec, 1 3-hr Lab) Identification, systematics, evolution, and biogeography of native and alien plants. Field trips. Pre: 461 or consent. (Cross-listed as SUST 661)

BOT 662 High Throughput Sequencing Approaches to Ecology and Evolution (3) Fundamentals of experimental design, lab techniques and data analysis to conduct research using high throughput sequencing. Students will work in groups to conduct an ampiclon sequencing study with ten samples. Repeatable one time. Pre: consent. (Alt. years: spring)

BOT 668 Nomenclature and Practical Systematics (2) Modern issues of naming and classifying of organisms, with a botanical emphasis. Includes lectures, discussions, field trips, and writing projects. A-F only. Pre: 461 (or equivalent) or consent. (Once a year)


BOT 670 Scientific Teaching Tools to Promote Active Learning (2) Graduate level course to train students in the pedagogical tools to enhance active learning in STEM courses. Includes discussion of the primary literature, demonstrations and practice using scientific teaching techniques. BOT or ZOOL or MBIO majors only. Graduate students only. (Alt. years: spring)

BOT 676 Environmental Physiology Seminar (2) Environmental stress; pollution; salinity, geobotany, and other interactions between the environment and plant processes. Current literature emphasized at multidisciplinary graduate levels. Pre: graduate status in a biological science, geosciences, etc.; consent for well-prepared undergraduates.

BOT 680 Marine Macrophytes (2) Discussion of current studies in morphological, physiological, cellular, and molecular adaptation to marine environments by macroalgae, phytoplankton, and seagrasses. A-F only. Pre: upper division ecology class recommended, 470 (or equivalent), 480 (or equivalent), or consent. Co-requisite: 682L.

BUS 312 Principles of Marketing (3) Concepts, problems, and opportunities in marketing within its competitive, political, legal, economic, social, and global environments. Social responsibility and ethics. Marketing research. Consumer behavior and business-to-business segmentation and positioning. Strategic marketing planning. Students may not earn credit for both BUS 312 and TIM 304.

BUS 313 Business Finance (3) Introduction to the theory and practice of financial management: analysis and decision making for corporate financial management, capital budgeting, capital structure, and dividend policy. Prerequisite for all other finance courses. Pre: ACC 202, ECON 130 and ECON 131, or consent.

BUS 345 Strategic Management (3) Applications of strategy to domestic and global business problems using an interdisciplinary approach. Emphasis on Asia-Pacific business, assessment of risk, integration of all business core disciplines; expected. Pre: all core courses and graduating senior standing.

BUS 367 (Alpha) Business Study Abroad (V) Study abroad experience emphasizing international business issues. Consent sought from guest speakers, through field trips, intensive workshops, and hands-on experience. Repeatable unlimited times. Pre: candidacy for PhD and approval of thesis proposal.

BUS 690 Conservation Biology (3) Theories and concepts of ecology, evolution, and genetics for conservation of biological diversity. Topics will include restoration ecology, management planning, laws and policies, biological invasions. Pre and either 462 or ZOOL 480; and either 453, 454, 456, or 492; or ZOOL 410, 439, 620, 623. (Cross-listed as NREM 690 and ZOOL 690)

BUS 750 Topics in Conservation Biology (V) Advanced topics in conservation and environmental biology. Repeatable three times, up to twelve credits. A-F only. Pre: consent. (Cross-listed as ZOOL 570)

BUS 800 Dissertation Research (V) Repeatable unlimited times. Pre: candidacy for PhD and approval of dissertation proposal.

Business (BUS) Stuller College of Business

BUS 909 International Exchange Study/Research (V) Study overseas in an approved international exchange or similar program. Repeatable four times. CR/NC only. Pre: 6 credit hours of economics or business, P MIS; (C) accounting; (D) management of informational systems; (F) finance; (G) management; (I) international business; (K) marketing; (M) human resources; (R) real estate. Each alpha repeatable three times, up to 12 credits. Pre: consent.


BUS 475 Asia Pacific Business (V) Analysis of business environment and business issues through study of businesses, governmental entities, and non-governmental organizations in specific geographic areas in non-U.S. settings. Repeatable one time. A-F only. Pre: consent. (Summer only)

BUS 476 Asia Pacific Field Trip (V) Analysis of business environment and business issues through study and direct observation of businesses, governmental entities, and non-governmental organizations in non-U.S. settings. Involves group travel to selected international business cities. Travel sites will vary. Repeatable one time. A-F only. Pre: consent. (Summer only)

BUS 477 Dynamics of Asian Finance (6) Analysis of selected key industries of Asian countries: business/ economic trends, shifting product mix, technological changes, joint ventures, international competition, and productivity strategy, including contrasting management strategies, worker/management relationships, and decision-making processes under different cultural settings. Industry specific courses conducted in Asian countries for three weeks during the summer. Pre: 6 credit hours of economics or business, P AMI participants; or consent.

BUS 500 Master’s Plan B/C Studies (1) Enrollment required for degree completion. Repeatable unlimited times. Pre: master’s Plan B or C candidate and consent.

BUS 601 Professional Development (0) Professional development course designed to focus on and improve the soft skills of MBA students. Students will learn from guest speakers, through field trips, intensive workshops, and hands-on experience. Repeatable
two times. Full-time MBA degree program only. No grading.

BUS 619 Data Analytics and Statistics for Business (3) Data analytical and statistical tools for the MBA with emphasis on descriptive and predictive quantitative methods, including time series and regression. Repeatable unlimited times. MBA majors only. Graduate students only. A-F only. (Fall only)

BUS 620 Micro- and Macro-economic Foundations for Managers (3) Applications of micro- and macro-economic principles to managerial decisions. Microeconomic focuses on economic foundations of business practice and the economics for the external economic environment including regulatory and international trends and issues. Admission to MBA program. A-F only. Pre: MBA math and economics tutorials. (Fall only)

BUS 621 Business Statistics (1.5) Statistical tools for the MBA with emphasis on quality control, time series, and forecasting using regression. A-F only. Corequisite: 622.

BUS 622 Economic Foundations of Strategy (1.5) Microeconomic principles that provide structure to solve managerial problems, and to suggest strategies for success. Evaluation of the microeconomic competitive environment within which organizations operate. A-F only. Co-requisite: 621.

BUS 623 Marketing Management (3) Concepts and issues in marketing within the global environment of business. Ethical dimensions and social responsibilities; market segmentation and positioning. Strategic marketing planning. A-F only.

BUS 624 Accounting for Decision-making (3) Accounting tools for business professionals focusing on the role of accounting information in capital markets, managerial decision-making and corporate governance. A-F only. Pre: 201 or successful completion of “Financial Accounting, Online Course Introduction to Financial Accounting” and “Cost-Voluntary-Profit models, Online Tutorial” both from “hbsp.harvard.edu”, or completing a 12 contact-hour tutorial.

BUS 625 Digital Transformation with Information Systems and Technology (3) Practices, techniques, and tools for managing digital innovation in markets, firms, and enterprise systems through information technologies and applications. Repeatable unlimited times. MBA majors only. Graduate students only. A-F only. (Spring only)

BUS 626 Leadership and Organizational Behavior (3) Personal leadership and communications development and the contributions of the behavioral sciences to understanding human behavior in organizations with a focus on leading organizations in times of change. A-F only.

BUS 627 Business, Government, and External Environment (1.5) Important issues related to the external environment of business. This includes international trade and finance, regulatory environment, social impacts of business. A-F only. Pre: 622 or consent. Co-requisite: 628.

BUS 628 Ethics (1.5) Assists students in developing an awareness of major ethical issues which affect business decisions, and encourages a socially responsible consideration of those issues and being able to express their views. A-F only.

BUS 629 Managerial Finance (3) Financial management theories and tools for business professionals; asset management; capital budgeting; capital structure and dividend policies. A-F only. Pre: 621 and 624; or consent.

BUS 630 Managing Information Technology for Strategic Advantage (1.5) Theory, practices, techniques for managing information technology resources to provide competitive advantage in global business environment. A-F only. Pre: 621 and 622. Co-requisite: 631.

BUS 631 Operations and Supply Chain Management (1.5) Theory, practices, techniques for managing operations and supply chains for global integration of firms and organizations. A-F only. Pre: 621 and 622, or consent. Co-requisite: 630.

BUS 632 Business Policy and Strategy (3) Integration of learning through analysis of comprehensive business problems, resolution of policy issues, and the study of competitive strategies in the international setting. Pr: must be taken in the final semester of the MBA core, and consent.

BUS 667 Business Study Abroad (V) Study abroad experience emphasizing international business issues. Content varies depending on course of study and emphasis in individual institution. Qualifies as an international business elective(s). Repeatable one time. CR/NC only. Pre: business core or permission of academic advisor.

BUS 675 International Business Topics (V) Analysis of the business environment and business issues through study of businesses, governmental entities, and/or non-governmental organizations in specific geographic areas. U.S. settings. Repeatable one time. A-F only. Pre: consent. (Summer only)

BUS 676 International Business Field Experience (V) Analysis of the business environment and business issues through study and direct observation of businesses, governmental entities, and/or non-governmental organizations in non-U.S. settings. Involves group travel to selected international business cities. Repeatable one time. A-F only. Pre: 675 and consent. (Summer only)

BUS 677 Field Study in Asia (6) Industry observations conducted entirely in Asian countries for three and a half weeks. A-F only. Pre: consent.

BUS 695 Internships (V) On-the-job experience in the business community and meetings with faculty advisor required. A-F only. Repeatable one time. Pre: consent.

BUS 696 MBA Consulting Practicum (3) Final MBA requirement for those candidates not writing a thesis. Candidates will form consulting teams to perform a meaningful, strategic study for a client organization. Pr: 652 and at least 12 credits of MBA electives or consent.

BUS 699 Directed Reading and Research (V) Outline (including methodology or sources, results expected and means of measurement) must be prepared by student and approved by supervisor and chair of graduate programs before registration. Repeatable up to 12 credits.

BUS 700 Thesis Research (V) Required for Plan A candidates only; six credit hours required, one of which must be taken during semester in which degree is awarded. Repeatable unlimited times.

BUS 701 Advanced Research Methods (3) Analysis of current theories in international business; design research studies in areas of possible dissertation research through application of scientific method; includes formation of research questions and testable hypothesis, identification of data sources, and analysis. Repeatable one time. A-F only. Pre: two graduate level courses (six credits) in statistics and methodology, or consent.

BUS 705 Research Seminar in Business (V) Covers research topics including research projects currently undertaken by Shidler College faculty, advanced Ph.D. students, distinguished visiting faculty, and research contemplated by new Ph.D. students. Repeatable unlimited times. CR/NC only. Pre: student status in Ph.D. in business administration or consent.

BUS 791 Seminar in International Business (1) Developing research and teaching skills in international business, preparation for teaching college-level courses in ‘international business’, give presentation on most selective business journals, integrating expectations of university teaching, research, and service. Repeatable unlimited times. CR/NC only. Pre: student status in Ph.D in business administration or consent.

BUS 800 Dissertation Research (V) Repeatable unlimited times. Pre: Ph.D student status in business administration or consent.

Business Law (BLAW)

Shidler College of Business

BLAW 200 Legal Environment of Business (3) Introduction to the legal environment of business operations with particular attention to business law and ethics. Emphasis on employment contracts, agency, partnerships, and corporations.


BLAW 360 International Business Law (3) Overview of international and national law as it applies to international trade. Readings and case studies focus on the legal environment of selected areas in the Asia Pacific region and strategies for doing business overseas.

BLAW 404 Social and Legal Aspects of Management (3) Study of the legal environment of management with particular attention to the sources, principles, and form of the law; contracts, business organizational structures, agency, and partnership.

Key to symbols & abbreviations: see the first page of this section.
level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. Pre: 305 or consent. (Spring only)

CAM 401 Fourth-Level Khmer (3) Continuation of 302. Computer assisted learning. Advanced reading in current literature in the areas of social and cultural issues; advanced conversation and composition. Pre: 302 (or equivalent), or consent.

CAM 402 Fourth-Level Khmer (3) Continuation of 401. Computer assisted learning. Pre: 401 (or equivalent), or consent.

CAM 415 Khmer Language in the Media (3) Focus on advanced reading, writing, aural comprehension and speaking skills through the study of Khmer newspaper, radio, TV, dramas, and video clips and film. Repeatable one time. Pre: 402 (or equivalent), or consent.

Cell and Molecular Biology (CMB)

School of Medicine CMB 351 Genetics, Evolution and Society (3) The role of genetics in evolution, medicine, behavior, plant and animal breeding and technology; its impact on today's society. Pre: one semester of biological science at college level or consent. Not BIOL 401. Major elective. (Cross-listed as BIOL 440) DB

CMB 411 Human Genetics (3) Principles of human genetics. Designed for pre-medical or pre-dental students or others who require a course with emphasis on human genetics. Pre: BIOL 172 and BIOL 172L. Or consent.

CMB 499 Genetical Problems (V) Directed reading and research in genetics. Repeatable unlimited times. Pre: 351 or 411.

CMB 500 Master's Plan B/C Studies (1) Enrollment for degree completion in approved unlimited times. Pre: master's Plan B or C candidate and consent.

CMB 515 Unit V Topics in Genetics (1) First-year elective course in which medical students may take an in-depth study of genetics. Repeatable six times. Pre: first-year medical student or consent.

CMB 526 Bioethics (1) Prepare medical students to identify and resolve ethical dilemmas in medical career and biomedical research, and to maintain integrity and professionalism in accordance with relevant ethical principles, policies, and laws. Repeatable one time. MD majors only. CR/NC only.

CMB 599 Research Topics in Cell Molecular Biology (V) Research elective for medical students. MD majors only. CR/NC only. Pre: MDED 551 and consent.

CMB 604 Evolutionary Genetics (2) Genetic changes involved in the processes of adaptation and in speciation and evolution. Pre: 621. Recommended: population and/or quantitative genetics.

CMB 606 Introduction to Neurosciences (4) An interdisciplinary overview of the central nervous system, drawn from current knowledge and research on vertebrate and invertebrate neurobiology. Repeatable one time. Pre: consent.

CMB 610 Public Health Biology (3) Writing-intensive asynchronous computer-based course examines biological processes and challenges relevant to the public health professional. Topics include anatomical, pathophysiological, and molecular bases of public health; genetics, immunology, ethics; disease prevention, control, and management. (Once a year) Pre: consent. (Cross-listed as PHRM 610)

CMB 611 Seminar in Biomedical Sciences (1) Presentation and discussion of research topics in biomedical science. Repeatable nine times. CR/NC only. Pre: graduate standing or consent. (Cross-listed as REPRI 611)

CMB 621 Cell Molecular Biology I (4) Molecular approaches to cell structure and function emphasizing cells in multi-cellular plants and animals. Pre: BIOL 441 and BIOL 408; and either BIOL 402 or MBBE 402; or consent.

CMB 622 Cell Molecular Biology II (4) Molecular approaches to cell structure and function emphasizing cells in multi-cellular plants and animals. Pre: 621, BIOL 441, and BIOL 408; and either BIOL 402 or MBBE 402; or consent.

CMB 625 Advanced Topics in Genetics (2) Advanced treatment of frontiers in genetics. Pre: graduate standing in genetics or consent.

CMB 626 Ethics in Biomedical Research (2) Topics include responsible research, reporting, misconduct and scientific fraud, conflicts of interest, critical use of animals and human issues and subjects in research, genetic screening, stem cell and gene therapy and parenting. (Cross-listed as BIOM 641)

CMB 631 Research Rotations (3) Individualized research project in three laboratories of CMB faculty with a written report on each project. Faculty laboratories will be selected in consultation with student's graduate committee and individual faculty. Repeatable two times. Pre: 621 (or concurrent), 622 (or concurrent); or consent.

CMB 640 Neurobiology (2) Physiology and pharmacology of central and peripheral nervous systems, focusing on synaptic chemistry and signaling. A-F only. Pre: 606, or consent from the course director. (Cross-listed as PHRM 640)

CMB 641 Introductory Biostatistics for the Bench Biologist (3) Lecture and example-based introduction to the critical biostatistics skills commonly required of the bench life scientist. Technical literacy and basic practical applications. Problem sets will be scored. A-F only. (Spring only)

CMB 642 Introductory Bioinformatics for the Bench Biologist (3) Modern biomolecular and genomic concepts are explored through brief guided tutorials on selected projects using public domain resources. Understanding key concepts and algorithms, technical literacy, and operational confidence are goals. Programming skill development is student-optional. A-F only. (Fall only)

CMB 650 Population Genetics (3) Mathematical, observational, experimental results on effects of mutation, selection, and systems of mating on distribution of genes. Analysis of non-experimental populations. Pre: consent. (Cross-listed as BIOL 650)

CMB 654 (Alpha) Genetics Seminar (1) Research and topical literature reports in genetics. May be repeated. (B) molecular genetics; (C) molecular biology of cancer; (D) human genetics; (E) cytogenetics; (F) evolutionary genetics; (G) molecular biology of the cell; (H) drosophila genetics; (I) population/statistical genetics; (J) developmental genetics; (K) insect molecular biology; (M) genetics and molecular biology of fungi. Repeatable unlimited times for (G). Pre: graduate standing in genetics or consent.

CMB 660 Essentials in Grant Writing (2) (1 2-hr Lec) Presentation and discussion of hypothesis-driven research and grant writing. Topics include the process of proposal, submission, and review. Course work includes writing, submitting, and reviewing proposals. Graduate students only. Repeatable two times. CR/NC only. Pre: recommended 626 and consent.

CMB 671 Techniques in Genetics (V) Laboratory training in procedures used in diagnosis of genetic diseases, cytogenetics, immunogenetics, and dermatoglyphics. Repeatable three times. Pre: graduate standing in genetics or consent.

CMB 672 Techniques in Genetics (3) Continuation of 671.

CMB 699 Directed Research (V) Repeatable unlimited times. Pre: graduate standing and consent.


CMB 705 Special Topics in Neurosciences (V) Advanced topics in neuroscience, from basic neurobiology to clinical neurology and psychiatry. Emphasis on current investigations at the cellular or molecular level. Repeatable unlimited times. Pre: consent.

CMB 800 Dissertation Research (V) Repeatable unlimited times. Pre: acceptance of dissertation topic.

Chemistry (CHEM)

College of Natural Sciences CHEM 100 Preparation for General Chemistry (4) For students lacking preparation in chemistry. Provides background in algebra and elementary concepts of chemistry in preparation for entering the General Chemistry sequence. A-F only. Pre: successful completion of placement exam.

CHEM 151 Elementary Survey of Chemistry (3) Nonrigorous but adequate background in fundamentals. Preparation for technical training in life sciences. DP

CHEM 151L Elementary Survey of Chemistry Lab (1) (1 3-hr Lab) Experiments introducing laboratory techniques and illustrating chemical principles. Pre: 151 (or concurrent). DY

CHEM 152 Survey of Organic and Bioorganic Chemistry (3) Structure, nomenclature, properties, reactions of organic compounds emphasizing those of practical importance in related fields. Pre: 151, 162, or 171. DP

CHEM 152L Survey of Organic and Bioorganic Chemistry Lab (1) (1 3-hr Lab) Techniques of preparation, purification, identification of organic compounds. Pre: 151L, 162L, or 171L; and 152 (or concurrent). DY

CHEM 161 General Chemistry I (5) Basic principles of chemistry, including stoichiometry. Introduction to solution phase chemistry. Gas phase chemistry. Thermodynamics, including enthalpies of formation and reaction. Atomic structure and chemical bonding, molecular structure. Pre: C (not C-) in 131 or C (not C-) in 151 or successful completion of placement exam, or consent. DP

CHEM 161L General Chemistry Lab I (1) (1 3-hr Lab) Laboratory experiments illustrating techniques and fundamental principles of chemistry. Pre: 161 (or concurrent). DY

CHEM 162 General Chemistry II (3) Continuation of 161. Liquids and solids. Solutions and colligative properties. Continuation of thermodynamics, including entropy and free energy. Principles and applications of chemical equilibrium, including acid-base chemistry (titrations), kinetics, Redox reactions and electrochemistry. Pre: C (not C-) or better in 161. DP

CHEM 162L General Chemistry Lab II (1) (1 3-hr Lab)
CHEM 171 Principles of Chemistry (4) Principles, theories, elementary analytical methods of chemistry. Intended for physics majors and engineers. Pre: Satisfactory Placement Exam score, and MATH 241 (or concurrent) or MATH 251A (or concurrent). Co-requisite: 171L. (Fall only) DP

CHEM 171L Principles of Chemistry Lab (1) (1 3.5-hr Lab) Laboratory experiments illustrating fundamental principles of chemistry. Co-requisite: 171L. (Fall only) DP

CHEM 181A Honors General Chemistry (4) Rigorous introduction to chemical principles with emphasis on experimental and applied aspects of modern chemistry. Pre: satisfactory placement exam score and MATH 215 (or concurrent) or MATH 241 (or concurrent) or MATH 251A (or concurrent) with a minimum grade of C. (Fall only) DP

CHEM 181L Honors General Chemistry Laboratory (1) (1 3-hr Lab) Laboratory experiments illustrating chemical principles involving advanced techniques and modern instrumentation. A-F only. Co-requisite: 181A. DY

CHEM 272 Organic Chemistry I (3) Molecular structure, stereochemistry, spectroscopy, mechanisms, reactions and synthesis of organic compounds. Pre: C (not C-) or better in 162 or 171 or 181A. DP

CHEM 272L Organic Chemistry I Lab (2) (1 5-hr Lab) Techniques, synthesis and qualitative analysis, application of spectroscopy. Pre: C (not C-) or better in 162L, 171L, or 181L and 272 (or concurrent). DY

CHEM 273 Organic Chemistry II (3) Continuation of 272. Molecular structure, stereochemistry, spectroscopy, mechanisms, reactions, and synthesis of organic compounds. Pre: C (not C-) or better in 272 DP

CHEM 273L Organic Chemistry II Lab (1) (1 4-hr Lab) Techniques, synthesis and qualitative analysis, application of spectroscopy. Pre: 272L and 273 (or concurrent). DY

CHEM 274 Principles of Analytical Chemistry (3) Selected methods and principles, e.g., phase equilibria, isotopic equilibria, electrode equilibria, separations, spectroscopy, automation, and process control. Pre: C (not C-) or better in 162 or 171 or 181A, MATH 215 or MATH 241 or MATH 251A. DP

CHEM 274L Principles of Analytical Chemistry Lab (2) (1 3-hr Lab) Laboratory on the preparation of organic compounds and physical methods for their characterization. Includes optical methods (UV, vis, IR), chromatography (HPLC, GC), mass spectrometry (GCMS and LCMS), and NMR. A-F only. Pre: 274L with a grade of C (not C-) or better, or departmental approval. Co-requisite: 455. (Spring only) DY

CHEM 425 Advanced Organic Chemistry (3) Classification, description, fundamental theory. Pre: 425. DP

CHEM 445 Synthesis and Analysis of Organic Compounds (3) Introduction to multi-step synthesis and instruments/analytical techniques used to characterize the final product and diastereoselective reactions: spectroscopy (optical methods, NMR), mass spectrometry. Chromatography (GC, HPLC) and coupled techniques (GCMS, LCMS) and detection. A-F only. Pre: 273 with a grade of C (not C-) or better, or departmental approval. (Spring only) DP

CHEM 445L Preparation and Analysis of Organic Compounds Laboratory (2) Laboratory on the preparation of organic compounds and physical methods for their characterization. Includes optical methods (UV-vis, IR), chromatography (HPLC, GC), mass spectrometry (GCMS and LCMS), and NMR. A-F only. Pre: 273L with a grade of C (not C-) or better, or departmental approval. Co-requisite: 445. (Spring only) DY

CHEM 462 Advanced Biochemistry (3) Advanced topics in biochemistry including nucleic acid replication, transcription, and translation; genetic and epigenetic regulation; bioenergetics and control of metabolism; alternative metabolic strategies; and enzyme structure and mechanism. A-F only. Pre: 361, 372, and BIOL 402. (Spring only)

CHEM 463 Advanced Biochemistry Lab (2) Advanced biochemistry lab techniques: protein purification and characterization, identification of unknown proteins, enzyme kinetics, ligand binding, enzyme kinetics, protein structure, and spectroscopy, with instruction in writing scientific reports. A-F only. Pre: 274L, 372L, 402L, and 402L (or concurrent). (Fall only) DP

CHEM 600 Introduction to Research (1) Introduction to field-specific methods and skills needed for success in graduate research. Includes training modules for safety, ethics, and library resources. Short faculty research overviews may also be given. CHEM majors only. Graduate students only. CR/NC only. (Fall only)

CHEM 601 Theory of Chemical Bonding (3) Application of quantum mechanics and symmetry principles to descriptions of chemical bonding. Pre: graduate standing in CHEM.

CHEM 602 Chemical Applications of Spectroscopy (V) Introduction to magnetic resonance, infrared, UV, and visible spectroscopy, emphasizing applications to organic and inorganic chemistry. Three topics each semester–1 credit hour per topic. Repeatable unlimited times in different formats. A-F only. Pre: graduate standing in CHEM.

CHEM 622 Organicometallics I (3) Reactivity and reaction mechanisms of compounds containing metal-carbon bonds. A-F only. Pre: 601 and 602 (or concurrent).

CHEM 624 Organicometallics II (3) Introduction to the principles of catalysis and the classes of catalytic reactions effected by organicometallic compounds. A-F only. Pre: 622 and a minimum required grade for prerequisites of B.

CHEM 800 Dissertation Research (V) Repeatable unlimited times. Pre: candidacy for PhD degree and consent of dissertation chair.
CHN 319 Chinese Dialect Studies (V)
of 311. Pre: 311 or consent.
practice on everyday topics of conversation. Lab work.
CHN 311 Mandarin Conversation (3)
context. Pre: 205 (or equivalent) or consent.
spending, reading, and writing communicative needs of business professionals in the Chinese business context. Pre: consent. (Fall only) HSL
CHN 111 Elementary Conversational Mandarin I (3) Development of basic skills (listening, speaking and grammar) of spoken Mandarin with application to some familiar everyday topics. HSL
CHN 112 Elementary Conversational Mandarin II (3) Continuation of 111. Pre: 110 or consent. HSL
CHN 201 Intermediate Mandarin (4) Continuation of 101 and 102. Meets one hour a day, four times a week. Pre: 102 or 105 or consent. HSL
CHN 202 Intermediate Mandarin (4) Continuation of 201. Pre: 201 or consent. HSL
CHN 204 Advanced Intermediate Mandarin (8) Content of 201 and 202 covered in one semester. Meets two hours, four times a week. Pre: placement test and 102 or 105 or consent. HSL
CHN 205 Chinese for Business Professionals (8) Accelerated, intensive intermediate course focusing on everyday listening, speaking, reading, and writing communicative needs of business professionals in the Chinese business context. Pre: 105 (or equivalent) or consent. HSL
CHN 211 Intermediate Conversational Mandarin I (3) Further development of listening and speaking skills in Mandarin. The student is expected to be able to comprehend and produce speech at the paragraph level. Pre: 102 or 105 or consent. HSL
CHN 212 Intermediate Conversational Mandarin II (3) Continuation of 211. Pre: 201 or consent. HSL
CHN 251 Reading and Writing Chinese I (3) Students who have completed the conversational Mandarin courses up through 212 and wish to continue on to 301, or others who can handle daily conversation in Mandarin but cannot read or write in the language. Pre: 212 or consent.
CHN 252 Reading and Writing Chinese II (3) Continuation of 251. Pre: 251 or consent.
CHN 301 Third-Level Mandarin (4) Vocabulary building and extended mastery of sentence structures of modern Chinese through reading and related conversation. Meets one hour a day, four times a week. Pre: 202 or 204 or 205 or consent.
CHN 302 Third-Level Mandarin (4) Continuation of 301. Pre: 301 or consent.
CHN 303 Accelerated Third-Level Mandarin (8) Content of 301 and 302 covered in one semester. Meets two hours, four times a week. Pre: 202 or 204 or 205 or consent.
CHN 305 Third-Year Chinese for Business Professionals (8) Accelerated, intensive advanced course focusing on general advanced listening, speaking, reading, and writing communicative needs of business professionals in the Chinese business context. Pre: 205 (or equivalent) or consent.
CHN 311 Mandarin Conversation (3) Systematic practice on everyday topics of conversation. Lab work. Pre: 202 or 204 or 252 or consent.
CHN 312 Mandarin Conversation (3) Continuation of 311. Pre: 311 or consent.
CHN 331 Advanced Chinese Listening and Writing (3) Web-based training in Chinese listening, reading, and writing skills at the advanced level. Activities combine independent work with communicative activities on the course website. Features language exchange with native speakers. Repeatable one time. Pre: 301 (or concurrent) or consent.
CHN 332 Advanced Chinese Reading and Writing (3) Web-based training in Chinese reading and writing to develop skills at the advanced level. Activities combine independent work with communicative activities on the course website. Ideal for in-service professionals seeking language development and maintenance. Repeatable one time. Pre: 301 (or concurrent) or consent.
CHN 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., in reading texts in their area of specialization or at a pace more rapid than those of standard courses. CR/NC only. Repeatable three times. Pre: consent.
CHN 401 Fourth-Level Mandarin (4) Extensive reading in academic topics. Meets one hour a day, four times a week. Pre: 302 or 303 or consent.
CHN 402 Fourth-Level Mandarin (4) Continuation of 401. Pre: 401 or consent.
CHN 404 Accelerated Fourth-Level Mandarin (8) Content of 401 and 402 covered in one semester. Meets two hours, four times a week. Pre: 302 or 303 or 305; or consent.
CHN 405 Fourth-Year Chinese for Business Professionals (8) Accelerated, intensive advanced course focusing on specialized advanced listening, speaking, reading, and writing communicative needs of business professionals in the Chinese business context. Pre: 305 (or equivalent) or consent. (Spring only)
CHN 411 Advanced Mandarin Conversation (3) Systematic practice on academic topics of conversation. Lab work. Pre: 302 or 303, or consent.
CHN 412 Advanced Mandarin Conversation (3) Continuation of 411. Pre: 411 or consent.
CHN 421 (Alpha) Chinese Translation (3) Training in techniques; theory of translation. (B) Chinese–English; (C) English–Chinese. Pre: consent. (Cross-listed as TI 420(Alpha))
CHN 441 Fourth Year Reading and Writing: Advanced Topics I (3) Web-based course. Interaction with teacher and fellow students to prepare for, read, and reflect on authentic texts on academic, research-oriented topics with a view to meeting learners’ individual and independent research needs. Pre: 401 (or concurrent) or equivalent or consent. (Fall only)
CHN 442 Fourth Year Reading and Writing: Advanced Topics II (3) Asynchronous web-based course. Continuation of 441, with focus on meeting learners’ eventual independent research needs. Pre: 401 (or concurrent) or 441, (Spring only)
CHN 451 Structure of Chinese (3) Introduction to phonology and morphology of Mandarin Chinese; some discussion of usage and linguistic geography. Pre: 202 or 204; or consent. DH
CHN 452 Structure of Chinese (3) Introduction to syntactic analysis of Mandarin Chinese; some discussion of usage and linguistic geography. Pre: 202 or 204; or consent. DH
CHN 453 Study of Chinese Characters (3) Origin, structure, and evolution. Pre: 402, 461; or consent. (Alt. years)
CHN 454 Study of Chinese Characters (3) Continuation of 453. Pre: 453 or consent. (Alt. years)
CHN 455 Chinese Pragmatics and Discourse (3) Introduction to pragmatics and discourse analysis of Mandarin Chinese; some discussion of usage and linguistic geography. Pre: 202; or consent. DH
CHN 456 Chinese Semantics and Communication (3) Study of the meaning of Chinese sentences in isolation, in context and in written texts. Pays equal attention to theoretical issues and practical problems in Chinese semantics and communication.

Key to symbols & abbreviations: see the first page of this section.

Pre: 202 or 204, or consent. (Once a year)
CHN 457 Chinese Words and the Lexicon (3) Defines properties of the Chinese lexicon, introduces its principles, approaches, and methodologies in Chinese lexicology, outlines similarities and differences between the Chinese and Western systems, and advances students’ Chinese language proficiency. Pre: 202 or 205, or consent. (Alt. years: fall)
CHN 461 Introduction to Classical Chinese (3) Analysis of basic structural patterns through selected readings in various texts. Pre: 302 or consent.
CHN 470 Language and Culture of China (3) Extensive exposure—chiefly through tape recordings, classroom conversation, and outside readings—to history, culture, and institutions. Pre: 202 or 204, or consent. DH
CHN 485 Academic/Professional Chinese I (3) Focus on academic and professional reading, writing, speaking, and listening in order to train students to the Superior (according to ACTFL standards) level of language proficiency. Repeatable one time when taken in China as part of the UH Chinese Flagship Program. Pre: consent.
CHN 486 Academic/Professional Chinese II (3) Continuation of 485. Focus on academic and professional reading, writing, speaking, and listening in order to train students to the Superior (according to ACTFL standards) level of language proficiency. Repeatable one time when taken in China as part of the UH Chinese Flagship Program. Pre: 402 or consent. DH
CHN 487 (Alpha) Readings in 20th Century Chinese Literature (3) Representative works of writers from People’s Republic of China, Taiwan, and Hong Kong. (B) short stories; (C) poetry and drama; (D) novels and essays. Repeatable two times. Pre: 402 or consent. DL
CHN 491 Oral Fluency Through Chinese Films (3) Development of listening and speaking skills through discussion of Chinese films. Students will be required to watch the films before class. Pre: 301 or consent. DH
CHN 495 Internship Program (V) Faculty supervised participation in the operations of an organization in which students will use and develop their knowledge of Chinese language skills in Hawai‘i. Students must achieve a grade of B- in CHN 302 to take this course. Repeatable two times, up to 12 credits. CHN majors only. Junior/senior standing only. Pre: 302 with a minimum grade of B- or consent.
CHN 496 Overseas Internship in China (V) Supervised internships in a Chinese-speaking institution in China. Students must pass 486 with a minimum grade of B- or higher and be accepted into the Chinese Flagship Capstone Year in China to take this. Repeatable two times, up to 12 credits. CR/NC only. Pre: 461 and 486 (with a minimum grade of B- or better) and proficiency assessment and acceptance to Flagship Capstone year in China.
CHN 499 Directed Fourth-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. CR/NC only. Repeatable three times. Primarily for graduate students from other departments. Pre: consent.
CHN 601 Introduction to Study of Contemporary Chinese Linguistics (3) Panoramic overview of major perspectives in contemporary Chinese linguistics. Readings on recent developments of fields. Report on selected research papers and present analysis of linguistic papers in Chinese and English texts. Pre: 452 or consent. (Alt. years)
CHN 610 (Alpha) Chinese Poetry (3) Critical study of major traditional Chinese poetic forms. (B) ancient 5th–6th century; (C) medieval 5th–10th century. Pre: 461 or consent for (B), 610B or consent for (C).
CHN 612 Traditional Chinese Fiction (3) Formal and thematic analysis of short stories, historical romances, and novels. Repeatable one time with consent. Pre: 402 or consent.
CHN 631 (Alpha) History of Chinese Language (3) B) phonology; (C) syntax. Pre: 451, LING 421, or consent for (B); 452 or consent for (C).
CHN 633 Chinese Dialects (3) Synchronic description of a Chinese dialect other than Cantonese and Mandarin; contrastive and comparative studies
with Mandarin. Repeatable one time with consent. Pre: 451 and 452, or consent.

CHN 634 Chinese Syntax and Semantics (3)
Verbal categories, aspects, focus devices, resitutative and directional compounds, covariable constructions. Interactions between syntax and semantics. Pre: 452 or consent.

CHN 642 Contrastive Analysis of Mandarin and English (3) Pre: 452.

CHN 643 Methods in Teaching Chinese as Second Language (3) Pre: CEE majors only. A-F only for (C). Pre: 451 and 452, or consent. Once a year.

CHN 645 Practicum: Teaching Chinese Language (3) For graduate students pursuing teaching Chinese language. Students gain practical skills and hands-on experience in teaching instructional and assessment materials and teaching an actual Chinese language class using the self-developed materials effectively. Pre: 643 or consent. (Alt. years: fall)

CHN 650 (Alpha) Topics in Chinese Language (3) Extensive studies of selected topics (B) teaching and testing; specific problems in teaching Chinese including characters and cultural elements; proficiency and communicative ability; (C) cognitive grammar. A-F only for (C). Pre: 451 and 452, or consent. Once a year.

CHN 655 Current Topics in Chinese Grammar (3) Current approaches to Chinese grammar and related issues and debates, focusing on the papers published by leading Chinese linguists employing these approaches. Pre: 452, 455, or 456; or consent. (Alt. years)

CHN 660 Second Semester Classical Chinese (3) Builds on the foundation laid in 461; introduces complex syntactic patterns, advanced vocabulary; teaches sophisticated reading strategies and cultural literacy contexts; exposes students to a wide range of intermediate level and above material. Pre: 461 or consent. (Spring only)

CHN 661 Advanced Classical Chinese (3) Pre: 660 and consent.

CHN 662 Advanced Classical Chinese (3) Pre: 661 and consent.

CHN 699 Directed Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.

CHN 750 (Alpha) Research Seminar in Chinese Language (3) (B) teaching methods; (C) structure; (D) classical grammar; (E) sociolinguistics. Pre: 643 for (B) and (E); 452 for (C) and (D).

CHN 753 (Alpha) Research Seminar in Chinese Literature (3) Study of authors, a genre, a period, or a problem in one of two: (T) traditional. Repeatable one time for (M). A-F only for (M). Pre: EALL 611, WS 613, WS 615, or WS 650; or consent for (M); 612, or consent for (T). (Cross-listed as WS 753) (Alpha)

Civil and Environmental Engineering (CEE)

College of Engineering

Preference in registration is given to declared engineering majors. Minimum grade for prerequisite courses is D-. CEE majors only. A-F only.

CEE 270 Applied Mechanics I (3) Forces, resultants, and equilibrium; analysis of trusses, frames, and machines; centroids, moments of inertia; friction. A-F only. Pre: grade of C or better in PHYS 170 and MATH 242, MATH 243, or MATH 252a (or concurrent). DP

CEE 271 Applied Mechanics II (3) Dynamics of particles and rigid bodies; force, acceleration, impulse-momentum equations; velocities and trajectories. Pre: C or better in PHYS 170 and MATH 242, MATH 244 (or concurrent) or MATH 253A (or concurrent). (Cross-listed as ME 271) (D)

CEE 305 Applied Probability and Statistics (3) Description of sample data; correlation and regression; probability and statistical distributions; estimation of population parameters; fitting distributions to historical pre-testing. A-F only. Pre: MATH 244 or MATH 253A.

CEE 320 Fluid Mechanics Fundamentals (4) (3 Lec, 1-2 hr Lab) Compressible and incompressible fluid properties; fluid statics; kinematics, energy and momentum considerations in steady flows; application of steady flow concepts to various fluid processes; with an emphasis on instruction in writing lab reports. A-F only. Pre: 271. DP

CEE 330 Environmental Engineering (4) (3 Lec, 1-2 hr Lab) Parameters and indices of environmental quality; materials testing; idealized reactor models; water and air pollution control; solid and hazardous waste management; emphasis on instruction in writing lab reports. A-F only. Pre: 271. DP

CEE 355 Geotechnical Engineering I (4) (3 Lec, 1-3 hr Lab) Introduction to geotechnical engineering: soil characterization, index properties, seepage and flow in soil, stresses in soils, compressibility, consolidation, shear strength, Substantial emphasis on instruction in writing lab reports. A-F only. Pre: 320, 370. DP


CEE 370 Mechanics of Materials (3) Elastic stress-strain relations; properties of members under flexural, torsional, and axial loading. elongation, major A-F only. Pre: 271 (or concurrent); MATH 244 (or concurrent) or MATH 253A (or concurrent). DP

CEE 370L Mechanics of Materials Lab (1) Tension, compression, shear, bending, buckling of beams. forces. Pre: majors only. A-F only. DP

CEE 375 Construction Materials (3) (2 Lec, 1-2 hr Lab) Introduction to the crystalline and molecular structure of materials. Properties of metals, concrete, concrete admixtures, asphalt, wood, and other materials commonly used in construction. A-F only. Pre: 305 (or concurrent); 370. DP

CEE 381 Structural Analysis (3) Analysis of statically determinate and indeterminate systems. Frames deflections; introduction to matrix methods; computer applications. A-F only. Pre: 370. DP

CEE 405 Engineering Economics (3) Economic analysis in engineering and management decision-making, interest, depreciation, income tax, cost classification, break-even analysis, economic comparisons of alternatives, benefit-cost analysis. A-F only. Pre: ECON 120 or 130, and senior standing. (Cross-listed as BE 405)


CEE 421 Engineering Hydraulics (3) Hydraulics of closed conduits and open channels with emphasis on engineering applications. Topics also include pump hydraulics, bridge hydraulics, urban drainage engineering, and flood plain management. A-F only. Pre: 320. DP

CEE 422 Environmental Fluid Mechanics (3) Introduction to basic concepts of pollutant transport in rivers, reservoirs, and lakes. Pre: C or better in PHYS 170 and MATH 242, MATH 244, or MATH 252a (or concurrent). DP

CEE 424 Applied Hydrology (3) Surface water hydrology topics include hydrologic cycle, hydrographs, reservoirs, urban runoff, flood frequency analysis, flood routing and hydrology for detention basin design. Groundwater hydrology topics include seawater intrusion, theory of groundwater flow; understanding the steady and unsteady aquifer flows. A-F only. Pre: 320 and MATH 244 or MATH 253A (or equivalent). (Alt. years) DP

CEE 431 Water and Wastewater Engineering (3) Hydrologic fundamentals of water demand and supply; water and wastewater distribution; collection systems; quality characterization; analytical methods for water quality management. Pre: 330. DP

CEE 432 Water/Wastewater Treatment Design (3) Physical operations, chemical and biological processes, design flow and process loading rates, pilot plant testing, and treatment plant design. Engineering majors only. Pre: 350.

CEE 440 Vulnerability & Adaptation on Coastal Infrastructure (3) Assessing vulnerability of coastal communities to climate change stressors and providing technical information on engineering solutions to adaptation needs. Senior standing or higher. (Spring only) (Cross-listed as SUST 440)

CEE 441 Principles of Sustainability Analysis (3) Introduction to the principles and methodology of sustainability analysis through execution of Life Cycle Analysis applied to products, processes, or systems. LCA and the evaluation of environmental impact will be presented. Personal computer or laptop (OS: Windows, OS X) and minimum of 4GB RAM. Repeatable one time. Junior standing or higher. A-F only. Pre: (CHEM 161 and PHYS 170) with a minimum grade of C- or consent. (Fall only) (Cross-listed as OCN 441 and SUST 441)

CEE 444 Infrastructure Project Impacts, Policy and Sustainability (3) Evaluation of infrastructure impacts. Impacts regulation and mitigation. Effects of environmental and regulatory policies on infrastructure. Infrastructure relations to sustainability. Energy consumption, transportation efficiency and infrastructure recycling. Lectures and presentations by experts and enrolled students. Senior standing or higher. A-F only. Pre: senior standing, open to engineering, science, urban planning, and economics minors. (Cross-listed as SUST 444)

CEE 445 Geotechnical Engineering II (3) Geotechnical Engineering II (3) Continuation of 355 field exploration, lateral earth pressures, heating capacity theory, slope stability, use of geosynthetics. A-F only. Pre: 355. DP

CEE 449 Climate Modeling, Data Analysis and Applications (3) Introduction to global climate modeling for environmental scientists and engineers. Learn principles of climate modeling, how to access and use climate data for sustainable engineering and environmental management solutions, and effectively communicate results. Repeatable one time. ATMO, CEE, GE, GEES, OCN, NREM majors only. Senior standing or higher, or consent. (Cross-listed as ATMOS 449 and SUST 449)

CEE 460 Pavement Engineering (3) (2 Lec, 1-3 hr Lab) Design principles of flexible and rigid pavements; HMA mixture design, equipment and construction; and application of life cycle cost analysis (LCC) in pavement engineering. Includes laboratory sessions for aggregate testing and Superpave mix design. A-F only. Pre: 555, 361, and 375.


CEE 471 Construction Methods (3) Methods of construction, primarily for concrete construction; effect on construction costs, durations, and productivity. Pre: 375. (Cross-listed as ME 471)

CEE 493 Construction Equipment and Methods (3) Methods and equipment used on horizontal heavy engineering projects. Available equipment, their production, and how they are used to excavate, move, process, and place the earth. Pre: 375 and senior standing.

CEE 494 Construction Estimating and Bidding (5) Estimating science; techniques of estimating
quantities and pricing of work for construction contracting; classification of costs, analysis of plans and specifications for estimating; computerized estimating; cash flow, bidding strategy, preparation and submission of bid documents.

CxEE 476 Construction Planning and Scheduling (3) To teach the theory and the practice of planning, scheduling, and reporting a construction project through the use of bar chart and CPM. Format to include lectures, field trips, problem solving, case studies, discussions, case study, and computers. Pre: 375.

CxEE 481 Undergraduate Structural Research (3) Individual research project for undergraduate students in the structures track. Topic to be determined by consultation with structural faculty advisor. A-F only. Pre: senior standing and consent.

CxEE 483 Field Experience (1) CxEE 484 Structural Loads (3) Introduction to the minimum load requirements for buildings and other structures used in current structural design codes. Derive and apply dead, live, rain, soil, snow, wind, earthquake, flood, inundation, and other loads to structural systems. CEE majors only. A-F only. Pre: (305 and 381) with a minimum grade of C.

CxEE 485 Reinforced Concrete Design (4) (3 Lec, 1 2-hr Lab) Behavior and design of reinforced concrete beams, one-way slabs and columns. Laboratory section includes design of a manufacturing project and testing of reinforced concrete members. A-F only. Pre: 375 and 381. DP

CxEE 486 Structural Steel Design (3) Basic properties of steel; behavior and design of steel beams, columns, and connections; introduction to rigid frames. Pre: 381. DP

CxEE 489 (Alpha) Senior Topics (V) (B) Surveying and AutoCAD (2 cr.) Basics of surveying and AutoCAD for civil engineering projects. (C) Professional ethics (1 cr.) Engineering ethics, ethical decision making and deliberation. A-F only. Senior standing. Pre: 402. Fall only.

CxEE 490 Senior Design Project (3) (Lec/Lab) Design problem involving several areas of civil engineering and requiring a team approach for a solution. A-F only. Pre: senior standing in CEE and 489B. Spring only.

CxEE 491 Special Topics in Civil and Environmental Engineering (3) Will reflect special interests of visiting and/or permanent faculty, Repeatable one time. Pre: junior or senior standing, and consent.

CxEE 492 (Alpha) Special Topics in Civil and Environmental Engineering (3) Will reflect special interests of visiting and/or permanent faculty. Pre: junior or senior standing, and consent.

CxEE 499 Special Problems (V) Individual investigation in civil and environmental engineering topics as approved by instructor. Pre: senior standing, and minimum cumulative GPA of 2.7 or minimum GPA of 3.0 in major.

CxEE 600 Master’s Plan B/C Studies (1) CR/NC only.

CxEE 601 Operations Management (3) Linear programming; simplex method; graphical representation; dual; degeneracy; transportation problem; assignment problems; data envelopment analysis; applications; case studies; managerial deporting; LINDO software. Graduate students only. A-F only. Pre: 476 (or equivalent) (with a minimum grade of B-), and consent.

CxEE 602 Construction Scheduling and Claims (3) Precedence networks, CPM, float, updating, resource leveling, behavior in scheduling case studies, computerized scheduling, exclusion reports, sorting, term project; contract law, types of claims, proving claims, delay claims, impact of changes, Eichleay Formula, accelerated, stacking, crowding, efficiency loss indices, contract interpretation, Leonard Study, Kuiper model, labor escalation, claims case studies, term paper. A-F only. Pre: graduate standing in civil and environmental engineering and consent.

CxEE 604 Cost Engineering and Quality Control (3) Study and applications of cost/schedule control systems criteria, earned value analysis, probabilistic cost estimating, construction risk management, construction quality control, and operations research in construction. Recommended: 472 or 474, or consent.

CxEE 606 Process Simulation (3) Analysis of operations and construction processes; CYCLONE simulation language; MicroCyclone and EZSTROBE software packages to the new wadis; material resource utilization; throughput; cost measurements; programming variables; projects; CEE, ME, and EE majors only. Graduate students only. A-F only. Pre: (with a minimum grade of C) 474, 476, and consent. (Spring only)

CxEE 614 Negotiation and Alternative Dispute Resolution (V) Lawyers negotiate settlements in almost all their cases. This class presents a “hands-on,” skill-building approach to the new realities. Well-building, centuries-old techniques, about the law will serve you most often in their private practice negotiation. The class also examines the rapidly developing field of alternative dispute resolution (ADR), including mediation, facilitation, arbitration, and court-annexed ADR. (Cross-listed as LAW 508)

CxEE 618 Parallel Computing for Engineers (3) Concepts and techniques in high performance parallel computing. Topics include parallel language and algorithms, parallelizing pre-existing serial codes, statistical analysis, and techniques up to improve computational performance. A-F only. Pre: 402. Spring only.

CxEE 620 Reforming Public Organizations (3) Explores the possibilities for reducing the most difficult aspects of the bureaucratic form in public organizations while maintaining accountability. A-F only. (Cross-listed as PUB 620)

CxEE 622 Fluid Mechanics (3) Theory of fluid dynamics in differentiable form, covering equation of motion, vortex generation, flow in rotating frame, potential theory, laminar flow, and introduction to turbulence.

CxEE 623 Groundwater Modeling (3) Introduction to the finite-difference method; steady-state and transient flow; finite-element methods; and unstructured media: applications to groundwater recharge and aquifer evaluation. A-F only. Pre: 627 or consent. (Cross-listed as GEOG 656)

CxEE 625 Hydrologic Processes in Soils (3) Hydrologic properties in soils and the processes involved in water infiltration drainage and solute transport. Emphasis on key parameters required for modeling. Recommended: 424 or consent. (Fall only) (Cross-listed as BE 664 and NREM 660)

CxEE 626 Surface Water Hydrology (3) Deterministic and probabilistic methods include reliability of empirical distributions, multiple regression analysis, definition of the parameters and domain of attraction. Short-memory models for stochastic simulation of streamflows include autoregressive, Markov chain and moving average models. Time series analysis of hydrologic data is discussed. A-F only. Pre: consent.

CxEE 627 Groundwater Hydrology (3) Groundwater occurrence, movement, quality, and resource evaluation, development, and management. Emphasis on saltwater encroachment, well evaluation, aquifer protection, recharge with wastewater, and Hawai`i type hydrology. Recommended: 424 or consent.

CxEE 633 Physical and Chemical Treatment (3) Introduction to physical processes for water and wastewater treatment: Review of momentum and mass transfer, chemical reactions, colloidal chemistry, coagulation and flocculation, granular filtration, carbon adsorption, gas transfer, disinfection and oxidation. A-F only.

CxEE 634 Biological Treatment (3) Fundamentals of applied microbiology and biochemical reactor engineering, parameters of microbial growth, operational theory and design basis of aerobic, anoxic and anaerobic treatment processes. Applications for water, wastewater, air, solid wastes, and soil. A-F only. Pre: Consent. (Alt. years: spring) (Cross-listed as BE 634)

CxEE 635 Environmental Chemistry (3) Basic concepts of chemistry as related to the environment, with more emphasis on water. Topics include chemical kinetics, base, precipitation and dissolution redox reactions, sorption, organic chemicals in the environment. A-F only. Pre: consent.

CxEE 636 Environmental Microbiology (3) Combined lecture-discussion on major topics in environmental microbiology, microbial ecology, and a broad understanding of microbial processes in natural and engineered environments. A-F only. Pre: graduate standing in CEE or consent.

CxEE 643 Hazardous Waste Remediation (3) Introduces the national problems dealing with the contamination of groundwater and presents remedial measures. Such measures include pump and treat (PAT) technology, in-situ bioremediation, soil vapor extraction, air sparging, electrokinetics, hydraulic fracturing, reactive walls, and phytoremediation. A-F only.


CxEE 648 Membrane Separations (3) Applications of membrane separations to desalination, power generation, and ultrapure water systems. Discussion of reverse osmosis, osmosis-driven processes, ultrafiltration, microfiltration, electrodialysis and ion exchange technologies. Membrane fouling and concentration polarization, water flux and theoretical standpoints. A-F only. Pre: 635 or consent.

CxEE 650 Seepage, Drainage, and Dewatering (3) Theory of seepage, field and laboratory methods of measurement; graphical and numerical methods; design of drainage structures; construction dewatering. A-F only. Pre: 355.

CxEE 651 Deep Foundations (3) Analysis and design of deep foundations; driven piles and drilled shafts. A-F only. Pre: 355 and 455.

CxEE 653 Advanced Soil Mechanics (3) Soil continuum mechanics principles; elastic, plastic, and Cam clay soil behavior; critical state and strength; interpretation of laboratory results. Repeatable two times. A-F only. Pre: 355. (Alt. years)

CxEE 655 Slope and Earth Structures (3) Classification of landslides and triggering mechanisms; field investigation procedures; limit equilibrium slope stability methods; risk/trendal analysis; strength and deformation considerations; case studies. A-F only. Pre: 355. (Alt. years)

CxEE 656 Marine Geotechnics (3) Principles of geotechnical engineering applied to marine environments; marine geology; surveying and sampling methods; seabed sediment types, properties, and behavior; coastal and offshore foundations. A-F only. Pre: 355.

CxEE 658 Earth Pressures (3) Estimation of lateral earth pressures; analysis and design of retaining walls and excavation support systems. A-F only. Pre: 355 and 455.

CxEE 660 Systems Analysis for Engineers (3) Optimization used in design and management of systems for minimizing resources or optimizing outcomes. Evaluation of alternatives, economic efficiency and effectiveness analysis. Logistics. Open to engineering students. Computer applications and labs. Recommended: 462 or 464, or consent.


CxEE 664 Advanced Transportation Modeling and Statistics (3) Demand modeling, discrete choice and activity-based modeling. Demand forecasting by simulation, Transportation surveys and sampling methods. Applications including mixed logit and ARIMA analyses to transportation. A-F only. Recommended: 305 and 464, or consent.

CxEE 665 Pavement Design and Rehabilitation (3) Pavement engineering with emphasis given to understanding fundamental principles in the mechanical development of pavement design, approaches used for design of new pavements and overlays, understanding of construction issues and their effects on pavement performance, and various design factors: environmental, loading and materials characterization. Introduction of pavement management systems. A-F
only. Recommended: 461 or consent.

CEE 671 Continuum Mechanics (3) Cartesian tensors in mechanics; coordinate transformations; analysis of stress and strain; principal values, invariants, equilibrium and compatibility equations; constitutive equations; field equations. Problems in elasticity. A-F only. Recommended: 370 or ME 571, or consent. (Cross-listed as ME 671)

CEE 672 Project Management Systems (3) Project integration, organizational power, conflict, strategic, and life-cycle management in construction management; matrix structure compared to projected structure; project success; team building; change and culture in construction organizations; competitive bidding. A-F only. Per: consent.


CEE 677 Smart Structures Technology (3) Fundamentals of smart materials for structural engineering applications. Control devices and strategies for protection of structures against extreme events, i.e. earthquakes, strong winds, etc. Structural health monitoring and smart sensor networks. Smart materials for civil structures. CE majors only. A-F only. Per: consent.


CEE 683 Advanced Reinforced Concrete Design (3) Slender columns; biaxial bending; combined shear and torsion. Building lateral load resisting frame analysis and design—shearwalls, rigid frames. Floor system analysis and design—flat slabs, joint systems. Computer applications. A-F only. Recommended: 485 or consent.

CEE 685 Advanced Structural Steel Design (3) Load and resistance factor design (LRFD); steel building modeling and analysis; moment-resisting frames; bracing systems; beam-columns; moment connections; composite construction; and plate girders. A-F only. Per: consent.

CEE 686 Finite Elements in Structures (3) Finite element method in structural engineering. Extension of structural theory, Virtual work, One- two-, and three-dimensional elements; isometric elements; plate bending; application to linear problems. Recommended: 681 or consent.

CEE 687 Prestressed Concrete (3) Behavior of prestressed concrete members, including prestress losses. Analysis and design of prestressed beams, slabs, and composite sections. Anchorage zone design; continuous systems. Recommended: 485 or consent.

CEE 688 Advanced Concrete Technology (3) Composition and hydration of concrete; chemical, and mineral admixtures and hardened properties, mix proportions, high performance concretes, durability and retrofitting technology, non-destructive testing, and advanced material characterization techniques. A-F only. CE majors only. Graduate students only. Per: 575 (with a minimum grade of C). (Spring only)

CEE 691 Seminar in Civil and Environmental Engineering (1) Survey of literature, research, developments and activities in civil engineering. One unit of all graduate students for each semester. A-F only. CR/NC only. Per: graduate standing or consent.

CEE 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. CR/NC only. Per: graduate standing in CEE or consent.

CEE 696 Selected Topics in Civil and Environmental Engineering (3) Highly specialized topics in structures, soils, hydraulics, sanitary, water resources, applied mechanics, transportation. Repeatable unlimited times. Per: consent.

CEE 699 Directed Readings or Research (V) Repeatable unlimited times. Per: consent.


CEE 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times. Per: candidacy for PhD in civil engineering.

Classics (CLAS)

CLAS 121 Ancient Egypt: Mummies, Pharaohs, and Gods (3) An overview of ancient Egyptian civilization through lecture and class discussion on Egyptian literature, archaeology, history, religion and society. (Cross-listed as LLE 121) DH

CLAS 122 Greek, Roman, and Ancient Mythology (3) Combines readings and analyses of myths from the ancient world including Europe, Asia, Africa, and Hawaii, with an emphasis on comparative analysis of cultures and religions. (Cross-listed as LLE 122) DL

CLAS 123 Greek and Latin Elements in English (3) Important root suffixes for building a literary vocabulary. (Cross-listed as LLE 123)

CLAS 124 Greek and Latin Elements in Scientific Terminology (3) Important roots, prefixes, and suffixes for building a scientific vocabulary. (Cross-listed as LLE 124) F

CLAS 301 Biblical Hebrew I (3) Orthography and structure of Biblical Hebrew; history and development of Hebrew as the sacred language of Judaism, overview of religious, historical, and cultural development of the Hebrew Bible. Pre: sophomore standing or consent. (Fall only) (Cross-listed as LLE 301 and REL 301)

CLAS 302 Biblical Hebrew II (3) Reading of selected prose passages from the Hebrew Bible; analysis of literary forms, paying special attention to stories which have played an important role in the development of the Abrahamic religions. Minimum C- grade required for prerequisites. Pre: 301/REL 301. (Spring only) (Cross-listed as LLE 302 and REL 302)

CLAS 305 Ancient Egyptian Hieroglyphics I (3) Decipherment of hieroglyphs and reading of Middle Egyptian literary texts. (Fall only) (Cross-listed as LLE 305)

CLAS 306 Ancient Egyptian Hieroglyphics II (3) Decipherment of hieroglyphs and reading of Middle Egyptian literary texts, including Tale of Sinuhe. Pre: 305 or permission of instructor. (Spring only) (Cross-listed as LLE 306)

CLAS 321 History of the Written Word (3) A hands-on history of writing beginning in Ancient Greece and Rome. Content includes the development of the alphabet, libraries, and writing in ancient culture. Sophomore standing or consent. (Cross-listed as LLE 321)

CLAS 323 Greek and Roman Drama (3) Survey of Greek and Roman drama, both tragedies and comedies, tracing the history of a genre that contains some of the wittiest and most agonizing moments in ancient literature. Pre: sophomore standing or higher. (Cross-listed as LLE 323) DL

CLAS 324 Nativist World (3) Study of the relationship between the Greeks and Romans and the natural environment. Particular attention will be given to the place of nature in ancient science, literature, and philosophy. Pre: sophomores standing or higher. (Cross-listed as LLE 324) DH

CLAS 325 Greek and Roman War Literature (3) Survey of war-related literature from Greece and Rome, its major themes, and how it reflects the wide range of social, political, and literary perspectives on war found in the ancient world. Pre: sophomore standing or higher, or consent. (Cross-listed as LLE 325) DL

CLAS 326 The Greek and Roman Novel (3) Survey of Greek and Roman novels, a collection of highly entertaining texts that offer windows into various aspects of life in the ancient world. Pre: sophomore standing or higher. (Cross-listed as LLE 326) DL

CLAS 327 Ancient Greek Literature in Translation (3) Major writers: emphasis on Homer, drama, and philosophy. Pre: sophomore standing or higher or consent. (Cross-listed as LLE 327) DL

CLAS 328 Ancient Roman Literature in Translation (3) Major writers: emphasis on Vergil, satire, and new poems. Pre: sophomore standing or higher or consent. (Cross-listed as LLE 328) DL

CLAS 329 Greek and Roman Epic (3) A survey of Greek and Roman epic literature, beginning with Homer’s Iliad and Odyssey and proceeding through the Hellenistic Greek and Roman periods. Pre: sophomore standing or consent. (Cross-listed as LLE 329) DL

CLAS 366 Literatures of Ancient India (3) Survey of South Asian literature from ancient times to the early medieval period; focusing on Sanskrit, Prakrit, and Tamil poetry traditions. Readings in English translation. (Cross-listed as IP 366) DL

Communication (COM)

College of Social Sciences

COM 201 Introduction to Communication (3) An overview of communication emphasizing intercultural, organizational and international communication and media arts with introduction to multimedia, ICTs, and public relations perspectives. DS

COM 310 Media Arts (3) Combined lecture-discussion on theories of contemporary visual media, covering aesthetic development and delivery through multimedia and cinematic principles. A-F only. Per: 201 (or concurrent) or consent. DS

COM 320 Communication in Organizations (3) Combined lecture-discussion on communication within organizational communities and between organizations and their communities with attention to intercultural issues in local, global, and online interactions. Per: 201 (or concurrent) or consent. DS

COM 330 Information and Communication Technology Concepts (3) Combined lecture-discussion on basic technical concepts related to ICTs embedded in a social context. Per: 201 (or concurrent) or consent. DS

COM 351 Techniques of Video and Digital Cinema (3) Orientation to techniques of production. Emphasis on theory, history, languages of the creative process and application to video productions and multimedia. Per: 310 or consent.

COM 357 Techniques of Multimedia (3) Combined lecture-lab providing an orientation to, and examination of, procedures and techniques of multimedia. Emphasis on new media literacy, human-computer interaction, and basic design of electronic multimedia. Per: 350 or consent.

COM 340 Intercultural Communication (3) Problems and opportunities of communication in a variety of intercultural contexts. Focus on theory, research, and managing intercultural effectiveness. Per: 201 (or concurrent) or consent. DS

COM 350 Mediated Interpersonal Communication (3) Theory and practice of interpersonal communication from a social science perspective. Per: COM major or consent. DS

COM 390 (Alpha) Journalism/Communications Workshops (V) Short-term intensive workshops in journalism and mass communication skills and projects. (B) workshop in new media; (C) workshop in television and video; (D) workshop in broadcast journalism; (F) workshop in public relations. Repeatable in different alphas up to 6 credits. COM or JOUR majors only. Per: consent. (Cross-listed as JOU 390)

COM 392 Emerging Topics in Communication (3) Emerging communication topics of interest to faculty and students. Repeatable one time on different topics, up to six credits. COM majors only. A-F only. Per: consent.

COM 393 Survey of Broadcast (3) An introduction to theory, research, and qualitative research methods commonly used in communication studies and related professional work. Pre: COM major or consent. DS

COM 420 Communication in Multicultural Organizations (3) Cultural diversity in multicultural and multinational organizations is examined regarding communication-related aspects of working life. Per: 320 and 346, or consent. DS
COM 421 Public Relations Strategies (3) Practice and effects of public relations. Strategic management, techniques, new communication technologies, diverse publics, ethics, and social responsibility will be emphasized. A-F only. Pre: COM major or consent.

COM 422 Public Relations Tactics (3) Students apply principles of effective and ethical writing to traditional and social media assignments likely to be encountered in modern public relations. COM majors only. A-F only.

COM 431 Studio Production (3) Studio production ranging from three-camera studio production to broadcast and magazine show formats to on-line web production. Fundamental knowledge of lighting, sound, blocking, and equipment competency. Pre: COM major or consent.

COM 432 Social Media (3) Combined lecture-discussion on situated use of ICTs in various personal and institutional settings. A-F only. Pre: COM major or consent.

COM 433 Video Scriptwriting (3) Application of communication theory to creating and revising commercial and dramatic script material for video production. Pre: 331 or consent.

COM 436 Media Effects (3) Social, political, economic, and cultural effects of broadcast media are examined to understand their impact on human behavior. Pre: COM major and junior standing, or consent.

COM 438 Telecommunication in the Pacific Hemisphere (3) Development of international telecommunication. Application of established and emerging theories of gender and communication to interpersonal, organizational, intercultural, and mass communication. Pre: COM major and junior standing, or consent. DS

COM 451 Communication and Law (3) Role of communication in the legal process; impact of law on communication processes. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as JOUR 365) DS

COM 452 Building Communication Theory (3) Major theories of communication in terms of requirements for a theory, theory development, associated research, and application. Pre: COM major and junior standing, or consent. DS

COM 459 Special Topics (3) Topics of interest to faculty and students; taught by regular and visiting faculty. Repeatable on different topics to six credit hours. COM majors only. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as JOUR 459)

COM 460 Media Ethics (3) Ethics and social responsibility for media professionals. Application of ethical theories and principles to case studies and research problems. any 400-level course COM or JOUR and junior standing, or consent. (Cross-listed as JOUR 460) DS

COM 475 Global Communication (3) Problems and opportunities of communication in a variety of international contexts. Focus on commercial diplomacy, and mass communication. COM majors only. Pre: COM/JOUR major or consent. (Cross-listed as JOUR 475) DS

COM 476 Capstone in Digital Cinema Production (3) Creating, scripting, and producing complex programs. Media aesthetics and professional production, preparation, and execution are emphasized. COM majors only. A-F only. Pre: 310 and 320 and 330 and 331, or consent.

COM 477 Capstone in Interactive Multimedia Design and Development (3) Following development, and evaluation of interactive computer-based multimedia communication. Emphasizes authoring and production of such multimedia elements as full-motion images, audio, and graphics. COM majors only. A-F only. Pre: 310 and 320 and 330 and 337, or consent.

COM 478 Capstone in Communication in Communities (3) Synthesizes knowledge, apply research findings in service to community, and develop proposal for intervention or campaign. COM majors only. A-F only. Pre: 310 and 320 and 330; and 340 or 421; or consent.

COM 479 Capstone Project in ICTs and Policy (3) Focus on specific ICT and policy problems related to Hawai’i and the Asia-Pacific region. COM majors only. A-F only. Pre: 310 and 320 and 330; and 432 or 438; or consent.

COM 480 Communication Seminar (3) Application of theoretical and methodological criteria to researchable questions. Topics will vary. Pre: 201 and senior standing, or consent.

COM 489 Communicating Creativity (3) The role of communication in building creativity. Exploration of theoretical bases for shared scientific or artistic creativity in communication research. COM major or consent. Pre: 201 and senior standing, or consent. (Once a year)

COM 490 Senior Thesis Project (3) Completion of the thesis project appropriate to the selected area of concentration within the context of a seminar. Emphasis on ongoing process of writing, editing, review, and revision. Pre: COM major and senior standing, or consent.

COM 495 (Alpha) Communication Internship (V) Application of communication skills and knowledge. (B) community setting; (C) School of Communications activity. Under faculty supervision, intern experiences role of an organization and analyze communication processes and effects. Maximum of three credits per semester; six credits total toward major; each alpha repeatable up to three credits. Pre: COM major or consent.

COM 499 Special Problems (V) Independent study of selected topics under faculty supervision. Repeatable up to three credits. Pre: COM major and junior standing, or consent.

COM 500 Master’s Plan B/C Studies (1) COM major and junior standing, or consent. (Once a year)

COM 511 Communication Theories (3) Systematic study of major theories of communication and current status of communication research.

COM 612 Communication Inquiry (3) Introduction to inquiry and the array of quantitative and qualitative research methods commonly used in communication.

COM 623 Strategic Organizational Communication (3) Theories, concepts, and applications of strategic communication and public relations to achieve organizational goals. Pre: 611 (or concurrent) or consent.

COM 633 Information and Communication Technologies (3) Information and communication technologies, structures, processes, and networks as an area of research and study in the social sciences. Pre: 611 (or concurrent) or consent.

COM 634 Social Media (3) Systematic study from a social science perspective of current and emerging social media. Attention to user needs and impact. Pre: 612 (or concurrent) or consent.

COM 643 Intercultural Communication (3) Problems and opportunities of intercultural communication from theory and research, consulting and training, and policy and program perspectives. Pre: 611 (or concurrent) or consent.

COM 644 Global Communication and Journalism (3) Analysis of the emerging global media landscape as digital technologies enable the sharing of news, information, and commentary across geographical and cultural borders. Focuses on causes, characteristics, and consequences. Pre: 612 (or concurrent).

COM 646 Intervention in Multicultural Organizations (3) Focus on the array of communication-related intervention programs designed to enhance effectiveness in multicultural organizations at home and abroad. A-F only. Pre: 623 or 643 or consent.

COM 660 ICT Policy and Planning (3) Processes and methods of planning appropriate to the information and communication sectors, including future economic, social, political, technical, and environmental perspectives. Pre: 611 (or concurrent) or consent.

COM 691 Communication Topics (3) Coverage of in-depth of some area of theory and research. Repeatable one time. Pre: 611 or consent.

COM 692 Communication Research Seminar (3) General research seminar in communication. In-depth coverage of specific research methods to develop, refine, or interpret graduate students’ thesis or dissertation projects. COM, CIS majors only. Graduate students only. A-F only. Pre: 611 (with a minimum grade of B) or consent.

COM 695 Communication Practicum (V) Supervised work experience, study of an organization, and career planning. Required of Plan B students in the main communication program. Repeatable up to six credits. CR/NC only. Pre: 611 and 612, or consent.

COM 699 Directed Reading and Research (V) Individual reading and/or research. Repeatable up to six credits. Pre: consent.

COM 700 Thesis (V) Repeatable up to six credits. Pre: 611 and 612, or consent.
Transcription of English speech sounds; phonological developments and models; cultural variations; analysis interpretation and other considerations related to speech sound development and production. Repeatable unlimited times. A-F only. (Fall only)

CSD 433 Speech and Language Development (3) Will develop an understanding of children’s acquisition of speech, language, and normal communication development from birth through adolescence. Repeatable unlimited times. A-F only. (Fall only)

CSD 434 Acoustics and Psychoacoustics of Speech and Hearing (3) Provides an understanding of the fundamental process underlying the production and perception of speech. Students gain an understanding of the physical and psychological aspects of sound and their measurement. Repeatable unlimited times. A-F only. (Spring only)

CSD 435 Introduction to Clinical Methods in Communication Sciences and Disorders (3) Provides observation and discussion of the clinical management of individuals with communication disorders, and practical experience related to clinical procedures and requirements. Repeatable unlimited times. A-F only. (Spring only)

CSD 436 Introduction to Communication Sciences and Disorders (3) Emphasis is placed on theoretical and practical considerations underlying the clinical management of individuals with communication disorders. Repeatable unlimited times. A-F only. (Spring only)

CSD 438 Basic Statistics for Health-Related Professionals (3) Provides students from behavioral sciences and health-related professions with an overview of normal distribution, central tendency, variability, sampling, hypothesis testing, frequency distribution, correlation, regression, and t-test. Repeatable unlimited times. A-F only. (Spring only)

CSD 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable unlimited times. Prec: master’s Plan B or C, candidate and consent.

CSD 600 Research Methods (3) Research methods applicable to the field of speech-language pathology and audiology; analysis and reporting of data. Required of all graduate students. Prec: previous coursework in inferential statistics and consent.

CSD 601 Neuroscience in Communication Sciences and Disorders (3) Explores the neuroanatomy and neurophysiology of the human nervous system as it relates to communication and swallowing and how neurological pathologies lead to behavioral deficits in those areas. CSD majors only. A-F only. (Fall only)

CSD 603 Audiological Foundations for Speech-Language Pathology (3) Instrumentation; special tests of hearing.

CSD 604 Seminar in Motor Speech Disorders (3) Provides in-depth examination of various motor speech disorders, including apraxia of speech and dysarthria. Emphasis is placed on assessment/treatment of these diagnoses. Review of current treatment literature, anatomy/physiology, practical exercises in treatment planning. A-F only. Prec: consent.

CSD 610 Disorders of Phonology and Articulation (3) Study of the etiology, assessment, and remediation of disorders and articulation. A-F only.


CSD 616 Advanced Practicum in Speech Pathology I (3) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times, credit earned for six credits only.

CSD 617 Audiology Practicum for Speech-Language Pathology (1) Clinical practice in administering results; counseling of individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Prec: consent.


CSD 622 Aphasia and the Dementias (3) Study of acquired aphasia in adults and the characteristics and progression of disorders of dementia. Procedures for clinical intervention, current literature review, and related professional issues. Prec: consent. (Fall only)

CSD 689 Research–Speech Pathology (1) Required of all CSD graduate students following the non-thesis (Plan B) program and emphasizing speech-language pathology. Repeatable three times. Prec: 600 and consent.

CSD 690 Research–Audiology (3) Required of all CSD graduate students following the non-thesis (Plan B) program and emphasizing audiology. Prec: 600 and consent.

CSD 699 (Alpha) Directed Study (V) To allow student and faculty advisor to design research/study units outside existing academic structure in specialized area. Repeatable. (B) Language pathology; (C) audiology. Prec: 603 for (C).

CSD 700 Thesis Research (V) Repeatable unlimited times. Prec: consent.


CSD 702 Disorders of Fluency (3) Contemporary developments and theoretical issues in diagnosis, evaluation, and treatment of disorders of fluency such as stuttering in both children and adults.

CSD 703 Electrophysiologic Audiometry (3) Study of early, middle, and late auditory evoked potentials with emphasis on the auditory brainstem response. Prec: 603 or consent.

CSD 708 Seminar in Right Hemisphere Brain Damage and the Dementias (3) Traumatic brain injury and right hemisphere communicative disorders are explored with emphasis on assessment and treatment of individuals with these diagnoses. Review of current literature, communication and cognitive theories, and practical exercises in treatment planning. Prec: 622 and consent.

CSD 709 Dysphagia: Disorders of Swallowing (3) Explores the dynamics of normal and disordered swallowing across the life span with emphasis on the adult population. CSD majors only. A-F only. Prec: 601 (with a minimum grade of B-). (Summer only)

CSD 710 (Alpha) Special Topics in Audiology and Speech-Language Pathology (3) (B) study of contemporary developments in speech/language pathology; (C) study of contemporary developments in audiology. Repeatable for credit for different alphas unlimited times. Prec: 603, 617, and consent.

CSD 716 Advanced Practicum in Speech Pathology II (6) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times, credit earned for 12 credits only.

CSD 717 Advanced Practicum in Audiology II (2) Clinical practice in administering tests and interpreting results; counseling individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Prec: 603, 617, and consent.

CSD 721 Seminar in Audiology–Diagnostic Procedures (3) Study of diagnostic procedures as they are used in diagnostic practice. Prec: 603 and consent.

CSD 723 Seminar in Audiology–Rehabilitative Procedures (3) Procedures and philosophies presented in recent literature dealing with rehabilitative phases of audiology. Prec: 603 and consent.

CSD 724 Advanced Practicum in Speech Pathology III (V) Clinical practice in diagnostic and therapeutic procedure with various types of speech and language problems in different clinical settings. Repeatable unlimited times, up to 18 credits.

CSD 725 Advanced Practicum in Audiology III (3) Clinical practice in administering tests and interpreting results, counseling of individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Prec: 603, 617, 717, and consent.

Communicology (COMG) College of Arts and Humanities

COMG 151 Personal and Public Speech (3) Develops communication skills necessary to function effectively in today’s society. Students will enhance their communication skills in one-on-one situations, public speaking, and small group situations. Ideal for new majors and non-majors. DA

COMG 170 Introduction to Nonverbal Communication (3) Beginning course on the fundamental components of nonverbal communication. Aspects of body movements, facial expressions, eye behavior, physical appearance, voice, touch, space, smell, time, and environmental features will be examined in a lecture-discussion format. Extensive practices in skills. DS

COMG 181 Introduction to Interpersonal Communication (3) Introduction to basic principles of interaction between two people. Emphasis is on development of skills in a variety of interpersonal contexts. DS

COMG 185 Multicultural Communication Skills (3)Expose students to practical skills needed for effective intercultural communication. Offer guidelines for improvement in diverse cultural settings such as business, education, counseling, and healthcare. DS

COMG 251 Principles of Effective Public Speaking (3) Combined lecture/laboratory providing extensive practice in preparing and delivering public speeches with special emphasis on organization, outlining, audience analysis, analytical reasoning, and delivery skills. DA

COMG 290 Interviewing (3) Principles and practice; training in informational, persuasive, employment, appraisal, and research interviewing. Prec: one of 151, 170, 181, 185, 251 or 301; or consent.

COMG 301 Introduction to Communicological Theories (3) Introduction to various perspectives that are the foundations of the communication discipline. Prec: one of 151, 170, 181, 185, or 251; or consent. DS

COMG 303 Research Methods (3) Introduction to methods of inquiry in the field of communication. Topics include research design and problem formulation, sampling, analytic and observational techniques, and data interpretation. COMG majors only. Prec: 200-level COMG course (or concurrent) or consent.

COMG 321 Instructional Communication (3) Analysis of and practice in using major models of communication in the classroom. Role of communication in various academic disciplines as needed by teachers. Prec: one of 151, 170, 181, 185, 200, 251, or 301; or consent.

COMG 351 Professional Presentations (3) Extends application of public speaking skills to professional contexts: group sales, press conferences, and corporate annual reports. Emphasis on organization, preparation, and delivery. Prec: 251 or consent.

COMG 352 Group Decision-Making and Leadership (3) Study of decision-making within the small group. Effects of organization, leadership, membership, and goals on achieving group purposes. Prec: one of 151, 170, 181, 185, 251 or 301; or consent.

COMG 353 Argumentation and Debate (3) Adapting communication theory to forensic strategies for testing in various practical forensic argument. Prec: one of 151, 170, 181, 185, 251, or 301; or consent.

COMG 361 Leadership and Organizational Communication (3) Principles and practices of organizational communication and its relationship to...
networks, leadership, power, conflict, cultures, and other contemporary views of organizational work, change, and development. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 364 Persuasion (3) Theories, concepts, strategies, and processes of persuasion and social influence in contemporary society. Focus on analyzing, developing, and resisting persuasive messages. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 365 Social Persuasion (3) Introduction to theory and research on human communication, comprehension, creation of understanding. Discussion of codes and media, information and message processing theories, persuasion and influence-making, implicate, natural language processing, and deception. Junior standing or higher. DS

COMG 380 Family Communication (3) Focuses on the role of interaction patterns (both constructive and destructive) in the evolution of family communications. The impact of family dynamics upon these interaction patterns is given equal attention. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 381 Interpersonal Relations (3) Theory and research on the development, maintenance, and termination of interpersonal relationships. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 385 Culture and Communication (3) Survey of major factors affecting interpersonal communication between members of different cultures. Emphasis upon interaction between U.S. and Asian-Pacific cultures. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 386 Special Topics in Culture and Communication (3) Contemporary research and theory on communication differences (linguistic, cultural, etc.) between individuals. Junior standing or higher. Prereq: one of 151, 170, 181, 185, 251 or 301; or consent. DS

COMG 390 Evolution and Human Communication (3) Analysis of the role of human communication in evolution, including competition, cooperation, family dynamics, and coalition formation; discussion on the biological function of language, laughter, yawning, and emotion expressions. Prereq: one of 170, or 181, or 301 (or concurrent), or 302 (or concurrent). DS

COMG 395 Research on Communication Behavior (3) Survey of research on communication behavior. Verbal and nonverbal data collection; analysis of research data related to development and implementation of a research project. Repeatable three times. Prereq: 301 and 302. DS

COMG 399 Internship (V) Analysis and application of communication theory and behaviors in organizational settings. Repeatable up to six credits. A-F only. Prereq: consent. DS

COMG 452 Intergroup Communication (3) Surveys theory and research on communication between members of different social groups, highlighting how communication influences and is influenced by social identity. Applies concepts to intergenerational, health, family, educational, multilingual, and computer-mediated contexts. Prereq: 301 (or concurrent) or consent. DS

COMG 454 Political Communication (3) Survey of interpersonal and mass communication theories in the political context. Topics may include communication in public opinion processes, elections, debates, political campaigning and advertising. Prereq: upper division standing or consent. DS

COMG 455 Conflict Management (3) Examination of the theories, practices, models, and techniques of managing interpersonal conflicts. Prereq: one of 151, 170, 181, 185, 251, 301 or 581. DS

COMG 464 The Evolution of Public Discourse in the Digital Era (3) Analysis of evolving public discourse in and about cyberspace; focus on changes in civic engagement and sociopolitical involvement from digital technology use; discussion of social and semantic networks. Prereq: 364 or consent. DS

COMG 465 Theories and Research in Strategic Communication (3) An in-depth overview of theories related to strategic communication and scientific approaches to attitude formation and change. Junior standing or higher. Prereq: 301 or 364 or consent. DS

COMG 470 Nonverbal Communication (3) Understanding communication beyond the words themselves. Review of theory and research on gestures, facial expressions, touch, personal space, and physical appearance. Prereq: 151, 170, 181, 185 or 251; or consent. DS

COMG 471 Verbal Communication (3) Roles of language: perception and assumption in human relationships; relation of language symbols to emotion and attitudes. Prereq: upper division standing or consent. DS

COMG 472 Deceptive Communication (3) Survey of major social scientific theories, concepts, and research findings on deceptive communication, in a lecture/discussion format. Emphasis is on how people create deceptive messages, induce deception, and strategies used to detect deception. Junior standing or higher. Prereq: 301 or 302 or consent. DS

COMG 481 Relational Management (3) Survey and critical discussion of current theory and research in relational management literature. Focus on conversation management, deception, jealousy, privacy, communication of emotions. Prereq: 301 or 302 or consent. DS

COMG 490 Communication in Helping Relationships (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised practice. Prereq: one of 301 or 301 or 304. (Cross-listed as PSY 477) DS

COMG 493 Teaching Speech (6) For communiciation majors who lead, under supervision, a freshmen seminar section of communication. Prereq: senior standing and consent.

COMG 495 Health Communication (3) Develop understanding of the process through which communication influences health outcomes, and learn how to design effective health communication programs using theory and research. Prereq: 364 or 381. or consent. DS

COMG 499 Directed Reading (V) Prereq: consent of department chairperson and consent of instructor. DS

COMG 600 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable two times. Prereq: 601 (or concurrent) or 602 or consent. DS

COMG 601 Theories in Communicology (3) Major theoretical foundations; humanistic and social scientific perspectives. Examination of the research and the development of different models of human communication. COMG majors only. A-F only. Prereq: consent. DS

COMG 602 Research Methods in Communicology (3) Design and analysis of quantitative research in communicology. Focus on measurement issues, research design, descriptive and inferential statistics. COMG majors only. A-F only. Prereq: consent. DS

COMG 620 Practicum for Instructional Communication (1) Combined seminar and lecture/discussion format on techniques and procedures for teaching communication skills and their related components in a laboratory setting. CR/NC only. Repeatable three times. COMG majors only. Prereq: COMG 211. DS

COMG 660 Business Communication (3) Analysis of communication issues in business through discussion of verbal/nonverbal messages, interpersonal relationships, conflict, and persuasion. Focus on interviewing, group, negotiation, and public speaking skills. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent). or consent. DS

COMG 664 Persuasion and Social Influence (3) Theories of social influence; measurement, assessment of attitudes and measurement of change. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent) or consent. DS

COMG 670 Message Processing (3) Theories of human message processing. Effects of verbal and nonverbal codes, channels, and message forms on encoding and decoding. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent); or consent. DS

COMG 681 Relational Communication (3) Major models and theories of interpersonal communication; research on interpersonal relationships; interaction and functions of human communication. A-F only. Prereq: 601 (or concurrent)and 602 (or concurrent); or consent. DS

COMG 685 Foundations of Intercultural Communication (3) Major models, theories, and concepts of intercultural communication; basic methodological and analytical issues of research related to intercultural communication; research on intercultural communication. Graduate standing only. A-F only. Prereq: 601 (or concurrent) and 602 (or concurrent); or consent. DS

COMG 699 Directed Research (V) Repeatable unlimited times. Only three credits can count toward degree. DS

COMG 700 Thesis Research (V) Repeatable three times. DS

COMG 702 Advanced Research Methods in Communicology (3) Advanced focus on survey, laboratory, and field study design, data collection, and data analysis. Emphasis on control of variance through design and statistical analysis. Appropriate preparation for graduate theses and dissertations. A-F only. Prereq: 602 or consent. DS

COMG 721 Approaches to Instructional Communication (3) Seminar in contemporary theory and practice of communication theories and models in instructional environment; emphasis on message processing, classroom dynamics, cognitive and metacognitive processes associated with learning, and learning assessment. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent); or consent. DS

COMG 752 Research in Intergroup Communication (3) Theory, concepts, research, and application of communication processes between members of different social groups. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent), or consent. DS

COMG 760 Seminar in Special Topics in Communicology (3) Substantive areas in communication that are of current interest and the focus of research, but not addressed in other COMG courses. Topics vary each semester. Content to be announced. Repeatable one time. A-F only. Prereq: 601 (or concurrent) or 602 (or concurrent)) with a minimum grade of B), or consent. DS

COMG 764 Seminar in Persuasion and Influence (3) Contemporary research in persuasion and influence. Repeatable one time. A-F only. Prereq: 664 or consent. DS

COMG 770 Issues in Message Processing (3) Contemporary research in verbal and nonverbal message processing. Repeatable once. A-F only. Prereq: 670 or consent. DS

COMG 781 Seminar in Relational Communication (3) Contemporary research in interpersonal relations. Repeatable one time. A-F only. Prereq: 681 or consent. DS

COMG 785 Research on Intercultural Communication (3) Functional approach to the study of communication in intercultural settings. Examination of culture-based variables and their impact on social influence, relational management, and message processing. Repeatable one time. A-F only. Prereq: 685 or consent. DS

COMG 787 Artificial Intelligence and Communication (3) Comprehensive understanding of the role and function of computer technology (including, A.I.) within the field of communication. Basic methodological and analytical issues of research related to semi-intelligent artifacts as information source or receiver. COMG majors or consent. Graduate students only. A-F only. Prereq: 601 (or concurrent) and 602 (or concurrent); or consent. DS

COMG 795 Seminar in Health Communication Research (3) Contemporary interpersonal and/or public communication issues in health communication research. Topics include cross-cultural communication issues such as information management, interpersonal influence, relational management, emotional management, social influence. A-F only. Prereq: 601 (or concurrent) and 602 (or concurrent), or consent. DS

Complementary and Alternative Medicine (CAAM)

School of Medicine

CAAM 401 Mindfulness Meditation and Stress
Reduction (1) Practice mindfulness meditation to reduce burnout and live life in the present moment. Learn life skills to handle life better and be more resilient. Respond rather than react to life. No unencumbered, unreflective time at

CAAM 415 Clinical Nutrition (3) Overview of applied clinical nutrition that includes nutrients, dietary recommendations for healthy populations, and medical nutrition therapies for patients with diet-related diseases. Repeatable one time. Junior standing and higher. Pre: CHEM 151 (or higher) or BIO/151 (or higher); PHYL 141 or ZOOL 141; highly encouraged: FSHN 185 or any other baccalaureate-level course.

CAAM 445 Introduction to Integrative Medicine (3) Overview of integrative (complementary) medicine covering Traditional Chinese Medicine, Ayurvedic medicine, naturopathy, traditional healing practices, homeopathy, nutrition and diet, herbs and dietary supplements, environmental health, mind-body, energy, spiritual, and positive psychology. Repeatable one time. Junior standing or higher.

CAAM 595 Nutrition for Clinicians (1) Provides in-depth lectures and case studies reviewing the role of nutritional therapy in health and illness. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

CAAM 599 Research Topics in Complementary and Alternative Medicine (Research elective for medical students. MD students only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

**Curriculum Studies (EDCS)**

EDCS 415 Foundations in the Field of Early Childhood Education (Birth to 8 Years) (3) Emphasizes integrated historical and philosophical roots and socio-cultural context and their influence on policy and practice in early childhood education settings. A-F only. Pre: HDFS 331 or consent.

EDCS 425 Foundations in the Field of Early Childhood Education (Birth to 8 Years) Lab (3) Direct experience with children in early childhood settings in order to apply concepts from 415 and gain perspective on the role of the practitioner in ECE settings.

EDCS 416 Teaching and Learning for Diverse Young Children (3) Continuation of 415: focuses on the design, implementation, evaluation of meaningful, challenging interdisciplinary curricula that promotes comprehensive developmental and learning outcomes for diverse young children (pK-3). Pre: 415 or consent. (Cross-listed as ITE 416)

EDCS 418 Teaching and Learning for Diverse Young Children Lab (3) Continuation of 415L. Co-requisite: 416. (Cross-listed as ITE 416L)

EDCS 431 Collaborative Language and Learning (3) Examination of language (talking, reading, and writing) processes within a collaborative teaching framework in the secondary curriculum. Field experience may be required. A-F only.

EDCS 432 Adolescent Literature and Literacy (3) Selection and interpretation of young adult literature, including multicultural literature for middle level and high school students. Theory and teaching strategies for integrating literacy instruction in the literature program for diverse student populations. A-F only.

EDCS 433 Harper Science Curriculum (3) Conceptual schemes and processes for integrating science curricula within the sciences and with subject areas. Methods and models of curriculum integration such as interdisciplinary, culturally relevant, place and community-based learning. Repeatable one time. (Cross-listed as SUST 433)

EDCS 440 Curriculum Implications of Multicultural Education (3) Examination of trends, issues, school programs, and program in multicultural education and its related area of study—bilingual-cultural education. (Cross-listed as ITE 440)

EDCS 450 Methods and Materials in Science (3) Selecting methods and materials, demonstrations and simulations, open-ended experimentation, inquiry and discovery, task analysis measurement tools and techniques, activities from various curricula, opportunity for individualized goals and projects. Repeatable one time. Pre: ITE 323, ITE 404(H), teaching experience; or consent.

EDCS 451 Programs for Infants/Toddlers (3) Examination of current theory, research, issues, and models in programs for infants and toddlers, including criteria for evaluation and planning. A-F only. Pre: (HDFS 331 or concurrent) with a minimum grade of B-. or consent. (Cross-listed as SPED 451)

EDCS 453 Gender Issues in Education (3) Examination of current and historical issues in education and how they are impacted upon by gender— with particular reference to gender as it interacts with ethnicity and class, locally and globally. Pre: WS 151 or consent. (Cross-listed as EDEF 453 and WS 453)

EDCS 480 Issues in Computer Education (3) Integration of microcomputers into school curriculum and key issues related to microcomputer use in education. Pre: ITEC 442 or consent. (Cross-listed as ITE 480)

EDCS 494 Problem Solving in Mathematics Education (3) Experiencing and learning to teach heuristics of solving mathematical problems; designing curricula, classroom organization, evaluative measures for problem solving. Pre: consent.

EDCS 495 Difficulties in Learning Mathematics (3) Identification, analysis, and remediation of difficulties in learning. Pre: consent.

EDCS 500 Master's Plan B/C Studies (1) Enrollment for degree completion. Pre: Master's Plan B or C candidate and consent.

EDCS 600 Language, Learning and Teaching (3) Examines the roles of language in the construction of knowledge within various disciplines, K-adult. Collaborative group learning strategies will be modeled. A-F only. Pre: student teaching or teaching experience or consent.

EDCS 601 Advanced Topics in Reading (3) Current theories and teaching strategies of reading throughout the lifespan within various social contexts. Topics include psycho-social, historical, and cultural foundations of reading; 21st century literacies; emergent literacy; diversity; multilingual learners, formative assessment; state/national initiatives. Pre: student teaching or teaching experience or consent.

EDCS 602 Advanced Topics in Writing and Oral Language (3) Current theories and teaching strategies of writing and oral language throughout the lifespan within various social contexts. Focus on teaching writing and oral language as tools for learning and to demonstrate learning. Pre: student teaching or teaching experience or consent.

EDCS 603 Children’s Literature in the Elementary Curriculum (3) Selection of traditional and current books/media, birth through young adult, with emphasis on applications in schools or other educational contexts. Focus on use of narrative, exposition, and other genres within the curriculum. A-F only. Pre: student teaching or teaching experience or consent.

EDCS 604 Effective Writing Practices (6) Analysis and practical application of principles and strategies of effective writing and informed writing instruction in K-12 classrooms. Pre: teaching experience and consent. (Summer only)

EDCS 605 Literacy Coaching and Leadership (3) Exploration and development of specialty roles. Includes teaching, coaching, providing resources, advocating for all students, and collaborating with other professionals. A-F only. Pre: consent.

EDCS 606 Introduction to Research in Curriculum and Teaching (3) Classroom-based research covers the fundamentals of qualitative, quantitative, action research, mixed methods, and curriculum based assessment. Exploratory, explanatory, and confirmatory research topics are highlighted culminating in an outline for Plan B/Thesis proposal. (Cross-listed as DIS 606)

EDCS 607 New Literacies Leadership + (3) New approaches to teaching literacy K-12, including visual, media, digital, and critical literacies as well as developing leadership practices in multi-literacies pedagogy. A-F only.

EDCS 608 Literacy Across the Disciplines, K-12 (3) Explores theoretical and practical principles of literacy across academic disciplines K-12, investigating the role of language and literate practices of reading, writing, speaking, visualizing, and representing in social, cultural, and educational contexts. Graduate students only, A-F only.

EDCS 610 Early Career Teaching, K-12 (3) Focuses on research and practice related to the first five years of teaching. Especially recommended for beginning teachers and graduate students interested in this stage of teaching development. Repeatable one time.

EDCS 617 Early Literacy and Language Development (3) Theory and practice for PK-3 early literacy and language development. Focus is on content knowledge and pedagogical strategies that support the optimal development of oral language, reading, and writing skills in PK-3 classrooms. A-F only.

EDCS 618 Early Childhood Education: Advanced Topics (3) Analysis and practical application of selected early childhood education program and/or instructional materials. Restricted to majors. Repeatable two times. A-F only: Pre: 415 and 416, or consent.

EDCS 621 Social and Cultural Constructions of Childhood (3) Seminar examines the interrelated socially constructed concepts of children and childhood and places them in the contexts influenced by sociological, anthropological, historical, critical, and technological perspectives. A-F only. Graduate students only.

EDCS 622 (Alpha) Curriculum Leadership (3) Foundation for critical study of curriculum development and improvement from the perspective of teacher leaders. Online/hybrid sections available; (B) early childhood; (D) middle school; (G) K-14. Pre: teaching experience or consent.

EDCS 623 Science and Science Curriculum, PK-12 (3) Application of recent developments in science, curriculum development, and learning theory to pre-kindergarten through secondary school science. Emphasizes interrelated historical and philosophical perspectives, content and methodology stressed, including inquiry, nature of science and science literacy. Repeatable one time.

EDCS 624 School Mathematics Curriculum (3) Analysis of research related to teaching and learning school mathematics, application of research to classroom practices. Appraisal of recent curriculum trends; critical examination of assumptions underlying proposed curriculum changes. Pre: teaching experience or consent.

EDCS 625 Social Studies Curriculum (3) Examination and evaluation of social science content, societal values and research trends as bases for development and revision of social studies materials, texts, curriculum guides, methodology. Pre: ITE 322 or equivalent, social studies teaching experience, or consent.

EDCS 626 Art Education K-12 (3) Principles, goals, and objectives in teaching and learning art K-12; curriculum, instruction, and assessment in art education; laboratory experiences for media. Pre: student teaching or teaching experience.

EDCS 627 Teaching and Learning with Art Objects, Museums, Collections, and Site Visits (3) Interdisciplinary inquiry and examination of the role of physical objects and site visits in schools and other educational contexts through visits to local art museums and related sites.

EDCS 628 Function of Play in Early Childhood Education (3) Review of research and theory illuminating the nature, purposes, and meaning of play as a critical aspect of early childhood education. (Summer only)

EDCS 630 Cultural Diversity and Education (3) Examines issues, theories, perspectives and practices in multicultural education. Emphasizes multicultural awareness, encourages knowledgeable reflection and develops skills necessary for multicultural practitioners. A-F only. (Cross-listed as EDEF 630)

EDCS 632 Qualitative Research Methods (3) Methods of qualitative research in education or related social science from an interdisciplinary framework.

EDCS 638 (Alpha) Curriculum and Instruction in Studio Art (3) Understanding art methods and materials related to art education for teachers grades K-12. Writing curricula, integrating visual arts across

Key to symbols & abbreviations: see the first page of this section.
the curriculum, developing evaluation methods
observing stages of artistic growth among students of
multiple ages/abilities. (B) painting, drawing, printing:
(C) fiber arts, ceramics, sculpture; (D) photography,
technology of implementation of any three of
B, C, and/or D. Previous BAS, BS, BEd, and BFA
only. Repeatable two times. A-F only. Pre: teaching
experience or consent. (Once a year)
EDCS 639 Business and Marketing Education
Curriculum (3) Theory, pedagogy, objectives, and
development of business and marketing education
curriculum. Prerequisite: ITE 390D or consent.
EDCS 640 (Alpha) Seminar (Study) (3) Study in
trends, research, and problems of implementation of
language education instruction. (B) French; (C)
Chinese; (F) German; (P) Spanish. Pre: teaching
experience, and consent.
EDCS 642 (Alpha) Seminar in Diversity Issues (1)
Examination of principles in multicultural education
and diversity. (D) middle level; (G) K-14; (B) reading
K-12. Each alpha repeatable five times. A-F only. Pre:
consent.
EDCS 645 Seminar In Multicultural Literacy (3)
Interdisciplinary examination of research and issues
in the teaching and learning of literacy in diverse
multicultural settings. A-F only. Pre: course in
teaching language arts of multicultural education,
teaching experience, or consent.
EDCS 646 Literacy, Language, Instruction, and
Intervention (3) Application of formative assessments
to better monitor/guide struggling readers and writers.
Topics include diversity and state/national initiatives.
A-F only.
EDCS 647 Classroom and School Literacy
Assessment (3) Advanced use of formative and
summative assessments to monitor/lead classroom
and school literacy programs. Focus on diversity,
leadership, state/national initiatives, and practical
applications in schools or other educational contexts.
A-F only. Pre: 646 or consent.
EDCS 648 Reading for English Language Learners
(3) Presentation of theories in readings to
students in reading to K-12 English language learners.
Topics include instructional decisions in reading teaching
to ELLs, the interrelationship of language skills,
strategies, and teaching academic content. A-F only. Pre:
601 or consent.
EDCS 649 Theory/Practice in Cooperative
Occupational Education (3) Theory and practices
of coordinating cooperative education in high school
and community college. Pre: teaching experience or
consent.
EDCS 653 (Alpha) Mathematics in the Schools
(3) School mathematics, K-12 content, curricula,
pedagogy, and standards and issues: theory and
research. (B) number and operation; (C)
patterns, functions and algebra; (D) geometry and
measurement; (E) probability and statistics; (F)
integrated algebra and geometry; (G) algebra represents
a different K-12 content area. Pre: teaching experience
or consent.
EDCS 654 Ethnomathematics (3) Research and
practice in ethnomathematics from an interdisciplinary
framework. Analysis of ethnomathematics content
knowledge and pedagogy; connections among
curriculum, standards, and classroom practice;
examination of theory and research; and building
sustainable campus-community networks. A-F only.
Pre: teaching experience or consent.
EDCS 656 Seminar in Issues in ECE (V) Concepts
and inquiry regarding the application of early
childhood curriculum and approaches to
programs serving children between birth and age five.
Study and discussion of topics and problems presented
in required summer courses and by invited experts in
early childhood education. Restricted to masters in
Early Childhood Education. Repeatable six times. A-F
only. (Two times a year)
EDCS 667 (Alpha) Seminar in Curriculum (3)
Curriculum trends and issues related to school
organization, program, administration, facility,
Required for Plan B MEd candidates in their final semester or summer session. Repeatable one time. (B)
early childhood; (G) K-14; Pre: 602 or 603 or
any alpha, and 606 and EDEF 678 or EDEP 408, and
632 or EDEA 604 or EDEP 429 or EDEA 608; or
consent.
EDCS 667 Curriculum Design in Early Childhood
Education (3) Designed to help classroom teachers
understand sources and principles of curriculum in
eyear-old children and to provide experience in
evaluating, selecting, and developing appropriate
curricular approaches for young children. 
EDCS 668 Museums and Education (3) Overview
of museum education including museum learning
theories, informal learning programs, audience
research, national and international policies and
reports, and community projects. Prerequisite: AMST 683 (or concurrent) or consent. (Cross-listed as AMST 685)
EDCS 668 Information Literacy and Learning
Resources (3) Process approach to teaching
information retrieval, analysis, and use. Emphasizes
contexts, practices ineffective instructional design, selection of resources that meets learning needs.
Required for Librarian HDCE license. A-F only. Pre: 601 or concurrent. (Cross-listed as EC 686 and LIS 686)
EDCS 690 School and District Literacy Leadership
(3) Exploration and application of school and
district-wide roles of the literacy specialist, such as
collaborator with other educators to: (1) design and
implement literacy programs, and (2) provide research-
supported professional development. A-F only. Pre:
605 or consent.
EDCS 695 Plan B Master’s Project (V) Independent
study for students working on a Plan B master’s
project. A-F only.
EDCS 699 Directed Reading and/or Research
(V) Individual reading and/or research. Repeatable
unlimited times. Pre: written consent.
EDCS 700 Thesis Research (V) Repeatable up to 36
credits.
EDCS 732 Qualitative Data Analysis (3) Advanced
seminar in qualitative research methods with an
emphasis upon qualitative data analysis, theory
construction, data presentation and reporting. Pre:
632, a course in introduction to qualitative research
methods; or consent.
EDCS 760 Research on Teaching and Teacher
Education (3) Designed to help classroom teachers
and multidisciplinary perspectives on research on
teaching and learning in and out of school, on
educational change, and on teacher education and
professional development. Pre: classified PhD student
or consent.
EDCS 761 Dissertation Research and Writing
(3) Intended for doctoral students who are at the
dissertation stage in their program. Supports students in
developing their dissertation proposals and/or initial
dissertation drafts. Repeatable unlimited times. A-F
only. Pre: consent. (Once a year)
EDCS 767 Issues and Trends in Curriculum (3)
Uses problem-centered field experiences.
Topics include historical review of curriculum
development since 1900, examination of current
curriculum practices at all levels of education, and
examination of alternative approaches
understanding sources and principles of curriculum in
eyear-old children and to provide experience in
evaluating, selecting, and developing appropriate
curricular approaches for young children.
EDCS 768 Seminar in Curriculum and
Instructional Theories (3) Analysis and critical
examination of models and curriculum theory and
theories of instruction leading to generation of theories
by seminar members. Prerequisite: classified doctoral student or consent.
EDCS 769 Curriculum and Program Evaluation (3)
Critical examination of theoretical and methodological
positions on curriculum and educational program
evaluation. Prerequisite: doctoral student or consent.
EDCS 780 Mixed Methods Research Design (3)
Mixed methods research is designed for PhD and
masters students in education and social sciences
considering combining qualitative and quantitative
research. Covers philosophical and practical
(Once a year) (Cross-listed as DIS 780 and LTEC 780)

Dance (DNCE)
College of Arts and Humanities
DNCE 103 Introduction to Japanese Dance (1)
Beginning techniques of Japanese dance. Repeatable
times. DA
DNCE 105 Introduction to Korean Dance (1)
Beginning techniques of Korean dance. Repeatable
times. DA
DNCE 106 Introduction to Okinawan Dance (1)
Beginning techniques of Okinawan dance. Repeatable
times. DA
DNCE 107 Introduction to Philippine Dance (1)
Beginning techniques of Philippine dance. Repeatable
times. DA
DNCE 121 Beginning Ballet Technique (3)
Introduction to classical ballet technique. Repeatable
times. DA
DNCE 122 Continuing Ballet Technique (3)
Continuation of beginning classical ballet technique.
Repeatable three times. DA
DNCE 131 Beginning Contemporary Dance
Technique (3) Introduction to contemporary dance technique.
Repeatable three times. DA
DNCE 140 Hip Hop Dance (1) Introductory
lecture/lab geared towards those with or without
Hip Hop dance experience. Students will learn the
fundamentals of various Hip Hop dance styles.
Repeatable two times. DA
DNCE 141 Jazz Dance Technique (1)
Introduction to dance technique. Repeatable two times. DA
DNCE 142 Ballroom Dance (1) Introduction to
doing with or without ballroom dance experience.
Students will learn the fundamentals of various
ballroom dances. Repeatable five times.
DNCE 150 Introduction to Dance (3) Survey
the development of major dance styles and their
relationship to contemporary choreography. DA
DNCE 151 Music Theory for Dancers (3) Elements
of music and relationship to dance; emphasis on
rhythmical analysis. (Alt. years) DA
DNCE 152 Live on Stage (3) Will view 10
locally produced and performed musical productions.
Readings, class discussion, and live demonstration
will assist students to understand each performance.
Performances may include theatre, dance, musical
theatre, and performance art. Repeatable
one time. (Spring only) (Cross-listed as THEA 152) DH
DNCE 221 Low Intermediate Ballet Technique (3)
Low intermediate ballet technique. Repeatable
three times. Pre: 122 or consent. DA
DNCE 231 Low Intermediate Modern Technique
(3) Low intermediate modern dance technique.
Repeatable three times. Pre: 131 or consent. DA
DNCE 240 Introduction to Stage Production (3)
Survey class introducing theater management, lighting,
scenery, and other aspects of theatre that
relate to producing stage performances. (Cross-listed as
THEA 240) DA
DNCE 245 Design Principles for Performance (3)
Introduction to general design principles as applied to
theatre. Will introduce the language and tools of
visual literacy and visual communications via individual
projects and collaboration. Repeatable two times.
(Cross-listed as THEA 245) DA
DNCE 240 Introduction to Stage Production (3)
Survey class introducing theater management, lighting,
scenery, and other aspects of theatre that
relate to producing stage performances. (Cross-listed as
THEA 240) DA
DNCE 255 Dance in World Cultures (3)
Multimedia overview of world dance forms, with
emphasis on Asia and the Pacific, and related concepts.
DA
DNCE 260 Movement Fundamentals (1) Organized
somatic systems as a framework for understanding
movement and dance techniques. Required for majors.
Repeatable two times. DA
DNCE 301 Asian Dance I (V) Performance and techniques at the introductory level. Repeatable up to eight credits. DA
DNCE 302 Chinese Dance I (1) Performance and techniques at the introductory level. DA
DNCE 303 Japanese Dance I (1) Performance and techniques at the introductory level. DA
DNCE 304 Indonesian Dance I (1) Performance and techniques at the introductory level. DA
DNCE 305 Korean Dance I (1) Performance and techniques at the introductory level. DA
DNCE 306 Okinawan Dance I (1) Performance and techniques at the introductory level. DA
DNCE 307 Philippine Dance I (1) Performance and techniques at the introductory level. DA
DNCE 311 Oceanic Dance I (1) Performance and techniques at the introductory level. DA
DNCE 312 Hula/Chant Ensemble I (2) Ancient style. Pre: upper division standing or consent. A-F only. (Cross-listed as MUS312) DA
DNCE 321 Intermediate Ballet Technique (3) Intermediate ballet technique. Repeatable four times. Pre: 222 or consent. DA
DNCE 331 Intermediate Modern Dance Technique (3) Intermediate modern dance technique. Repeatable four times. Pre: 232 or consent. DA
DNCE 334 Taiji (Tai Chi) for Actors I (3) Basic Taijiquan (Tai Chi Ch’uan) movement training. Repeatable two times. Pre: sophomore standing or higher, or consent. (Cross-listed as THEA 334) DA
DNCE 345 Lighting I: Beginning Lighting Design (3) Basic lighting design and associated technologies. Includes functions and properties of light, lighting and control equipment, working procedures, and drafting and paperwork techniques. Pre: DNCE/THEA 240 or consent. (Once a year) (Cross-listed as THEA 345) DA
DNCE 353 Scene I: Beginning Scene Design (3) Workshop introducing the basic principles and approach to scenic design for theatre and dance, with emphasis on the creative process. Pre: a course in THEA or DNCE, production experience, or consent. (Consent required for production experience option) (Cross-listed as THEA 353) DA
DNCE 354 Introduction to Costume Construction (4) Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as THEA 354) DA
DNCE 356 Costumes I: Beginning Costume Design (3) Basic principles and approaches to costume design for theatre and dance. Visual communication methods, creative process, historical research, and organizations of costume practices. Repeatable one time. Pre: 250, THEA 240, or consent. (Cross-listed as THEA 356) DA
DNCE 360 Dance Kinesiology (3) Practical information for dance students on diet and nutrition, anatomy, training and conditioning, and injury prevention. Pre: 260 or consent. DA
DNCE 361 Elementary Labanotation (3) Elementary theory of Labanotation with practical application in scoring and reconstructing dances. Pre: 151 or MUS 280, or consent. (Alt. years) DA
DNCE 362 Visual Media for Dance (3) Introductory theory of digital technology for dance with practical applications in documentation and performance. Pre: 361 or consent. (Alt. years) DA
DNCE 370 Movement Improvisation (3) Introduces movement improvisation to all levels and disciplines. Movement studies will explore improvisation approaches to scores, movements, exercises, and implications to gain skills in and appreciation for the art of improvisation. Repeatable one time. Pre: 200 level dance technique (or concurrent) or above, or consent. DA
DNCE 371 Choreography I (3) Elementary techniques and theories for dance-making. Pre: 370 or consent. DA
DNCE 372 Choreography II (3) Intermediate techniques and theories for dance-making. Pre: 371 or consent. DA
DNCE 401 Asian Dance II (V) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 301 or consent. DA
DNCE 402 Chinese Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 302 or consent. DA
DNCE 403 Japanese Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 303 or consent. DA
DNCE 404 Indonesian Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 304 or consent. DA
DNCE 405 Korean Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 305 or consent. DA
DNCE 406 Okinawan Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 307 or consent. DA
DNCE 411 Oceanic Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 311 or consent. DA
DNCE 412 Hula/Chant Ensemble II (2) Ancient style. Pre: 312 or consent. (Cross-listed as MUS 412) DA
DNCE 421 Advanced Ballet Technique (3) Advanced ballet technique. Repeatable six times. Pre: 321 or consent. DA
DNCE 431 Adv. Modern Dance Technique (3) Advanced modern dance technique. Repeatable six times. Pre: 331 or consent. (Alt. years) DA
DNCE 433 Movement Workshop (V) Special workshops in movements relating to specific departmental theatrical productions beyond the scope of movement taught in 437 and 438. Repeatable one time. Pre: one of 435 or THEA 435, or consent. (Alt. years) (Cross-listed as THEA 433) DA
DNCE 434 Taiji (Tai Chi) for Actors II (3) Intermediate-level Taijiquan (Tai Chi Ch’uan) movement training. Repeatable two times. Pre: 334 or consent. (Cross-listed as THEA 434) DA
DNCE 435 Movement for Actors (3) Training actors to discover experientially the sources of movement; to teach skills for analyzing movement for its mechanical, anatomical, spatial, and dynamic content; and then to apply these skills in a role. Pre: THEA 222 or consent. (Cross-listed as THEA 435) DA
DNCE 436 Advanced Movement for Actors (3) Detailed development of material presented in 435. Focus on Bartinesi fundamentals and movement analysis as it applies to the physical interpretation of theatrical roles. Pre: 435 or THEA 435, or consent. (Alt. years) DA
DNCE 437 Period Movement Styles, 1450–1650 (3) Movement styles and social department of European societies in the Renaissance and early Baroque periods. Pre: THEA 435, one semester of a 100-level dance technique class; or consent. (Alt. years) (Cross-listed as THEA 437) DA
DNCE 438 Period Movement Styles, 1650–1800 (3) Movement styles and social department of the Baroque and pre-Romantic periods in Europe and the American colonies. Pre: 435 or THEA 435, one semester of a 100-level dance technique class; or consent. (Alt. years) (Cross-listed as THEA 438) DA
DNCE 439 Musical Theatre Dance Forms (3) Theatrical dance forms used in 20th-century musical theater. Pre: 100 level or above dance technique class, 421, or consent. (Alt. years) (Cross-listed as THEA 439) DA
DNCE 446 Topos in Costume Construction (3) Costume production techniques, both Western and Asian, for theatre and dance. Topic rotation includes: structures and armatures, patterning, tailoring, dyeing, embroidery, millinery, and crafts, within the context of current industry practice. Repeatable two times. A-F only. Pre: 354, 356, or consent. (Cross-listed as THEA 446) DA
DNCE 452 Dance History & Ritual to the Concert Stage (3) Development of Western theatrical dance from Ancient Greece through 19th-century ballet. Pre: upper division standing or consent. DH
DNCE 453 Dance History II: 20th Century to the Present (3) Development of modern dance, contemporary ballet, and dance forms of musical theater and film. Pre: upper division standing or consent. DH
DNCE 456 Costumes II: Intermediate Costume Design (3) Advanced costume design for theatre and dance. Introduction to collaborative process in costume. Intensive work on rendering skills, applied to various design problems. Cost analysis and organizational techniques. Pre: 356 or consent. (Cross-listed as THEA 456) DA
DNCE 458 Field Experiences in Dance (V) Field experiences in relevant contexts under professional and faculty supervision. Repeatable one time. CR/NC only. Pre: upper division standing and consent. DA
DNCE 459 Topics in Dance (V) Readings, research, and/or field and movement experiences. Repeatable if topic changes unlimited times. Pre: upper division standing and consent.
DNCE 460 Teaching Dance Technique (3) Principles, techniques, and materials used in the teaching of dance technique. A-F only. Pre: 260, and 221 or 231; or consent of instructor.
DNCE 470 Dance Performance (1) Performance in various dance styles and settings. Repeatable eight times. Pre: audition or consent. DA
DNCE 471 Improvisation II (1) Advanced-level dance improvisation. Repeatable two times. Pre: 370 or consent. DA
DNCE 480 Dance Repertory (V) Preparation of new works and new works for performance. Repeatable three times. Pre: consent. DA
DNCE 490 Creative Dance (3) Dance activities for young people. Appropriate for teachers, group workers, recreation leaders, and anyone working with children. Also adults with special needs. Supervised field activities. DA
DNCE 495 Senior Project (1) Individual choreographic project; student choreographs, performs, and oversees all technical aspects of a creative project; tutorial. A-F only. Pre: 372, senior standing, and consent. DA
DNCE 499 Directed Work (V) Individual projects, tutorial. Pre: consent.
DNCE 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
DNCE 617 Seminar in Performance Studies (3) Special topics. Repeatable up to two times when topics change. Pre: THEA 615 or consent. (Cross-listed as THEA 617) DA
DNCE 651 Seminar in Dance Research (3) Research materials and methods; preparation for thesis and scholarly research reports. Required for graduate concentrations in dance. (Alt. years) DA
DNCE 652 Seminar: Dance Theory and Criticism (3) Major theories of dance and dance criticism; emphasis on Western ideas. Pre: 452 and 453, or consent. DA
DNCE 653 Dance Ethnology Seminar (3) Exemplary studies and field research. Pre: graduate standing or consent. (Alt. years) DA
DNCE 654 Dance and Performance Theory: Asia (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years) DA
DNCE 655 Dance and Performance Theory: Oceanica (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years) DA
DNCE 659 Advanced Topics in Dance (V) Readings, research, and/or field movement experiences. Repeatable one time if topic changes. Pre: graduate standing or consent.
DNCE 660 Laban Movement Analysis (3) Study and application of Laban Movement Analysis as a framework for enhancing physical and artistic abilities. Pre: 260 (or concurrent) and 360 (or concurrent); or consent.
DNCE 671 Advanced Choreography (3) Advanced analytic and creative study. Pre: 372 or consent. (Alt. years)
DH 240L Basic Dental Hygiene Lab/Clinic (1) (1 4-hr Lab/Clinic) Laboratory and clinical experiences in basic dental hygiene skills and competencies including history taking, examination, patient care plan, oral prophylaxis, application of caries preventive agents, and clinical procedures. A-F only. Pre: 238 and 238L. Co-requisite: 240, 241L, and 242L.

DH 241L Basic Dental Hygiene Lab/Clinic (1) (1 6-hr Lab/Clinic) Laboratory and clinical experiences in basic dental hygiene skills and competencies including history taking, examination, patient care plan, oral prophylaxis, application of caries preventive agents, and clinical support procedures. A-F only. Pre: 238 and 238L. Co-requisite: 240, 240L, and 242L. DY

DH 242L Basic Dental Hygiene Lab/Clinic (1) (1 4-hr Lab/Clinic) Laboratory and clinical experiences in basic dental hygiene skills and competencies including history taking, examination, patient care plan, oral prophylaxis, application of caries preventive agents, and clinical support procedures. A-F only. Pre: 238 and 238L. Co-requisite: 240, 240L, 241L, and 242L.

DH 250 General and Oral Histology and Embryology (2) Cells and tissues and their embryologic origin, with particular reference to teeth and their supporting structures. Pre: 231 or (Fall only) DB.

DH 251 General and Oral Histology and Embryology (1) Continuation of 250. Pre: 250. (Spring only) DB.

DH 281L Dental Radiography Lab/Clinic (1) (1 3-hr Labs) Preparation and evaluation of radiographic survey of patients with varying dentition; methods, and indications of safety considerations in clinical application of roentgen rays. A-F only. Repeatable one time. Pre: 231. Co-requisite: 281L.

DH 361 Health Education and Promotion (2) Provides an overview of the concepts and application of health education and health promotion theories and principles as applies to individuals, groups and the larger public. Pre: open to non-nursing majors with consent. (Fall only) (Cross-listed as NURS 361)

DH 366 General and Oral Pathology (2) Nature and causes of disease, progress and termination or associated alterations of tissue, diseases affecting teeth and structures of oral cavity. Pre: 250 and 251 (or concurrent). (Spring only) DB.

DH 367 General and Oral Pathology (1) Continuation of 366. Pre: 366. (Fall only) DB.

DH 369 Dental Science of Dental Materials and its Application to Dentistry and Dental Hygiene. Pre: 369L. A-F only. Pre: 231.

DH 369L Dental Materials Lab/Clinic (1) Laboratory and clinical application of concepts in the science of dental materials. Repeatable one time. A-F only. Pre: 231. Co-requisite: 369L.


DH 370L Expanded Functions Lab/Clinic (1) (2 1.5-hr Labs/Clinic) Application of basic concepts of expanded functions. A-F only. Repeatable one time. Pre: 369. Co-requisite: 370L.


DH 389 Pain Control and Local Anesthesia in Dentistry (2) Basic concepts of pain control and local anesthesia in dentistry with appropriate emphasis on psychological preparation, pharmacological preparation, and safe and effective administration of anesthesia in the practice of dentistry. Pre: 231 and 250. Co-requisite: 240, 251, and 366. (Spring only) DB.

DH 390 Periodontalontology I (2) Normal periodontology, etiology, pathogenesis, clinical manifestations and epidemiology of periodontal diseases, and mode of periodontal therapy. Repeatable one time. Pre: 240, 251, and 366. (Fall only) DB.


DH 473 Community Health (3) Introduction and application of the principles of health education and dental public health into practice in schools, community agencies, and private dental offices. (Inclusive of patient care, educational, and research experiences in health and community care, community health, and community dental health programs). Pre: consent. (Fall only) DB.
DH 475L Advanced Dental Hygiene I Clinic A (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391L. Co-requisite: 475L, 476L, 477L, and 478L. (Fall only)

DH 476L Advanced Dental Hygiene I Clinic B (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391-L. Co-requisite: 475, 475L, 477L, and 478L. (Fall only)

DH 480L Advanced Clinical Dental Hygiene II Clinic (1) 4-hr Clinic Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480L, 481L, 482L, 483L. (Spring only)

DH 481L Advanced Clinical Dental Hygiene II Clinic (1) 4-hr Clinic Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480, 481L, 482L, 483L. (Spring only)

DH 482L Advanced Clinical Dental Hygiene II Clinic (1) 4-hr Clinic Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480/480L, 482L, 483L. (Spring only)

DH 483L Advanced Clinical Dental Hygiene II Clinic (1) 4-hr Clinic Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480/480L, 482L, 483L. (Spring only)

DH 484 Pediatric Growth and Development (1) Focus on the normal growth and development of children based on current clinical practice guidelines and evidence in pediatric research. DH majors only. A-F only. (Fall only)

DH 485 Advanced Health and Diagnostic Assessment for Pediatrinc Patients (1) Focus on advanced health and diagnostic assessment for pediatric patients. Includes behavior management techniques as well as oral habits and subsequent malocclusions and speech difficulties. DH majors only. A-F only. (Fall only)

DH 486 Pharmacological Principles and Clinical Therapeutics in Pediatric Dental Care (1) Focus on pharmacological principles and clinical therapeutics in pediatric dental care. DH majors only. A-F only. (Fall only)

DH 487 Interprofessional Collaborative Practice Simulation Lab (1) Focus on interprofessional practice principles and competencies while providing students an opportunity to participate in interprofessional team simulations to address health care issues of children. DH majors only. A-F only. (Fall only)

DH 488 Dental Hygiene Pediatric Training Clinical I (4) Field experience. Clinical application and knowledge in the care of pediatric patients ages 0-5 years of age. DH majors only. A-F only. (Fall only)

DH 489 Management of Pediatric Dental Emergencies (1) Focus on the management of dental emergencies in children. DH majors only. A-F only. (Spring only)

DH 490 Community-Based Dental Hygiene Care of Vulnerable and Special Needs Children (1) Emphasizes community-based oral health promotion, dental disease risk reduction and management in children 0-5 years of age with a focus on vulnerable and special needs populations. DH majors only. A-F only. (Spring only)

DH 491 Community-Based Practice Capstone (2) Provides an opportunity to synthesize, analyze, and develop solutions to an oral health care problem affecting children ages 0-5 years. Requires one credit to be taken in the context of pediatric requirements. DH majors only. A-F only. (Spring only)

DH 492 Dental Hygiene Pediatric Training Clinical II (4) Advanced clinical application and knowledge in the care of pediatric patients 5-9 years of age. DH majors only. A-F only. (Spring only)

DH 499 Directed Reading, Field Work, or Research (V) Individualized program of directed reading, field work, or research for major under supervision in related areas of dentistry and dental hygiene. Prerequisite: DH 488. (Fall only)

Developmental and Reproductive Biology (DRB)

Developmental and Reproductive Biology (DRB)

School of Medicine

The minimum grade required for undergraduate prerequisites is a D or better, and graduate prerequisites is a C (not C-) or better.

DRB 601 Fertilization and Early Development (2) Lecture on the basics of vertebrate and invertebrate fertilization and early embryonic development. Open to all graduate students. (Fall only)

DRB 613 Seminar in Developmental and Reproductive Biology (2) Emphasizes community-based oral health promotion, dental disease risk reduction and management in children 0-5 years of age with a focus on vulnerable and special needs populations. DH majors only. A-F only. (Spring only)

DRB 614 Developmental and Reproductive Biology Scientific Investigations (3) Discussion of current research in developmental and reproductive biology. A-F only.

DRB 650 Stem Cell Biology (3) Seminar designed to teach graduate students and advanced undergraduate students about current topics relating to stem cell biology, as well as the application of stem cells to modern medicine. A-F only. Pre: BIOL 275 and PHYL 604 or consent. (Spring only)

DRB 666 Applied Developmental and Reproductive Biology (3) Combined lecture-lab on current technologies and methods for mammalian reproduction and developmental biology. A-F only. Pre: 601 (or concurrent), 613/614 (or concurrent); or consent. (Spring only)

DRB 695 DRB Research Rotation (3) Introductory laboratory research experience under the supervision of faculty. Repeatable two times. A-F only.

DRB 699 Directed Research (V) Research experience in developmental and reproductive biology. Repeatable unlimited times.

DRB 700 Thesis Research (V) Repeatable unlimited times.

DRB 800 Dissertation Research (V) Repeatable unlimited times.
Earth and Planetary Exploration Technology (EPET)  
School of Ocean and Earth Science and Technology

East Asian Languages and Literatures (EALL)

College of Languages, Linguistics and Literature

All students taking language courses in this department for the first time must take a regularly scheduled placement test in the appropriate language; those with no background must come to the department office for a brief interview. Placement in the prerequisite courses is required for continuation.

EALL 140 Introduction to Chinese Language and Culture (3) Provides students with interesting perspectives on and some general knowledge of Chinese language, literature, and culture. DH

EALL 271 Japanese Literature in Translation—Traditional (3) Survey of all major forms from the earliest era to mid-19th century. DL

EALL 272 Japanese Literature in Translation—Modern (3) Survey from mid-19th century to present; emphasis on fiction. DL

EALL 273 Survey of Japanese Literature—KIC (3) Survey of traditional and modern Japanese literature in translation, covering all major genres. Only offered at Konan University in Japan. Not open to students with 271 or 272. DL

EALL 281 Korean Literature in Translation—Traditional (3) Survey of Korean literature from earliest times with emphasis on development and cultural context; all readings in English translation. Students write essays about the readings. DL

EALL 282 Korean Literature in Translation—Modern (3) Survey of contemporary Korean literature with emphasis on development and cultural context; all readings in English translation. Students write essays about the readings. DL

EALL 325 (Alpha) Japanese Film: Art and History (3) Study of classical and modern Japanese films; in history and relationship to cultural, social, philosophical, and aesthetic contexts. (B) 1900-1960; (C) 1960-present; (D) special topics. Pre: upper division standing or consent. (Cross-listed as ASAN 325) DH

EALL 330 Chinese Film: Art and History (3) Study and analysis of Chinese film; its history and relationship to cultural, social, philosophical, and aesthetic contexts. Pre: ASAN 250 or instructor consent. (Once a year)

EALL 360 Literary Traditions of East Asia (3) Selected works of Chinese, Japanese, and Korean literature in English; relationships and parallels. Pre: one DH or DL course, or consent. DL

EALL 361 Chinese Literature: Ancient (3) Survey of all major genres from antiquity until the ninth century. Pre: one DH or DL course, or consent. DL

EALL 362 Chinese Literature: Pre-modern (3) Survey of all major genres from the ninth into the 20th-century. Pre: one DH or DL course, or consent. DL

EALL 363 (Alpha) 20th-Century Chinese Literature and Culture (3) Survey of 20th-century Chinese literature in translation. Includes a variety of genres from across the historical period. Pre: one DH or DL course, or consent. DL

EALL 364 20th-Century Chinese Women Writers (3) A survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Traces a genealogy of women’s writing from the early 1920s up until now through novels, poetry, drama, and film. Pre: one DH or DL course, or consent. (Cross-listed as ASAN 364 and WS 346) DL

EALL 365 (Alpha) Traditional Chinese Fiction in Translation (3) Survey of pre-modern Chinese fiction in translation. (B) short story; (C) novel. Pre: one DH or DL course, or consent. DL

EALL 366 The City in Modern Chinese Literature and Visual Arts (3) Study of the fictional and visual representations of the city in the changing contexts of Chinese modernization from the late imperial age to the beginning of the 21st century. Pre: one DH or DL course, or consent. (Once a year) DH

EALL 371 (Alpha) Traditional Japanese Literature (3) Reading and analysis of English translations of selected important works in the classical tradition. No knowledge of Japanese required: (B) prose fiction and literary miscellany; (C) drama and poetry. DL

EALL 372 (Alpha) Modern Japanese Literature (3) Reading and analysis of English translations of selected important works in modern Japanese literature. No knowledge of Japanese required: (B) fiction; (C) poetry, drama, and criticism. DL

EALL 375 Topics in Japanese Cultural Studies (3) Multi-disciplinary and historically located study of Japanese culture through the examination of literary and visual texts. Specific topics will depend upon the term. Repeatable one time with consent. Pre: one DH or DL course, or consent. (Any year)

EALL 384 Modern Korean Women Writers and Culture (3) Study of fiction by modern Korean women writers in the changing context of Korean culture. A-F only. Pre: sophomore standing or higher.

EALL 472 East-West Encounters (3) Critical examination of encounters between Western and East Asian cultures across time. In addition to literary texts, the course may use sources from other media, and focused on a specific era, region, or genre. Pre: an EALL course at 300 level or above; or a DH or DL course at 200 level or above; or consent. DL

EALL 473 Topics in Chinese Cultural Studies: Visual Culture—Chinese Diaspora (3) Multi-disciplinary and historically located study of Chinese culture through the examination of literary/visual texts and critical essays from cultural studies. Specific topics will depend upon term. Repeatable one time with consent. Pre: any 300- or 400-level DL or DH course. (Cross-listed as ASAN 473) DH

EALL 474 Transnational Chinese Popular Culture (3) Survey of contemporary Chinese popular culture emphasizing the popular culture and the effects of different competitive market systems. Repeatable one time with consent. Pre: any 300- or 400-level DL or DH course.

EALL 476 Perspectives on Chinese Cinema (3) Introduction to Chinese cinema studies, with emphasis on the historical and cultural approaches to Chinese film. Pre: one DH or DL course, or consent. (Once a year)

EALL 491 Senior Colloquium in East Asian Literature (3) Comparative perspectives; some works studied in the original. Pre: third-level East Asian language. Pre: DH

EALL 492 (Alpha) Study of East Asian Languages (V) Less commonly taught languages of East Asia: (B) Manchu; (C) Mongolian. Recommended: previous history in linguistics, or languages. Repeatable one time with consent. Pre: one DH or DL course.

EALL 601 Current Issues in East Asian Language Pedagogy (3) Survey on East Asian language pedagogy designed to develop students’ familiarity with and facility in addressing the major issues, initiatives, and innovations in the field. Pre: graduate standing or consent.

EALL 602 Introduction to East Asian Linguistics (3) Introduction to cross-linguistic comparison of the writing systems, dialects, history, phonology, morphology, and syntax of Chinese, Japanese, and Korean. Pre: CHN 451 and 452, JPN 451, or KOR 451 and 452; or consent. (Once a year)

EALL 603 (Alpha) Bibliographical and Research Methods (3) Traditional and modern references and other library materials basic to research in all areas of East Asian studies: (C) Chinese; (J) Japanese; (K) Korean. Pre: CHN 402 for (C); JPN 407 (alpha) for (J); KOR 402 for (K).

EALL 611 Topics in 20th Century Chinese Literary and Cultural Studies (3) Survey of Chinese literature and cultural studies, broadly defined to include the People’s Republic of China, Taiwan, Hong Kong, and others. Reading knowledge of Chinese desirable but not required. Repeatable one time with consent. Pre: consent. (Cross-listed as ASAN 612)

EALL 647 Contemporary Chinese Documentary: Record, Expression, Cultural Space (3) Introduction to Chinese documentary to understand Chinese society through documentary, to be familiar with theoretical debates on documentary form, and to understand documentary as a cultural discourse. Pre: 473 or 476, or instructor consent. (Alt. years: fall)

EALL 665 Special Topics in East Asian Literary Culture & Society (3) In-depth study of selected topics and issues in modern/contemporary East Asian literary and cultural studies using an interdisciplinary, inter-regional, and transnational approach, from an intercultural perspective. Repeatable two times in different topics, but need consent for second repeat. A-F only. Pre: consent. (Cross-listed as ASAN 665)

EALL 691 Introduction to Classical Tibetan (3) Introduction to Classical Tibetan grammar and vocabulary with emphasis on the earliest Tibetan texts; reading and analysis of pre-classical, classical, and postclassical texts.

EALL 699 Directed Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.

EALL 700 Thesis Research (V) Repeatable unlimited times.

EALL 735 Seminar in Comparative East Asian Literature (5) Comparison of authors, modes, topics, and genres in poetry and prose; theoretical and practical criticism. Pre: consent.

EALL 750 Seminar in Comparison of East Asian Languages (3) Comparison of lexicography, phonology, morphology, syntax, semantics, etc., of two or more East Asian languages, contact influence on them. Pre: CHN 451, JPN 452, KOR 451; or consent.

EALL 800 Dissertation Research (1) Repeatable unlimited times.

Economics (ECON)

College of Social Sciences

No more than 6 credit hours total for 120, 130, and 131. Students who major/minor in ECON are strongly urged to take the 130/131 sequence; 120 may substitute for either 130 or 131, but not for both. Students applying to Shidler College of Business must take the 130/131 sequence.

ECON 120 Introduction to Economics (3) One-semester survey of the principles of microeconomics and macroeconomics to enable students in all disciplines to understand current economic events.

ECON 130 Principles of Microeconomics (3) Examination of the decision-making process of both households and firms. Analysis of the functioning of a competitive market system, using supply and demand models and the role of government in cases where the market system fails. Analysis of the effects of international rate on the welfare of a nation and the effects of different competitive market structures on society.

ECON 131 Principles of Macroeconomics (3) An introduction to macroeconomics—the study of the overall economy. Topics include the determination of national income, causes and effects of inflation, unemployment, and income inequality; causes and consequences of international differences in economic growth; sources of business cycle expansions and contractions; role of government policy in
stabilizing the economy and promoting long-term growth; financial markets and monetary policy; taxes, spending, consequences of budget deficits, determination of trade imbalances, exchange rate fluctuations, and payment crises. DS

ECON 300 Intermediate Macroeconomics (3) Develops basic techniques and fundamental concepts used to study the overall macroeconomy and policies that affect it. Study the determinants of national income determination; causes and consequences of unemployment, inflation, and business cycle fluctuations; determination of foreign exchange rates and current account imbalances, and the role of government policy in various settings. Pr: 131 or consent. DS

ECON 301 Intermediate Microeconomics (3) Develops basic techniques and fundamental concepts of microeconomics. Learn to use economic reasoning to understand the social consequences of decisions made by individual consumers, producers, and governments. Analyze the nature of market outcomes under alternative market structures, and further discuss possible welfare-improving government policies when markets fail to be efficient. Special attention is paid to the analysis of strategic behavior and markets with public goods and externalities. Pr: 130 or consent. DS

ECON 311 The Economy of Hawai`i (3) History of development of Hawaiian economy; current economic problems. Pr: 130 or consent. DS

ECON 317 The Japanese Economy (3) Analysis of Japan’s growth past and present. Does Japan’s economy look different in its international trade structure, industrial structure, labor market, savings patterns, government policies, etc.? Does it matter? Pr: 120 or 130, or consent. DS

ECON 320 Introduction to Tourism Economics (3) Examines tourism from an economic perspective. Topics include: the determinants of consumer demand for leisure travel, structure of competition among suppliers of tourism services, benefits and costs of tourism development to the host community, government’s role in the taxation, subsidy, regulation and protection of the tourism industry, tourism’s impact on the environment, and sustainable tourism development. Pr: 120 or 130, or consent. (Cross-listed as TIM 320) DS

ECON 321 Introduction to Statistics (3) Basic elements; descriptive statistics, probability, inference, distributions, hypothesis testing, regression, and correlation analysis. DS

ECON 332 Economics of Global Climate Change (3) Nature and causes of global climate change and economic solutions. Topics include valuing climate change impacts, energy solutions, environmental implications, national adaptation, and international cooperation. A-F only. Pr: 120 or 130, or consent. (Once a year) (Cross-listed as SUST 332) DS

ECON 336 Energy Economics (3) Analysis of economic and policy aspects of energy use, and interactions of markets for various nonrenewable and renewable energy options. Evaluations of policies to develop alternative energy sources. Pr: 120 or 130, or consent. (Cross-listed as SUST 336) DS

ECON 340 Financial Markets and Institutions (3) The determinants; the risk and term structure of interest rates; efficient markets hypothesis; risk management and financial derivatives, asymmetric information and financial institutions. Pr: 120, 130, 131, or consent. (Cross-listed as HPS 340) DS

ECON 341 Comparative Economic History (3) Comparative historical study of economic ideas and change since 1700. Considers the histories of capitalism, poverty, industrialization and labor in Europe, Asia, the U.S., and other regions. (Cross-listed as HIST 340) DH

ECON 346 The History of Economic Thought (3) Introduction to major economic theorists and ideas since around 1700. Considers the history of views on work, poverty, the market and government, and the relationship of these doctrines to society, philosophy, and politics. Pr: 120, 130, 131, or HIST 151, or HIST 152; or consent. (Alt. years) (Cross-listed as HIST 342) ECON 350 Sustainable Development (3) Transdisciplinary introduction to sustainable development. Interactions between environment, economy, and public policy, especially in Hawai`i. Topics include: curse of paradise, global warming, energy use, health, poverty, population, wars, resources, traffic congestion, biodiversity, pollution controls. Pr: 120 or 130, or consent. (Once a year) (Cross-listed as SUST 350) DS

ECON 355 Natural Resources (3) Fundamental questions about the connections in the social, economic, and technological worlds. Topics include: matching markets, traffic, financial and social networks; and the political and economic consequences of the internet and other large networks. Pr: 120 or 130, or consent. DS

ECON 356 Games and Economic Behavior (3) Introduces students to the study of strategic behavior with economic applications and public policy. Simple economic models of strategic decision making are used to analyze provision of public goods; competition, cooperation, and coordination among firms; bargaining between employers and labor unions; international trade negotiations; reputation as a competitive advantage, and others. Pr: 120, 130, or consent. DS

ECON 358 Environmental Economics (3) Nature and causes of environmental degradation/ecologic solutions, with emphasis on relevant ethical issues and decision-making. Topics include air and water pollution, acid rain, deforestation, soil erosion, biodiversity, global warming, and sustainable development. Pr: 120, 130, or consent. DS

ECON 361 Seminar: Women and International Development (5) Women’s role, status, work and treatments in the Third World economic development, changing work/family roles, and improvement/deterioration in gender equity across the Third World; global feminization of poverty; efforts to promote gender equity. Open to non-majors. Pr: a 100 level economics course or any women’s studies course or consent. (Cross-listed as WS 361) DS

ECON 362 Trade Policy and Globalization (3) Political economic system. Case studies of trade cooperation and conflict under the World Trade Organization and other institutions. Future challenges, including investment policies, environmental and labor standards. Pr: 120, 130, or consent. DS

ECON 390 Internship for Economics (V) Economics majors and minors work at paid positions with public agencies, private companies, and campus organizations. Students gain academic work with practical experience. Repeatable twice. Pr: consent.

ECON 391 Cooperative Education (V) Economics majors may spend a semester at work in the federal government, local government, state and local governments in U.S. grant programs. Pr: 120 or 130, or consent. (Cross-listed as SUST 391) DS

ECON 396 Contemporary Topics in Economics (3) Economic analysis of current events. Topics announced each semester. Repeatable unlimited times. Pr: 120 or 130, or consent.

ECON 399 Directed Study (V) Economics majors and minors participate in faculty supervised reading of economic literature. Enables students to self-study topics not covered in the department’s scheduled course offerings. Pr: consent. (Once a year) (Cross-listed as SUST 399) DS

ECON 409 The Ocean Economy (3) Examination of society’s interaction with the ocean. Topics include: ocean recreation, shipping, boat building, ports, offshore energy production, aquaculture, fishing, coastal construction, and coastal pollutions. Pr: 120, 130, or consent. (Once a year) (Cross-listed as SUST 409) DS

ECON 412 Economic History of the United States (3) U.S. economic history: government policies, industries, institutions, financial markets, economic growth, economic crises. Pr: 120, 130, or consent. DS

ECON 414 Global Economic Crisis and Recovery (3) Introduces students to the study of global economic crises: crisis origins and global transmission; macroeconomic and regulatory policy responses; recovery challenges. Pr: 120, 130, or consent. DS

Key to symbols & abbreviations: see the first page of this section.

DS ECON 415 Asian Economic Development (3) History and economic development of China, Japan, Korea, Thailand, Indonesia, Malaysia, Singapore, the Philippines, and the rest of Asia. Pr: 120, 130, or consent. DS

ECON 416 The Chinese Economy (3) The Chinese economy during the imperial and republican periods, under Mao, and into the present reform era, with a brief comparison to Taiwan and Hong Kong. Pr: 120, 130, or consent. DS

ECON 418 Pacific Island Economies (3) Historical and current economic development of the Pacific islands (excluding Hawai`i). Analysis of selected economic issues such as tourism, population growth, etc. Pr: 120, 130, or consent. DS

ECON 420 Mathematical Economics (3) Mathematical techniques applied to theories of the consumption, the firm, market structure, input-output analysis. Pr: 300, 301; MATH 205, MATH 215, MATH 241, or MATH 251A. DS

ECON 425 Introduction to Econometrics (3) Regression analysis, analysis of variance, hypothesis testing, problems in estimation of single equation models, simultaneous equation models, problems and methods of estimation. A-F only. Pr: 321 or MATH 241, BUS 510 or NREM 251A and NREM 203) or (MATH 371 and MATH 373) or (MATH 471 and MATH 472); or consent. DS

ECON 427 Econometric Forecasting (3) Forecasting methods for business and economics with applications to the U.S., Asia, and other economies. Topics include time series modeling of trend, seasonal, and cyclical components, multivariate regression modeling, and forecast evaluation. A-F only. Pr: 321 or BUS 510 or NREM 510 or (MATH 251A and NREM 203) or (MATH 371 and MATH 373) or (MATH 471 and MATH 472); or consent. DS

ECON 429 Spreadsheet Modeling for Business and Economic Analysis (3) Introduction to quantitative decision-making methods for business and management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on optimization, integer programming, formulation and solution, and interpretation and presentation of results. Pr: 130 or NREM/SUST 220, and 321 or NREM 510; or consent. (Once a year) (Cross-listed as NREM 429 and TPSS 429) DS

ECON 430 Economics of Human Resources (3) Economic analysis of labor market. Investment in human capital, education, health, migration, etc. Pr: 301 or consent. DS

ECON 432 Economics of Population (3) Determinants and consequences of growth and structure of human populations. Relationships between economic factors and fertility, population growth and economic growth, etc. Pr: 300 or concurrent. (Cross-listed as HPS 432) DS

ECON 434 Health Economics (3) Private and public demand for health, health insurance, and medical care; efficient production and utilization of services; models of hospital and physician behavior; optimal public policy. Pr: 301 or consent. DS

ECON 440 Monetary Theory and Policy (3) Microfoundations and critical analysis of monetary and macroeconomic theory and policy. Topics include the causes and consequences of inflation, expansionary monetary policy and international monetary systems, bank risk and insurance, and national debt and taxation. Pr: 300 or concurrent. DS

ECON 442 Development Economics (3) Theoretical foundation and empirical evidence for analyzing key issues facing today’s developing world. Topics include characteristics of underdeveloped economies, economic growth, structural adjustment, poverty, inequality, education, population growth, foreign aid and financial sector. Pr: 300 or consent. DS

ECON 450 Public Economics (3) Welfare economics, public expenditure and policy evaluation, public finance by debt and taxation. Pr: 301 or concurrent. DS

ECON 452 State and Local Finance (3) State and local governments in U.S. grant programs and other links with central government. Pr: 301. DS

ECON 458 Project Evaluation and Resource Management (3) Principles of project evaluation and
policy analysis, Shadow pricing, economic cost of taxes and tariffs; public policy for sustainable, renewable, and environmental resources. Pre: 301. (Cross-listed as SUST 458) DS

ECON 461 International Trade and Welfare (3) Theory of international specialization and exchange; general equilibrium, tariffs, quotas, common markets. Pre: 301. DS

ECON 462 Microeconomic Theory III (3) Game theory and strategic behavior. Economics of information and incentives principal-agent theory. Economic design. Applications include: theory of contracts; incentives-compatible mechanism for provision of public goods; auction theory. Pre: 608 or consent.

ECON 467 Mathematics for Economics (3) Functions, limits, continuity, differential and integral calculus; optimization, constrained and unconstrained optimization; difference and differential equations; matrix algebra; simultaneous equations; comparative statics; Kuhn-Tucker theory; game theory; mathematical programming.

ECON 469 Advanced Directed Research (V) Economics majors and minors conduct research, under faculty supervision, on a topic of their choice. Repeatable one time. A-F only. Pre: minimum GPA of 3.0 in economics and consent. ECON 500 Master’s Plan B/C Studies (1) Repeatable unlimited times. Pre: consent.

ECON 501 Theory of the consumer, firm, and market. Role of governments and analysis of public policy. Applications to both industrialized and developing countries. Pre: consent.

ECON 503 Economic Analysis of Current Events (3) Analysis of recent events. Topics announced each semester. Pre: consent.


ECON 506 Microeconomic Theory I (3) Production and consumption, consumer and producer equilibrium, Pareto efficiency, public and private goods. Pre: consent.

ECON 507 Macroeconomic Theory I (3) Classical theory of real and monetary equilibrium, inflation, unemployment and growth, classical and Keynesian models. Pre: 300 or consent.

ECON 508 Macroeconomic Theory II (3) General equilibrium analysis production, consumption and Walrasian equilibrium; Pareto efficiency, structural determination of welfare economics; externality; public goods; game theory; information theory. Pre: 606 or consent.

ECON 509 Macroeconomic Theory II (3) Deterministic and stochastic models; macroeconomic testing of rational expectations models; theory of public debt; current topics in macroeconomic theory. Pre: 607 or consent.


ECON 611 Economic Development Policy (3) Analysis of policies for the promotion of industrial and agricultural development. Project evaluation, industrial regulation, public administration, investment and capital market policies, land-use policies, trade policies, pricing, and stabilization. Pre: 604 or 606; or consent.

ECON 614 Economic Development of Japan (3) Analysis of growth from Meiji period to present. Problems of population change, capital formation, income distribution, industrial structure. Pre: 610 or consent. ECON 620 Microeconomic Theory III (3) Game theory and strategic behavior. Economics of information and incentives principal-agent theory. Economic design. Applications include: theory of contracts; incentives-compatible mechanism for provision of public goods; auction theory. Pre: 608 or consent.

ECON 627 Mathematics for Economics (3) Functions, limits, continuity, differential and integral calculus; optimization, constrained and unconstrained optimization; difference and differential equations; matrix algebra; simultaneous equations; comparative statics; Kuhn-Tucker theory; game theory; mathematical programming.

ECON 629 Econometrics I (3) Review of probability, estimation, small sample and asymptotic properties. Bivariate and multiple regression and matrix algebra formulation. Regression diagnostics. Introduction to time series, autocorrelation, simultaneity, dichotomous variables, advanced topics.

ECON 632 Econometrics II (3) Specification, statistical estimation, inference and forecasting of econometric models. Includes advanced topics for single-equation models, pooled models, qualitative dependent variables, simultaneous systems, distributed lags, and time series. Pre: 628, AREC 626, or consent. (Cross-listed as AREC 628)

ECON 635 Disasters and Economic Policy (3) Economic analysis of disasters. The economics of prevention and mitigation, as well as post-disaster economic consequences and policy, will be examined. Graduate students only.

ECON 636 Renewable Energy Economics and Policy (3) Analysis of economic and policy aspects of renewable energy use, and interactions of markets for renewable energy and energy options. Evaluations of policies to develop renewable energy options. Pre: college calculus and principles of microeconomics; or consent. (Cross-listed as SUST 636)

ECON 637 Resource Economics (3) Analysis of problems of development and management of natural resources with emphasis on resources in agriculture and role in economic development. Pre: 608 and 629. (Cross-listed as NREM 637 and SUST 637)

ECON 638 Environmental Resource Economics (3) Principles of policy design and evaluation for environmental resources management, forestry and watershed conservation, and sustainable economic development. Pre: 604 or 606; or consent. (Cross-listed as SUST 638)

ECON 639 Marine Resource Economics (3) Seminar on the economics of the marine environment. Topics include fisheries, beaches, recreation, shipping, and coral reef protection. Pre: 606 or consent. (Cross-listed as SUST 639)

ECON 650 Foundations of Public Policy (3) Microeconomic principles for expenditure and tax policies. Externalities, public goods, private goods, public choice and political mechanisms; tax and mandate incidence; economics of education and local public goods; social insurance programs. Pre: 606 or consent.

ECON 651 Public Economics (3) Theoretical and empirical analysis of public sector allocation. Topics include: finance, national debt, social security. Pre: 604 or 606; or consent.

ECON 652 Economics of Population (3) Determinants and consequences of population change. Pre: consent.

ECON 654 Applied International Finance (3) Surveys empirical research in international macroeconomics, finance and econometric methods: including balance of payments adjustment, international capital flow, exchange rate determination, capital flows, balance of payments crises. Pre: 607 and 629 (or concurrent), or consent. (Fall only)

ECON 667 Health Economics and Policy (3) Economic analysis of health-care policy; efficient design of health-care financing schemes; private and public demand for health, health insurance, and medical care; provider behavior. Pre: 604 (or concurrent) or 606 (or concurrent), or consent.


ECON 669 Advanced Topics in Economics (V) Reflects interests of visiting and permanent faculty, focusing on specialized methods or topics in economics. Repeatable unlimited times. Pre: 606 or 607, or consent.

ECON 699 Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.


ECON 730 Research Seminar (3) Selected issues emphasizing research techniques. Required for students who have passed the two theory qualifying exams and have not passed the comprehensive exam. CR/NC only. Pre: consent.

ECON 732 MA Capstone Research (3) Student applies theoretical and quantitative techniques, critical thinking, and communicative skills to prepare a written and oral presentation of original research on a topic of his or her choice. A-F only. Pre: 606, 607, 627, 628, and consent of graduate chair.

ECON 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.
EDUC 720 Professional Doctorate Practicum: Individual Applied Research Project (6) Practicum in conducting individual practitioner research within the EdD. Includes the formulation of individual applied research project, developing a plan of action, selection of appropriate methods, implementation of plan and composition of practitioner research report. Repeatable three times. Restricted to students in the Doctoral Degree in Professional Educational Practice. A-F only.

EDUC 730 EdD Conference (1) Capstone for the Doctoral Degree in Professional Education Practice. Involves completion of research project results to an audience of faculty, fellow graduate students, and interested members of the public. Restricted to students in the Doctoral Degree in Professional Educational Practice. CR/NC only. Pre: other approval.

EDUC 740 Field Project (V) Practicum experience in area of specialization. Variable credit: minimum of 3 credit hours, maximum of 6 credit hours. Repeatable two times. A-F only. Pre: consent.

EDUC 799 Internship in College Teaching (V) Introduction to college-level teaching; doctoral students serve as apprentices to professors; responsibilities involve assigned teaching, planning, and evaluation. Repeatable up to six credits. CR/NC only. Pre: admission to PhD candidacy and consent.


Educational Administration (EDEA) College of Education

EDEA 360 Dynamics of Student Leadership (3) Theoretical approaches and an experimental orientation toward leadership in student organizations via classroom and practicum experiences with student organizations.

EDEA 370 Peer Leadership Education and Mentoring (3) Theoretical explorations and a supervised experience in student peer leadership education and mentoring in a variety of curricular and co-curricular contexts. Pre: 360 (or equivalent) and consent.

EDEA 460 (Alpha) Topics in Emergent Paradigms of Leadership (3) Exploration, application, analysis and synthesis of advanced leadership concepts including emergent theories, issues, trends and empowering approaches. (B) survey of emergent paradigms in student leadership; (C) American leadership; (D) gender and leadership; (E) ethics and leadership; (K) issues and problems in leadership. Repeatable one time per alpha. Pre: 360 (or equivalent) and consent.

EDEA 499 D Directed Study (V) Directed individualized study, reading, research, teaching, and/or projects under direct supervision of instructor. A-F only. Repeatable up to six credits. Pre: consent.

EDEA 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable unlimited times. Satisfactory/Unsatisfactory only. Pre: master’s Plan B or C candidate and consent.

EDEA 601 Introduction to Education Administration (3) Develops view of administrative process and organization elements in context of system of personal, social, and physical variables. Emphasis on role and functions of school administrator. Repeatable one time.

EDEA 602 Research in Education Administration (3) Develops basic concepts of research on educational administration: methodology, status of particular topics, communication, and application of findings to problems of school administration. (Meets PhD common core inquiry methods requirement.) Repeatable one time.

EDEA 604 Qualitative Research Methods in Education (3) Qualitative methods of qualitative research in education. (Meets PhD common core research requirement.) (Cross-listed as EDEF 613)

EDEA 608 Survey Research Design and Analysis (3) Survey study designs, survey sampling, questionnaire construction, data collection, pre-tests, pilot studies, logic of measurement and association, table construction, and elaboration models. Pre: consent. (Cross-listed as EDEP 602 and SOC 608)

EDEA 610 School-Community Relations (3) Application of principles, techniques, policies, organization of school-community information program. Repeatable one time.

EDEA 620 (Alpha) Education Finance (3) Educational revenues, apportionments, budgetary procedures, costs, business management, economics of education, measures of productivity. (H) higher education: specific for higher education students; (K) K-12: specific for K-12 students. A-F only. Pre: consent.

EDEA 623 Administration in Kinesiology (3) Current problems, trends, and strategies in the administration of athletic training, physical education, recreation, sport and other programs in school and non-school settings. Repeatable one time. Pre: consent. (Cross-listed as KRS 623)

EDEA 629 Educational Statistics (3) Statistical inference including parametric and nonparametric methods to educational problems.

EDEA 630 (Alpha) Education Law (3) Status and functions of educational institutions and personnel relative to their legal rights and responsibilities. Includes interpretation of important court decisions, statutes, equity measures. (H) higher education: specific for higher education students; (K) K-12: specific for K-12 students. A-F only. Pre: consent.

EDEA 645 Principles of Leadership (3) Examines the emergent theories, issues, policies, and problems relevant for educational leaders in school organizations. Integrates the aspects of management and administration within the context of leadership.

EDEA 646 Communication, Leadership, and Development Theory (3) Study of psycho-social characteristics of the American college student and college environment, from viewpoint of student personnel work. Repeatable one time.

EDEA 650 Organizational Leadership in Education (3) Analysis of the nature of organizations, human nature and needs, and their relationship to leadership, staffing, and staff development. Implications of group structure in human interaction, conflict, communications, and supervision and evaluation considered. Repeatable one time.

EDEA 652 Conflict Management for Educators (3) Conflict resolution theory and practice for administrators, teachers and staff in educational organizations. K-12, community colleges and universities. Application and theory of negotiation, mediation, facilitation and hybrid ADR processes. Repeatable one time. Pre: 601 or 650, or consent. (Cross-listed as PACE 652)

EDEA 655 Intercultural Interactions (3) Theory-based frameworks and training methods of intercultural interaction and their applications to educational administration situations. Repeatable one time.

EDEA 657 Introduction to Higher Education (3) Salient historic, social, and organizational aspects of higher education; history, philosophy, purposes, governance, administration, structures, financing, faculty and student selection, curricula, legal and social issues. Repeatable one time.

EDEA 660 Leadership in Higher Education (3) Trends, research, and problems in college and university management. Repeatable one time. Pre: 657 or consent.

EDEA 661 Leadership in Student Affairs (3) Philosophy, history, organization, and administration of student personnel services at college and university levels, including admissions, housing, student activities, financial aid, counseling, health services. Repeatable one time. Pre: 657 or consent.


EDEA 663 Community College Leadership (3) Development and changing missions of community colleges; in-depth analysis of current issues; planning, financial management, decision-making, governance, and student personnel. Repeatable one time. Pre: 660 or consent.

EDEA 670 Teacher Development and Evaluation (3) The role of teacher evaluation in the development of teachers and learning communities and to support effective teaching. Repeatable one time.

EDEA 675 Introduction to Educational Policy Studies (3) Examines the role of education policy and policy-making and the contribution of policy analysis to the policy-making and change processes. A-F only. Pre: consent. (Cross-listed as EDEF 675)

EDEA 676 The Politics of Education (3) Examination of the ways in which education can be viewed as political, arising from its connection to the larger political economies of state, nation, and public policy, and to federal government. A-F only. Pre: 675, EDEA 675 or consent. (Cross-listed as EDEF 676)

EDEA 680 Curriculum Administration (3) Master’s level course in curriculum administration and supervision, focusing on theories and underlying curriculum development, as well as the implementation of curriculum policy at the school level. Pre: consent.

EDEA 695 Capstone Project in Educational Administration (3) Required for higher education Plan B option. 3 credits required for program completion. Taken in final semester or second to last semester in program. A-F only. Pre: 602 and 657, and consent of instructor and program coordinator.

EDEA 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable unlimited times. Pre: consent of instructor and department chair.


EDEA 704 Advanced Qualitative Research (3) Study in trends, research, and problems. Pre: 604 or comparable, or consent.

EDEA 720 Internship in Education (V) Supervised intern experience in school and university administration. Emphasizes the development of leadership skills through project and program management. A-F only; approval of cooperating agencies and department.

EDEA 745 Creative Learning Strategies for Adults (3) Analysis of psychology of adult learner; forces that affect learning in dynamics of individual, group, and organizational behavior; concept of lifelong learning vis-a-vis development of creative strategies that assist maturing, self-directed persons to develop their potentialities. (Cross-listed as EDEF 745 and NURS 745)

EDEA 767 Seminar on the Educational System (3) Examination of structure and dynamics of the educational system. Particular focus on how educational policy interacts with principles that explain educational system behavior. A-F only. Pre: 675 or EDEA 675, or consent. (Cross-listed as EDEF 767)

EDEA 775 Seminar on the Principalship (3) Series of planned seminars focusing on problems and issues confronting school principals, such as contract administration, program planning and budgeting systems (PPBS), teacher evaluation. Topic to be announced. Repeatable unlimited times.

EDEA 780 (Alpha) Seminar (3) Study in trends, research, and problems. (B) policy formulation; (C) organizational change; (D) evaluation and research management (meets PhD common required advanced methodology course); (E) role of government; (H) college student affairs administration; (I) higher education administration; (J) administrative theories; (K) administrative problems and issues; (M) engaging diverse student populations; (N) exploring Indigeneity in higher education. (K) is repeatable two times in different topics. EDEA majors only for (K). A-F only. Pre: consent.

Educational Foundations (EDEF) College of Education

Current TB clearance is a requisite for all students taking courses requiring practicum experiences. The minimum required grade for prerequisites for undergraduate-level courses is a grade of B or better. The minimum required grade for prerequisites for graduate-level courses is a grade of B or better.

EDEF 310 Education in American Society (3)
Interrelated historical, philosophical, and socio-cultural contexts of education with an emphasis on identifying, analyzing, and deliberating on contemporary ethical issues, problems, and applications. Students enrolled in college of education at the college of education are asked to confer with the College of Education director of student services before enrolling in 310. A-F only.

EDEF 360 Introduction to Multicultural Education (3) Concepts and methods to develop sensitivity and awareness of cultural influences on behavior as these relate to the schooling process. A-F only. (Cross-listed as ITE 360) DS

EDEF 399 Directed Reading (V) Individual reading or research. Pre: senior majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in education, and consent of instructor and department chair.

EDEF 408 Community and Culture (3) Theoretical and practical approaches to understanding the constitution of community life. A focus on the social construction of normative values, social dynamics of organizations, and school-community relations. A-F only.

EDEF 445 Sociology of Education (3) Introduction to sociological frameworks of analysis of the institutional, social, and economic dynamics of education, classroom management, school reform, social group and individual role behavior. A-F only. DS

EDEF 453 Gender Issues in Education (3) Examination of current and historical issues in education from a gender perspective. Emphasis on the impact of gender, with particular reference to gender as it intersects with ethnicity and class, locally and globally. Pre: WS 151 or consent. (Cross-listed as EDCS 453 and WS 453) DS

EDEF 470 Ethnic Groups and Education in Hawai’i (3) Identity and learning within and among Hawai’i ethnic groups; study of prejudice and inter-ethnic conflict and their impact education and teaching. College of Education majors only. A-F only. Pre: consent. (Cross-listed as KRS 473) DS

EDEF 480 Anthropological Applications (3) Education as cultural and cross-cultural learning; universal aspects of the process. Ethnographic study. Applied anthropological theory and practice for educators. A-F only. DS

EDEF 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent. DS

EDEF 610 Foundations of Educational Theory (3) An in-depth review of social, philosophical, and historical views underlying various theories of education and their applications in teaching and learning. A-F only.

EDEF 630 Cultural Diversity and Education (3) Examines issues, theories, perspectives and practices in multicultural education and promotes awareness, encourages knowledgeable reflection and develops skills necessary for multicultural practitioners. A-F only. (Cross-listed as EDCS 630)

EDEF 649 Field Studies in Educational Foundations (V) Field-based participant research projects, including analysis of educational problems and issues. Repeatable unlimited times. A-F only.

EDEF 651 History of Education in America (3) History of educational thought and practice from European colonialism to revolutionary nationalism to the present. A-F only.

EDEF 652 History of Education in Hawai’i (3) From pre-contact, ancient Hawai’i to the present. Social and intellectual influences on the development of national, local, and indigenous educational institutions; emphasis on multicultural as well as monocultural directions in Hawai’i’s schools. A-F only.

EDEF 657 Introduction to Higher Education (3) Salient historic, social, and organizational aspects of higher education; history, philosophy, purposes, governance, administration, structures, financing, faculty and student selection, curricula, legal and social issues.

EDEF 660 Philosophy of Education (3) Readings of the original texts of major philosophers impacting American education. Considerations about the conditions of knowing and their extension in everyday practices in education. A-F only.

EDEF 667 (Alpha) Seminar in Educational Foundations-Selected Topics (3) Multi-disciplinary (historical, philosophical, social/cultural and comparative/intercultural) topics in education. (B) general; (C) leadership and governance in education; (D) educational reform; (E) foundations of teaching; (F) foundations of curriculum; (G) globalization in education; (H) moral political education. Repeatable one time for (H). A-F only for (H); Pre: grade standing and departmental approval.

EDEF 669 Introduction to Comparative/International Education (3) Introduction to basic methods of comparative studies, focusing on schooling, but also treating broader educational issues. A-F only.

EDEF 671 Topics in Comparative Education (3) Educational institutions, structures, processes, policies, and problems viewed within the context of political, social, and cultural milieu. Geographic region or theme focus. Repeatable three times. A-F only. Pre: consent.

EDEF 675 Introduction to Educational Policy Studies (3) Examines theories and models of educational policy and policy-making and the contribution of policy analysis to the policy-making and change processes. A-F only. Pre: consent. (Cross-listed as EDEA 675)

EDEF 676 The Politics of Education (3) Examination of the ways in which education can be viewed as political, arising from its connection to the larger political system including local, state, and federal governments. A-F only. Pre: EDEF 675 or consent. (Cross-listed as EDEA 676)

EDEF 678 Approaches to Educational Inquiry (3) Overview of different research methods in educational inquiry with an opportunity to explore through practice one or more methods (ex: case study, interviewing, narrative construction, practitioner inquiry, Preparation for MEI or PhD proposals.

EDEF 680 Seminar on Race, Law, and Education (3) Introduction to educational law and the way it relates to issues of race and ethnicity. Particular focus on how the U.S. courts have dealt with the question of educational inequality in a multiracial/multiethnic society. A-F only. Pre: graduate standing or consent.

EDEF 683 Social and Cultural Contexts of Education (3) Focuses on the interplay of class, race, gender and ethnicity in school and community settings. Social praxis, educational reform and policy are considered. A-F only.

EDEF 684 Education and World Order (3) Focuses on the challenges educators face in identifying appropriate pedagogical frameworks and practices in global education that address the impact of globalization in our society today. A-F only. Pre: consent.

EDEF 685 International Development Education (3) Introduction to international development education in Asian and Pacific nations. Students explore links between education and development. Emphasis is on cross-cultural perception of development.

EDEF 686 Environmental Education (3) Focuses on the development of an ecological consciousness through a cultural and environmental approach to teaching and learning in schooling and everyday life.

EDEF 699 Directed Reading and/or Research (V) Individual reading or research. Repeatable unlimited times. Pre: consent of department chair. DS


EDEF 762 Seminar on the Social and Cultural Contexts of Education (3) Examination of social, political, and cultural issues affecting educational policy with special emphasis on methods of inquiry and theoretical constructs. A-F only. Pre: consent.


Key to symbols & abbreviations: see the first page of this section.

EDEF 766 Seminar in History of Education (3) Aspects of the history of education. Application of historiography to educational problems and policy. Repeatable with different content. A-F only. Pre: 651 or 672, or consent.

EDEF 767 Seminar on the Educational System (3) Examination of the structure and dynamics of educational system. Particular focus on how educational policy interacts with practice to explain educational system behavior. A-F only. Pre: 675 or EDEA 675, or consent. (Cross-listed as EDEA 767)

Educational Psychology (EDEP)

College of Education

EDEP 201 Introduction to Teaching as a Career (3) An experience-based introduction to teaching as a career. Repeatable one time.

EDEP 311 Psychological Foundations (3) Principles of learning, individual differences and diagnostic assessment; relationships of these factors to classroom experience. DS


EDEP 399 Directed Reading (V) Individual reading or research. Pre: consent.

EDEP 408 Fundamentals of Research in Education (3) Introduction to the methodology of the systematic study of problems in education: principles of research design, data processing, technical writing, and evaluation of research proposals and reports. DS

EDEP 411 Seminar in Contemporary Perspectives in Educational Psychology (3) In-depth analysis of contemporary issues in education from the theoretical and methodological perspectives of the faculty in educational psychology. Repeatable one time. DS

EDEP 416 Student Assessment (3) Introduction to the concepts and issues in assessment and summative assessment procedures, descriptive statistics, scales of measurement, and standardizing testing.

EDEP 429 Introductory Statistics (3) Introduction to concepts and logics of statistical reasoning and statistical literacy. Topics include descriptive statistics, sampling distribution, and inferential statistics such as z-test, t-tests, correlation, and one-way ANOVA. DS

EDEP 432 Human Motivation and Education (3) Application of motivation theory and research to understanding and increasing human motivation for education.

EDEP 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.

EDEP 601 Introduction to Quantitative Methods (3) Introduction to basic statistics in education and social sciences. Topics on descriptive and inferential statistics including central tendency, variability, sampling distribution, z-test, t-test, correlation, simple linear regression, and one-way ANOVA. (Meets PhD common inquiry methods requirement or elective.)

EDEP 602 Survey Research Design and Analysis (3) Survey study designs, survey sampling, questionnaire construction, interviewing, pre-tests, pilot studies, logic of measurement and association, table construction, and elaboration models. Pre: consent. (Cross-listed as EDCS 608)

EDEP 603 Design and Analysis of Psychological Experiments (3) Analysis of variance and other models of assessing results of experiments. Relation of analysis to testing.

EDEP 604 Applied Regression and Analysis of Variance (3) Introduction to linear statistical models as principle of data analysis. Topics include multiple regression models with continuous and categorical predictors, ANOVA with multiple factors, ANOVA with repeated measures, and ANCOVA. Pre: 601 or EDEA 629 (with a grade of B+), or consent.

EDEP 606 Multivariate Methods (3) Multivariate forms of multiple linear regression, analysis of variance and co-variance, and exploratory factor analysis are developed. Pre: 604, PSY 610, or consent.

EDEP 607 Nonparametric Methods for Behavioral
EDEP 604 History to Educational Research (3) Fundamental design and evaluation procedures in educational research. Topics include an introduction to qualitative and quantitative research, the review of literature, research questions, research design, instrumentation, data collection, and writing a research proposal. Pre: 601 (or concurrent) (with a minimum grade of B or higher) or consent.

EDEP 611 Introduction to Educational Psychology (3) Graduate level introduction to educational psychology theories, research, and topics.

EDEP 612 Multilevel Modeling for Cross-Sectional and Longitudinal Data (3) Theories and applications of multilevel modeling for cross-sectional and longitudinal data. Topics include two-level and three-level models, growth models, and multilevel logistic regression. Pre: 604, PST 610, 612 (with a minimum grade of B or higher) or consent.

EDEP 613 Qualitative Research Methods in Education (3) Introduction to methods of qualitative research in education. (Meets PhD common core requirement.) (Cross-listed as EDEA 604).

EDEP 614 Education and Social Sciences (3) Introduction to basic concepts and issues in assessment and measurement, development of formative and summative assessment procedures, descriptive statistics, scales of measurement, and standardized testing.

EDEP 618 Categorical Data Analysis (3) Theories and methods for data analysis with categorical and discrete variables; analysis of contingency tables, loglinear models, introduction to generalized linear models for binary, nominal, ordinal, and count outcomes in cross-sectional and longitudinal data sets. Pre: 604, PST 610, or consent.

EDEP 625 Theories of Social Structure (3) Theories of social structure. Introduction to test models with manifest and latent variables. Topics include path analysis, factor analysis, latent variable models, multi-group analysis, latent mean models, and other advanced topics in SEM. Pre: 606, PST 610, PST 614, or consent.

EDEP 626 Psychometric Methods (3) Theories and applications of modern psychometrics. Topics include item response theory, detecting biased items, measurement invariance, and current issues in psychometrics. Pre: 604 (with a minimum grade of B+) or consent.

EDEP 631 Research and Education (3) Discussion-based course presenting an overview of educational psychology applied to teaching adolescents, including theory and research on human learning, adolescent development and its social context, and the process of teaching.

EDEP 657 Introduction to Program Evaluation (3) Introduction to concepts and issues related to program evaluation. Topics include formative and summative uses, planning and design approaches, and metaevaluation processes. A-F only. Pre: 608 (or equivalent).

EDEP 661 Development and Learning (3) Analysis and critique of (Piagetian) developmental stage theory and translation of such theories to cognitive learning theories; introduction to current models of learning and development. Pre: consent.

EDEP 662 Social Context of Learning (3) Research methods and theories relating social mediation and learning group structures to intellectual growth.

EDEP 663 Models of Cognitive Learning (3) Cognitive models of knowledge acquisition, organization, and utilization; theory and research relating learning and cognition to interactive instructional models.

EDEP 664 Instructional Psychology (3) Application of learning theory and cognitive skills training in instructional design.

EDEP 665 Social Cognition and Competence (3) Systematic analysis of social reasoning abilities conjunctive with or prerequisite to effective social interaction in educational settings.

EDEP 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable ten times. Pre: consent.

EE 417 Introduction to Digital Signal Processing (3) Design and analysis of discrete-time linear systems, convolution, Fourier series, Fourier transform, sampling, Pre: 213 and either MATH 244 or MATH 253A; or consent.

EE 201 Linear Circuit Analysis I (3) (3 Lec, 1 3-hr Lab) Analysis of linear circuits using nodal and mesh analysis, Thévenin, Norton, and source transformation. Pre: 211, or consent.

EE 211 Basic Circuit Analysis I (3) (4 Lec, 3 1-hr Lab) Linear passive network analysis; transient and steady-state responses, phasors, frequency responses, resonance, A-F only. Pre: MATH 243 (or concurrent); PHYS 272 (or concurrent); or consent. DP

EE 213 Basic Circuit Analysis II (4) (3 Lec, 1 3-hr Lab) Laplace transforms and their application to circuits, Fourier transforms and their applications to circuits, frequency selective circuits, introduction to and design of active filters, convolution, and state space analysis of circuits. A-F only. Pre: 211, and MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent.

EE 225 Analysis and Design of Feedback Control Systems (4) (4 Lec, 3 1-hr Lab) Analysis and design of feedback control systems. Pre: 211, MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent.

EE 226 Analysis and Design of Feedback Control Systems (4) (4 Lec, 3 1-hr Lab) Analysis and design of feedback control systems. Pre: 211, MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent.

EE 251 Linear Circuit Analysis II (3) (4 Lec, 3 1-hr Lab) Linear passive network analysis; transient and steady-state responses, phasors, frequency responses, resonance, A-F only. Pre: MATH 243 (or concurrent); PHYS 272 (or concurrent); or consent. DP
Analysis/design of feedback systems. Compensator design via root locus and Bode analysis. Routh/ Nyquist stability. State space representation and introduction to MINO formulation. Controllability/observability. Application to physical dynamic systems such as industrial robots. Pre: 315 or ME 375 or consent.

EE 351L Linear Feedback-Control Systems Lab (1) (1-3 hr Lab) Provides experience in applying theoretical control systems. Extensive use is made of computer-aided analysis and design packages study system performance. Pre: 315. Co-requisite: 351.

EE 361 Digital Systems and Computer Design (3) Design methodology, processor design, control design, memory organization, system organization. Pre: 160 and 260, or consent.


EE 362 Discrete Math for Engineers (3) Logic, sets, number theory, properties of functions, properties of relations, methods of proofs, recursion, counting, probability, trees, graphs, analysis of algorithms, finite state automata. Pre: 160 and 260 and MATH 242.

EE 366 CMOS VLSI Design (4) (3 Lec, 1-3 hr Lab) Introduction to the design of very large scale integrated (VLSI) circuits. Use of CAD tools and design languages. Lab includes hands-on use of CAD tools and experiments with field programmable logic devices. Pre: 205 or ICS 212.

EE 367 Computer Data Structures and Algorithms (3) Design and analysis of data structures and algorithms, including correctness and performance. Topics include time complexity, hash tables, sorting, search trees, greedy algorithms, dynamic programming, and graph algorithms. Pre: (205 or ICS 212) and (362 or ICS 241) with a minimum grade of C-.

EE 367L Computer Data Structures and Algorithms Lab (1) (1-3 hr Lab) Laboratory for 367. Pre: 367. (Or concurrent).


EE 372 Engineering Electromagnetics II (3) Solution of Maxwell’s equations under various boundary conditions. Introduction to radiation, guided waves, and principles of optics. Pre: 371 and PHYS 274 (or concurrent); or consent.

EE 372L Engineering Electromagnetics Lab (1) (1-3 hr Lab) Laboratory for the basic principles of electromagnetics and optics. Pre: 371 and PHYS 274 (or concurrent), or consent. Co-requisite: 372.

EE 396 Junior Project (V) Junior level individual or team project under EE faculty direction and guidance. The project provides design experience and develops practical skills. It may be a continuation of EE 296 or a new project. Repeatable unlimited times. A-F only. Pre: 296 and junior standing or consent.

EE 406 Introduction to Computer and Network Security (3) Review basic network mechanisms, introduce basic cryptography concepts, and study algorithms and protocols used in computer and network security. Basic security mechanisms. A-F only. Pre: 361 or ICS 312 or ICS 331 or instructor consent. (Once a year)

EE 415 Digital Signal Processing (4) (3 Lec, 1-3 hr Lab) Discrete-time signals and systems, sampling, Z-transform, transform analysis of linear time-invariant systems, filter design, discrete Fourier transform, and computation of discrete Fourier transform. Pre: 315 and 342 (or concurrent), or consent.

EE 416 Introduction to Digital Image Processing (3) Digital image representation, intensity transformations, spatial filtering, filtering in the frequency domain, color spaces and transformations, the fast wavelet transform, image compression. Pre: 315 (or equivalent) or consent.

EE 417 Introduction to Optimization (3) Application of linear, nonlinear and integer optimization models and algorithms to communications, control, signal processing, computer networking, financial engineering, manufacturing, production and distribution systems. CE, EE, ME, or CBA majors only. Pre: MATH 307 or consent. (Alt. years)

EE 422 Electronic Instrumentation (3) Electronic circuits for interfacing with transducers, signal processing, and data acquisition. Amplifiers for measurement and control. Operational amplifiers in linear, nonlinear, and digital applications. Design project. Basic transistors. Pre: 326, 326L, and 371; or consent. DP

EE 422L Instrumentation Lab (1) (1-3 hr Lab) Laboratory for 422. Co-requisite: 422. DP


EE 425 Electronic Instrumentation II (3) Instrumentation systems and circuits for measurement, control, signal processing, transmission, and detection. Noise and interference, ADC/DAC, modulation demodulation, high-frequency and high-speed techniques, IC applications. Pre: 422 and 422L, or consent. DP

EE 426 Advanced Si IC and Solid State Devices (3) State of the art Si-based devices including advanced bipolar, MOS, and CMOS transistors, new device trends. Topics from the most current literature included. Pre: 327 and either MATH 243 or MATH 255A, or consent.

EE 427 Computer-Aided Circuit Design (3) Application of the computer to the analysis, design, simulation, and construction of analog and digital circuits. Pre: 326 and 326L, or consent. DP

EE 439 Electric Power Systems (3) Design/operation of the “grid.” Hydro and power systems, electric power systems, power grid, real and reactive power, transformers, transmission, distribution, circuit analysis, protection, load flow, load frequency control, optimization, power flow, and reliability. Pre: MATH 245 (or concurrent) or MATH 253A (or concurrent). (Fall only)

EE 438 Renewable Energy (3) Fundamentals of power, electric power grid and conventional electricity generation. Wind and solar power systems. Photovoltaic materials and systems. Distributed generation and energy storage. ENGR majors only. Junior standing or higher. A-F only. Pre: 315 or consent. (Spring only) DP

EE 442 Digital Communications (3) Baseband transmission, intersymbol interference and pulse shaping, partial response signaling, equalization, bandlimited modulation, channel coding, synchronization, multiplexing and multiple access, spread spectrum techniques. Pre: 342 and 343, or consent.

EE 445 Introduction to Machine Learning (3) Foundation for algorithms, practice, and theory behind common machine-learning applications. Includes projects, statistical programming, and an introduction to the unique challenges of high-dimensional problems. EE, CENG, CEE, ME, MATH, IC majors only. A-F only. Pre: 342 (or equivalent) and MATH 307 (or equivalent).


EE 449 Computer Communication Networks (3) ISO Reference Model. Physical Layer, Data Link Layer, Network Layer and Transport Layer protocols. Wired and wireless local-area networks. Structure and operation of network management, including routing, congestion control and flow control, Pre: 315 and one of 342, or MATH 371 or MATH 471; or consent.

EE 452 Digital Control Systems (3) Sampling/reconstruction, Z-transform, DT transfer function, Reachability, state space, feedback, observer design, input-output models, diophantine equations. Implementation procedures. Pre: 315 and 351, or consent.

EE 453 Modern Control Theory (3) Analysis and synthesis of nonlinear control systems by means of Lagrange’s equation, state space techniques, maximum principle. Lyapunov’s theorems, the phase plane, and Z-transform techniques. Optimization and adaptation by means of gradient methods, calculus of variations, dynamic programming. Pre: 351.

EE 455 Design of Intelligent Robots (3) Study of the design principles of computer-controlled, intelligent robots such as roving vehicles, hand-eye systems. Pre: 351 and 367. DP

EE 461 Computer Architecture (3) Structure of stored program machines, data flow machines, pipelining, fault-tolerant computing, instruction set design, effects of compilation on architecture, RISC vs. CISC architecture, uses of parallelism. Pre: 361.

EE 467 Object-oriented Software Engineering (3) Introduction to advanced techniques for designing, implementing, and testing computer software with a particular focus on using object-oriented design, analysis, and programming to produce high-quality computer programs that solve non-trivial problems. A-F only. Pre: 367 or consent.

EE 468 Introduction to Operating Systems (3) Computer system organization; multiprocessor systems, memory hierarchies, assembler, compilers, operating systems, virtual machine, memory management, processor management; information management. Pre: 361 (or concurrent) and 367, or consent.

EE 469 Wireless Data Networks (3) Mobile agent’s platforms and systems, mobile agent-based service implementation, middleware, and configuration, wireless local area networks, wireless protocol/network architecture supporting wireless applications, routing protocols in mobile and wireless networks, handset in mobile and wireless networks. Pre: 344 and 367, or consent.

EE 470 Physical Optics (3) Fundamentals of classical physical optics emphasizing linear systems theory, including optical fields in matter, polarization phenomena, temporal coherence, and interference and diffraction (Fourier optics). Specialized applications include Gaussian beams, laser resonators, pulse propagation, and nonlinear optics. Pre: 372 (or concurrent with a minimum grade of C) or PHYS 450 (or concurrent with a minimum grade of C), or consent. (Cross-listed as PHYS 460) DP

EE 471 Computational Techniques in Electromagnetics (3) Introduction to computational methods used to simulate/solve engineering design problems focusing on electromagnetics. Finite difference, method of moments, and finite elements methods will be described. Computer programs to write computer programs in each. A-F only. BE, EE, ENGR majors only. Pre: 371 or consent. (Spring only)

EE 473 Microwave Engineering (3) Passive and active microwave devices and circuits for RF and wireless applications. Scattering matrix, waveguides, microwave devices and circuits, and computer-aided design. Pre: 371. DP


EE 475 Optical Communications (3) Principles and applications of optical communications and waveguides. Fundamentals of optical communication systems (optical links, high-speed systems, wavelength-division-multiplexing networks, and network elements) and optical components (guided-wave circuits, lasers, detectors, and optical amplifiers). System and network integration issues. A-F only. Pre: 372 or consent. DP

EE 477 Fundamentals of Radar, Sonar, and Navigation Systems (3) Discussion of basic radar detection and position- and velocity-measurement principles. Applications to various types of radar and sonar systems. Modern navigation aids. Pre: 371 (or equivalent), and familiarity with signal and waveguide theory. DP

EE 480 Introduction to Biomedical and Clinical Engineering (3) Application of engineering principles and technology to biological and medical problems. Introduction to human anatomy, physiology, medical terminology, clinical measurements. Systems modeling, physiological control systems, computer
majors only. Pre: 461. (Cross-listed as ICS 660)
EE 668 Telecommunication Networks (3) Telecommunication-network architecture; switching, broadcasting, and wireless networks; protocols, interfaces, routing, flow- and congestion-control techniques; intelligent network architecture; service creation capabilities; multimedia, voice, data, and video network services. Pre: 468 or consent.
EE 671 Electromagnetic Theory and Applications (3) Solutions of Maxwell’s equations and applications to radiation and propagation of electromagnetic waves. Pre: 372 or consent.
EE 673 Advanced Microwave Engineering (3) Advanced RF and microwave circuit design for wireless applications. Pre: 473 or consent.
EE 675 Advanced Computational Techniques in Electromagnetics (3) Develop comprehensive understanding of mathematical and computational techniques for solving electromagnetic problems formulated in terms of integral or differential equations. Eigenvalue problems, and electromagnetics scattering problems will be discussed and computer programming is required. EE, BE, and CENG majors only. A-F only. Pre: 471 (with a minimum grade of B) or consent. (Spring only)
EE 681 Biosensors and Bioelectronics (3) Advanced topics in the design of biological detection technologies. Topics include electrical fundamentals of electrochemistry, electrochemical biosensors, DNA and protein biosensors, and bioelectronics for bio-signal conditioning and processing. Pre: 324 and 326; or consent. (Once a year)
EE 682 Biomedical Microdevices (3) Design and fabrication of micro- and nanodevices for biomedical applications. Topics include micro- and nanoscale physics, microfabrication processes and microfluidic devices, and micro- and nanoscale fabrication techniques. ENG majors only. A-F only. Pre: 324 or consent. (Fall only)
EE 685 Biomedical Signal Processing and Analysis (3) Biomedical signals, digital filters and filter banks, spike train analysis, time-scale and time-frequency representations, nonlinear techniques, Lomb's algorithm and the Hilbert transform, modeling, Volterra series, Wiener series, Poisson-Wiener series, multichannel data, causality. CE, EE, ME, ICS majors only and any graduate student in JBSOM who has a suitable technical background. Pre: 415; or consent. (Spring only)
EE 693 (Alpha) Special Topics in Electrical Engineering (3) Content will reflect special interests of visiting/permanent faculty. (B) artificial intelligence; (C) circuits; (D) communications; (E) computer hardware; (F) computer software; (H) control; (I) circuits; (J) computer software, process communication, distributed systems, device drivers. Software development and maintenance, integration of software packages. Projects reflecting special interests of faculty. (Cross-listed as IS 250)
EE 699 Sophomore Vertically Integrated Project (V) Team-based research project for sophomore-level students. Project topic varies by instructor. Students are expected to continue working in this project as a sophomore (ENG 296). Repeatable one time, up to six credits. Freshman standing only. A-F only. Pre: consent.
ENG 296 Freshman Vertically Integrated Project (V) Team-based research project for freshman-level students. Project topic varies by instructor. Students are expected to continue working in this project as a junior (ENG 396). Repeatable one time, up to six credits. Sophomore standing only. A-F only. Pre: consent.
ENG 350 Career Development Seminar (1) Introduction to career development as it pertains to engineering and business industry; client relations, networking, job skills, career assessment and direction. Repeatable one time. (Fall only)
ENG 396 Junior Vertically Integrated Project (V) Team-based research project for junior-level students. Project topic varies by instructor. Students are expected to continue working in this project as a senior. Repeatable one time, up to six credits. Junior standing only. A-F only. Pre: consent.
ENG 401 Engineering Management (3) Introduction to engineering management. Focus on team processes, leadership, and organizational behavior. Emphasis on development of skills for professional advancement. Repeatable one time. A-F only.
ENG 493 Field Experience (1) Supervised internship in engineering practice under professional and faculty direction. Repeatable one time. CR/NC only. Pre: junior standing in engineering and consent.
ENG 600 Dissertation Research (V) Repeatable unlimited times. CR/NC only. Pre: graduate standing and consent.
EE 790 Directed Instruction (V) Student assists in classroom instruction under direction and close supervision of faculty member. CR/NC only. Pre: admission to PhD candidacy. Pre: 468 or consent.
ENG 366 Shakespeare and Film (3) Comparative analysis of selected plays by Shakespeare and films which appropriate, reenact, adapt, or offer variations on his texts. Pre: one ENG DL course or consent. DR

ENG 369 The Novel (3) Basic concepts and representative texts for the study of the novel in English. Repeatable one time for different periods. Pre: one ENG DL course. (Alt. years: fall) DR

ENG 370 Literatures of Hawai‘i (3) Writings of various cultural communities from Hawai‘i, relevant to contemporary, songs, stories, poetry, fiction, essays that illustrate the social history of Hawai‘i. Pre: one ENG DL course or consent. (Cross-listed as ACS 371) DR

ENG 371 Literature of the Pacific (3) Basic concepts and representative texts for the study of the literature of the Pacific, including Pacific voyagers and contemporary writings in English by Pacific Islanders. Pre: one ENG DL course or consent. (Cross-listed as ACS 371) DR

ENG 372 Asian American Literature (3) Basic concepts and representative texts for the study of Asian American literature by writers from a variety of backgrounds. Pre: one ENG DL course or consent. (Cross-listed as ES 372) DR

ENG 373 African American Literature (3) Basic concepts and representative texts for the study of African American writers from a variety of backgrounds. Pre: one ENG DL course or consent. DR

ENG 374 Race, Ethnicity, and Literature (3) Basic concepts and representative texts for the study of race and ethnicity as the basis for literary inquiry. Pre: one ENG DL course or consent. DR

ENG 375 Philippine Contemporary Literature in English (3) Critical survey of 20th-century Philippine literature written in English. Pre: one ENG DL course or consent. DR

ENG 376 Philippine Literature and Folklore in Transition (3) Traditionally written into English: epics, myths, legends, and other folklore, Classic works of vernacular writers. Pre: one ENG DL course or consent. (Cross-listed as IP 363) DR

ENG 378 Native Hawaiian Literature in English (3) Basic concepts and representative texts for the study of Native Hawaiian literature, ancient to contemporary, in translation and in English, that demonstrate the depth and breadth of the Native Hawaiian literary tradition. Pre: one ENG DL course. DR

ENG 380 Folklore and Oral Tradition (3) Basic concepts and representative texts for the study of folktales, legends, ballads and folklore genres in various cultures; consideration given to folklore literature relationships. Pre: one ENG DL course or consent. DR

ENG 381 Popular Literature (3) Basic concepts and representative texts for the study of popular literature genres, such as detective fiction, science fiction, the thriller, the romance, and westerns. Pre: one ENG DL course or consent. DR

ENG 382 Gender, Sexuality and Literature (3) Basic concepts and representative texts for the study of literary constructions of gender and sexuality. Pre: one ENG DL course or consent. (Cross-listed as WS 381) DR

ENG 383 Children’s Literature (3) Basic concepts and representative texts for the study of children’s literature; may include study of children’s book illustration. Pre: one ENG DL course or consent. DR

ENG 384 Literature and Technology (3) Basic concepts and representative texts for the study of literature in relation to technological developments. May include history of the book, impact of printing and computer networks, science fiction. Pre: one ENG DL course or consent. DR

ENG 385 Fairy Tales and Their Adaptations (3) Comparative analysis of selected tales of magic and their adaptations across history, cultures and media such as book illustration and film. Pre: one ENG DL course or consent. DR

The specific content of 400-level Studies courses varies by semester. Students should refer to the English department’s course descriptions on www.eng.hawaii.edu prior to enrolling. All Studies courses require a significant research component.

ENG 404 English in Hawai‘i (3) English language in Hawai‘i viewed historically and in a multicultural context, with attention to politics, religion, race, and ethnicity. Repeatable one time. Pre: two ENG DL courses or consent. DR

ENG 405 Teaching Composition (3) Theory, observation, and practice in teaching writing, especially the use of one-on-one and small group instruction. Repeatable three times. CR/NC only. Pre: 405 or consent. DR

ENG 406 Argumentative Writing II (3) Extended study of both the philosophical and practical dimensions of written reasoning. Emphasis on argument as a process of inquiry. Pre: 306 or consent. DR

ENG 407 Writing for Electronic Media (3) Combined lecture/lab on writing and rhetoric in computer-mediated communication. May include online technical writing, coursework development, hypertext fiction. Pre: two ENG DL courses or consent. DR

ENG 408 Professional Editing (3) Discussion and practice in the professional editing of articles, reports, books; logic, clarity, coherence, consistency of tone and style, grammar and punctuation. Pre: 303, 306, 313, 400, or consent. DR

ENG 409 Studies in Composition/Rhetoric/ Language (3) Intensive study of selected topics, problems, themes, issues, and/or writers in composition, rhetoric, and/or English language. Repeatable one time. Pre: one and other 300-level ENG course or consent. DR

ENG 410 Form and Theory of Poetry (3) Poetic theories and techniques for students interested in writing poetry. Pre: 313 or consent. DR

ENG 411 Poetry Workshop (3) Writing, evaluating poems. Repeatable one time. Pre: 410 or consent. DA

ENG 412 Nonfiction Writing (3) Workshop analysis of nonfiction as a literary form. Repeatable one time. Pre: 306, 311, or 313, or consent. DR

ENG 413 Form and Theory of Fiction (3) Narrative techniques for students interested in writing fiction. Pre: 313 or consent. DR

ENG 414 Fiction Workshop (3) Writing, evaluating fictional works. Repeatable one time. Pre: 413 or consent. DA

ENG 416 Studies in Creative Writing (3) Intensive study of selected topics, problems, themes, writers, or modes of creative writing in a workshop setting. Repeatable one time. Pre: 313 and 410, 412, or 413, or consent. DR

ENG 420 Studies in Literature and Culture (3) Intensive study of selected problems, issues, writers, traditions, or movements in regard to cultural studies and the reading and interpretation of cultural texts. Repeatable one time. Pre: 320 and one other 300-level ENG course or consent. DR

ENG 421 Studies in Comparative Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in the field of comparative literature. Repeatable one time. Pre: 320 and one other 300-level ENG course or consent. DR

ENG 427 Studies in Literary Criticism and Theory (3) Intensive study of selected problems, issues, writers, traditions, or movements in the field of literary criticism and critical theory. Repeatable one time. Pre: 520 and one other 300-level ENG course or consent. DR

ENG 430 Studies in Medieval Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in Old/Modern English literature from 1000-1500, including works in modern translation. Repeatable one time. Pre: 410 and one other 300-level ENG course or consent. DR

ENG 431 Studies in 16th and 17th Century Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in English literature written during the period 1500-1700. Repeatable one time. Pre: 320 and one other 300-level ENG course or consent. DR

Key to symbols & abbreviations: see the first page of this section.
modern and contemporary cultural, psychoanalytic, and aesthetic theories as they apply to film.

ENG 764 Seminar in Life Writing (3) Intensive study of critical and theoretical issues raised by various forms of life writing (biography, autobiography, oral history, diaries, etc.) and of their history and methodology. Repeatable one time. A-F only.

ENG 770 Seminar in Cultural Studies in Asia/ Pacific (3) Intensive study of selected issues in cultural studies (both critical and theoretical topics to be announced. Repeatable one time. A-F only.

ENG 771 Seminar in Pacific Literatures (3) Intensive study of selected issues in the literatures of the Pacific in English, or translated into English. Topics to be announced. Repeatable one time. Pre: graduate standing or consent. (Spring only) ENG 772 Seminar in Literatures of Hawai‘i (3) Introduction to comparative literature; relationship of Hawaiian to other literatures; sources and influences. Repeatable one time.

ENG 773 Seminar in Hawaiian Literature (3) Intensive study of selected issues, genres, and traditions in Hawaiian written in English or translated from Hawaiian literature. Repeatable one time. Pre: graduate standing or consent. (Fall only)

ENG 775 Seminar in Cultural Studies (3) Intensive study of selected issues in cultural studies and cultural and social theory; topics to be announced. Repeatable one time.

ENG 780 (Alpha) Seminar in Comparative Literature (3) Introduction to comparative literature; relationship of English to other literatures; sources and influences. (A) African, and (B) Asian, and (C) European, (D) Russian, (E) postcolonial, (F) postmodern, (G) postcolonial/postmodern, (H) modern, (I) postmodern, (J) postmodern/postcolonialism; (K) medieval women writers. Repeatable one time for different alphabas.

ENG 790 Seminar in Special Topics (3) Content to be announced. Repeatable five times.

ENG 800 Dissertation Research (V) Pre: graduate standing and consent. Repeatable nine times.

**English as a Second Language (ESL)**

**College of Languages, Linguistics and Literature**

**ESL 100 Composition I for Second Language Writers (3) Extensive practice in writing expository essays; linguistic devices that make an essay effective. (Fulfills composition requirement for nonnative speakers of English only.)** FW

**English Language Institute (ELI)**

**College of Languages, Linguistics and Literature**

**Initial placement in ELI courses is by examination only. A grade of CR (credit) is prerequisite to promotion or exemption. Normal course sequence is 70, 80, 82, or 73, 83.**

**ELI 070 Intermediate Academic Listening and Speaking (0) Introduction to the academic English language and speaking/speaking demands required at the university. Instruction and practice of effective note-taking skills, listening strategies, delivery of presentations, and participation in academic discussions. Designed as a bridge to ELI 080. CR/NC only.**

**ELI 072 Intermediate Academic Reading (0) Introduction to the academic English-language reading demands required at the university. Instruction and practice of effective means to understand text patterns, increase reading fluency and comprehension, and develop vocabulary. Designed as a bridge to ELI 082. CR/NC only.**

**ELI 073 Intermediate Academic Writing (0) Extensive practice in writing. Analysis and use of rhetorical devices. Individual conferences and tutoring as required. CR/NC only.**

**ELI 080 Advanced Academic Listening and Speaking (0) Further development of the academic English speaking skills and strategies required at the university. Instruction and practice of effective note-taking skills, critical listening strategies, delivery of effective academic presentations and leading of academic discussions. Pre: 070 or placement by examination.**

**ELI 082 Advanced Academic Reading (0) Further development of skills and strategies for dealing with the high demands of academic reading by focusing on becoming efficient and autonomous readers. Instruction and practice of developing critical reading strategies and building field-specific vocabulary. Pre: 072 or placement by examination. CR/NC only.**

**ELI 083 Advanced Academic Writing for Graduate Students (0) Advanced writing conventions common at the graduate level. Students explore academic writing in their disciplines, develop clarity of written expression, and improve command over textual, rhetorical, and discursive conventions common in academic writing. Pre: 073 or placement by examination.**

**ELI 111 Practicum for International Teaching Assistants (3) Extensive practice for international teaching assistants in classroom situations with emphasis on oral skills, American cultural expectations and classroom management. CR/NC only. Pre: 080.**

**Ethnic Studies (ES)**

**College of Social Sciences**

**A grade of CR or better in the prerequisite courses is required for all courses. (A C- is not acceptable.)**

**ES 101 Introduction to Ethnic Studies (3) Basic concepts and theories of ethnic group experiences, particularly those represented in Hawai‘i, and their relation to colonization, immigration, problems of identity, racism, and social theory.**

**ES 213 Race, Class, Gender in Popular Culture (3) Contemporary issues of race, class, and gender in popular culture (film, television, music, social media, sports, etc.). Introduction to critical media analysis and social theory.**

**ES 214 Introduction to Race and Ethnic Relations (3) Race and ethnic relations in world perspective; social, economic, and political problems associated with perception, existence, and accommodation of these groups within the wider society. (Cross-listed as SOC 214) DS**

**ES 221 Hawaiians (3) The unique culture, religion, history, language, land system, and governance of Native Hawaiians and their relationship to the Hawaiian social system by the capitalist economy. Current issues and Native Hawaiian quest for sovereign governance. DS**

**ES 301 Ethnic Identity (3) Individual and group problems of identity, identity conflict, culture conflict, inter-ethnic relations. Critical review of available material on Hawai‘i. Pre: one DS or DH course.**

**ES 305 African American Experience I (3) Afrocentric perspective of the black political/cultural diaspora, including ancient African kingdoms, the slavery experience, organized resistance, emancipation struggles, the Civil War and Reconstruction. Pre: one DS or DH course.**

**ES 306 African American Experience II (3) Afrocentric sociopolitical analysis. The struggle for freedom: Reconstruction period, reign of terror, intellectual and cultural awakenings, civil rights movements, contemporary issues. Pre: one DS or DH course.**

**ES 308 Race, Indigeneity, and Environmental Justice (3) Introduction to environmental justice, race, and indigeneity in Hawai‘i and the Pacific region and how they have a right to a life-affirming environment. Will examine environmental racism, and the geographical dimensions of race and indigeneity. Pre: one DS or DH course, or consent. (Cross-listed as SUST 318) DS**

**ES 310 Ethnicity and Community: Hawai‘i (3) Site visits to museums, social welfare units, etc., as well as guest lectures from the community including police, health, education. Pre: one DS or DH course. (Summer only) DS**

**ES 318 Asian America (3) History of selected Asian immigrant groups from the 19th century to the present. Topics include: immigration and later history, Asian American movements, literature and cultural productions, community adaptations and identity formation. Pre: junior standing or higher.**

**ES 320 Hawai‘i and the Pacific (3) Hawai‘i as part of the Pacific community; selected historical and contemporary problems of Pacific areas; cultural and economic imperialism, land alienation, and the impact of development in Pacific peoples. Pre: one DS or DH course.**

**ES 330 Japanese in Hawai‘i (3) Issei roots in Japan; the role of Japanese in labor, politics, and business; samurai and perspectives on the culture. The Japanese in light of changing economic, social, and political conditions in Hawai‘i today. Pre: one DS or DH course.**

**ES 331 Chinese American History: Politics, and Representation (3) Ethnographical and contemporary view of the experiences of Chinese in Hawai‘i and the U.S. mainland; specific roles and contributions; immigration, social organization, and identity. Pre: one DS or DH course.**

**ES 332 Filipinos in Hawai‘i (3) Historical and contemporary experiences; immigration; traditional culture and values; plantation experience; labor organizing; development of Filipino community; racism; discrimination; and ethnic identity. Pre: one DS or DH course.**

**ES 338 American Indian Experience (3) Provides a comprehensive look at the philosophy of life and society in the Americas and elaborates on historical and contemporary importance of American Indian rights issues. Pre: one DS or DH course.**

**ES 339 South Asian Migrants: Culture and Politics (3) Historical and contemporary experiences of South Asian migrants in North America, Pacific, Caribbean, and/or African diasporas; causes and patterns of migration, inter-ethnic relations policies: role of race, gender, culture in community, identity formation. Pre: one DS or DH course.**

**ES 340 Land Tenure and Use in Hawai‘i (3) Dynamics of change: indigenous Hawaiian land tenure; Great Mahele and Kuleana Act; ethnic succession of land ownership; concentration of ownership today; effects of land use on ethnic communities. Pre: one DS or DH course.**

**ES 350 Economic Change and Hawai‘i’s People (3) Development of modern Hawaiian economy and impact on Hawai‘i’s people. Sugar, pineapple, and tourism industries; role of local and multinational corporations; scenarios for Hawai‘i’s future development. Pre: one DS or DH course.**

**ES 360 Immigration to Hawai‘i and U.S. (3) Historical overview; ‘push and pull factors’; effect of changing economy; sources of various ethnic groups; problems of recent immigrants; immigration policies in the U.S. and Hawai‘i. Pre: one DS or DH course.**

**ES 365 Pacific/Asian Women in Hawai‘i (3) Adaptive strategies of Hawaiian, Chinese, Japanese, Korean, Filipino, Samoan, and Southeast Asian women in Hawai‘i; feminist anthropological and historical analysis. Pre: one DS, SOC, or WS course. (Cross-listed as WS 360) DS**

**ES 370 Literatures of Hawai‘i (3) Writings of various ethnic groups in Hawai‘i, ancient to contemporary. Songs, stories, poetry, fiction, essays that illustrate the social history of Hawai‘i. Pre: ELI 080. DS**

**ES 372 Asian American Literature (3) Basic concepts and representative texts for the study of Asian American literature by writers from a variety of backgrounds. Pre: one ENG DL course or consent. (Cross-listed as ENG 370) DL**

**ES 372 Asian American Literature (3) Basic concepts and representative texts for the study of Asian American literature by writers from a variety of backgrounds. Pre: one ENG DL course or consent. (Cross-listed as ENG 370) DL**

**ES 373 Filipino Americans: History, Culture and Politics (3) An introduction to the study of Filipino Americans in the U.S. This course pays special attention to labor migration, cultural production and community politics. Pre: sophomore standing. (Cross-listed as ENG 173) DS**

**ES 375 Issues of Diversity in Higher Education (3) Examines issues of diversity within higher education. Examines different dimensions of diversity including ethnicity, gender, national origin, age, and sexual orientation. Will utilize national and local case studies. Junior class standing or higher. Pre: one DS or DH course. DS**

Key to symbols & abbreviations: see the first page of this section.
ES 380 Fieldwork in Ethnic Studies (V) Specialized supervision of individual student research projects in historical, oral history, or contemporary problems. Repeatable to total of 6 credit hours. Prerequisite: consent.

ES 381 Sociocultural History in Hawai‘i (3) Role of various contemporary movements for social change in Hawai‘i; community, ethnic, labor, student, etc. Theories of social movements and social change. Prereq: one DS or DH course.

ES 390 Gender and Race in U.S. Society (3) Historical and sociological studies of race and gender in U.S. society; grassroots feminist and radical/social justice activism on the continent and in Hawai‘i. A-F only. Prereq: 101 or WS 351 or junior standing. (Cross-listed as WS 390) DS

ES 391 Oceanic Gender, Sexual, and Kinship Identities (3) Oceanic-centric perspective. Analysis of imperialism, gender, sexuality, race, ethnicity, and queer(ed) relations and identities in Hawai‘i and the Pacific. Junior standing or higher. Prereq: one DS or DH course, or consent. DH

ES 392 Change in the Pacific—Polynesia (3) Impact of cultural and physical change and their interrelationship. Prereq. one DS or DH course.

ES 395 Multiethnic Popular Culture: Hip Hop (3) Historical, social, cultural, and political aspects of the formation of Hip Hop in Hawai‘i and other Pacific islands. Special attention to the significance of Hip Hop in facilitating cultural interactions. Junior standing or higher. Prereq: one DS or DH course.

ES 399 Directed Reading/Research (V) Repeatable up to 6 credits. Prerequisite only.

ES 410 Race, Class, and the Law (3) Historical context and implications of landmark court decisions and legal challenges affecting social change in ethnic communities in Hawai‘i and the continental U.S. Pre: one DS or DH course or consent.

ES 418 Women and Work (3) Gender and racial division of labor nationally and internationally; racial and gender differentials in wages, training, working conditions and unemployment; historical trends and future directions. Prereq: one 300-level ES or WS course, or SOC 508; or consent. (Cross-listed as SOC 418 and WS 418) DS

ES 420 American Ethnic and Race Relations (3) Surveys ethnic and race relations in the U.S. Focus on historical conflicts and critical issues such as racism, immigration, affirmative action, changing economic structures, and the role of government. Prereq. one DS or DH course. DS

ES 422 Mixed Race Identities, Multiracial Experiences (3) Critically examines historical and contemporary issues surrounding mixed race identities and experiences through themes that resonate in localized contexts within the continental U.S. and Oceania. Prereq: one DH or DS course, or consent. DH

ES 425 Filming Social Change (3) Introduction to visual documentary theory and methods. Basic instruction in using digital video technology and hands-on production to tell visual stories and examine social issues related to diverse peoples, cultures, and communities through video projects. A-F only. Prereq. one DH or DS course, or consent. DH

ES 440 Contemporary Diasporas in Comparative Perspective (3) Compares the circumstances under which contemporary Pacific Islanders, or African migrants form diasporas across the globe; focus on a particular ethnic group to examine its site-specific experiences. A-F only. DS

ES 444 Filipino Americans: Research Topics (3) A research seminar on the study of Filipino Americans. Special emphasis on film/video/media, the performing arts, or literature may be offered. Prereq: junior standing or consent. (Cross-listed as AMST 401)

ES 455 (Alpha) Topics in Comparative Ethnic Conflict (3) Causes and dynamics of ethnic conflicts with attention to problem resolution; (B) Middle East; (C) Hawaiian sovereignty in Pacific context. Prereq. 320 or 392, or consent for (C) only.

ES 456 Racism and Ethnicity in Hawai‘i (3) The historical and contemporary social processes involved in inter-ethnic relations in Hawai‘i. Prereq: SOC 300 or one ES 300 level course, or consent. (Cross-listed as SOC 456) DS

ES 460 Global Ethnic Conflict (3) Ethnic conflicts cause most wars on our globe today. Theory and case studies will examine the causes and consequences of ethnic conflicts and how to prevent them. Junior standing or higher. Prereq: one DS or DH course or consent. (Fall only)

ES 480 Oceanic Ethnic Studies: Theories and Methods (3) Engagement with theoretical elements and qualitative and quantitative research methods of Oceanic Ethnic Studies: class, race, indiginity, diaspora and political economy; community-based and participatory research methods. A-F only. Prereq: one upper division ES or SOCS course or consent.

ES 486 Peoples of Hawai‘i (3) Critically examines the historical and contemporary experiences of various people of Hawai‘i and utilizes anthropological and ethnic studies approaches to study identity, race, ethnicity, culture, colonialism, land, and residence. Prereq: junior standing or consent. (Once a year) (Cross-listed as ANTH 486) DS

ES 492 Politics of Multiculturalism (3) The development of ethnic relations and political approaches to multiculturalism in two multicultural nations: Canada and the U.S. A-F only. Prereq: SOC 300 or one 300 level ES course, or consent. (Cross-listed as SOC 492) DS

ES 493 Oral History: Theory and Practice (3) Literature and methodology; project design. Students develop and execute an oral history project. Junior standing or consent. (Cross-listed as ANTH 493) DH

ES 495 East Asian Labor Histories: Conditions of work under varying political, social, and economic transformations in Hawai‘i; anthropological, sociological, and historical data. Prereq: one DS or DH course or consent.

ES 496 Special Topics in Ethnic Studies (3) Selected themes in ethnic studies exploring current issues and new topics: taught by regular and visiting faculty. Repeatable two times. Prereq. one 300-level DS or DH course.

Exceptional Students and Elementary Education (ESEE) College of Education

ESEE 310 Learner in the Environment I: Social and Cultural Contexts for Learning (3) Knowledge and skills related to the context of teaching. Teacher candidates will examine the impact of culture, family, school, classroom, and individual characteristics on learning, and orally present, in varied formats, acquired knowledge and competencies. A-F only.

ESEE 311 Learner in the Environment II: Classroom and Behavior Management (3) Teacher candidates will gain the ability to establish, maintain, and (when necessary) restore the classroom as an effective environment for teaching and learning. A-F only.

ESEE 312 Learner in the Environment III: Behavior Project Implementation (3) Teacher candidates demonstrate the ability to identify maladaptive student behaviors and implement effective, research-based interventions. A-F only.

ESEE 320 Assessment I: Foundations of Assessment (3) Introduction to foundational aspects of assessment and emphasizes the importance of linking assessment with planning and instruction. Candidates develop knowledge, skills, and dispositions important for designing, implementing, and analyzing effective assessments for diverse learners. A-F only.

ESEE 321 Assessment II: Formal Assessment (3) Understand techniques in the assessment, planning, and instructional process appropriate for students with mild/moderate disabilities. Course projects facilitate an understanding of disabilities in the general education environment. A-F only.


ESEE 332 Planning and Instruction: Mathematics in Inclusive Settings (3) Preparatory training in teaching mathematics in inclusive settings, K-6. Teacher candidates focus on planning, teaching, and assessing STEM. A-F only.

ESEE 334 Planning and Instruction: Integrating Social Studies and the Performing Arts (3) Social Studies and Performing Arts integrated content in diverse K-6 classrooms. Teacher candidates engage with students in visual and performing arts, and creative, aesthetic, critical, and creative pedagogy. Candidates perform, present, and teach to develop oral communication skills. A-F only.

ESEE 335 Planning and Intervention, Literacy I: Teaching Children to Read in Inclusive Settings, K-3 (3) Overview of principles and practices for teaching reading (phonemic awareness, phonics, fluency, vocabulary, comprehension) to diverse students, grades K–3; including planning, instruction, and assessment. Writing assignments include lesson reflections, case studies, modules, and reading responses. A-F only.

ESEE 341 Planning and Instruction, Literacy II: Teaching Children to Read in Inclusive Settings, Grades 4–6 (3) Teacher candidates demonstrate essential reading comprehension strategies, engaging students in complex text through diverse, creative, and critical pedagogy. Candidates plan, perform, present, and teach to diverse students, grades 4–6, in inclusive settings. A-F only.

ESEE 342 Planning and Instruction, Literacy III: Writing and Visual Arts in Inclusive Settings, K-6 (3) Methods, programs, and strategies for planning, teaching, and assessing writing for elementary students in inclusive settings, grades K-6. Visual arts methods are integrated to develop the arts literacy. A-F only.

ESEE 350 Field Experience I: Response to Intervention in Reading (4) Teacher candidates in this field based course will use an evidence-based practice in reading within a response to intervention (RTI) framework. Supervision is provided by participating site personnel and college supervisor. A-F only.

ESEE 351 Field Rounds (2) Field-based course engages teacher candidates in a variety of purposeful observation and reflection activities aligned with course work. Field settings are appropriate to concurrent classes; supervision provided by participating site personnel and college supervisor. A-F only.

ESEE 352 Field Experience II: Elementary and Special Education Classroom Settings (4) Teacher candidates are immersed in a general education, inclusion, or a self-contained special education setting. A mentor teacher and a field supervisor from the university provide support and oversight. A-F only.

ESEE 353 Field Experience III: Elementary and Special Education Classroom Settings (4) Teacher candidates are immersed in a general education, inclusion, or a self-contained special education setting. A mentor teacher and a field supervisor from the university provide support and oversight. A-F only.

ESEE 354 Student Teaching in Elementary and Special Education Classrooms (10) Full-time student teaching in graduate school inclusion classroom, or a combination of general education and special education settings. The experience is directed by a qualified mentor teacher.
Family Medicine and Community Health (FMC)

School of Medicine

FMC 531 7-Week Family Medicine Clerkship (10) Ambulatory-based clerkship in Hawai‘i. Students learn history taking, physical exam skills, and management of family medicine patients. Emphasis on behaviors that foster the underserved, sports medicine, preventive care, common acute/chronic ambulatory problems. Pre: third year standing.


FMC 545 (Alpha) Electives in Family Medicine and Community Health (V) Spring only. This forty-hour elective in which medical students may do study of selected topics within the field of family medicine and community health: (B) primary care preceptorship; (C) topical in community health; (D) sub-internship in family medicine; (E) extramural elective in family medicine and community health-misclassification; (F) sports medicine preceptorship; (G) longitudinal undercurrent care preceptorship. ME to majors only for (G). CR/NC only. Pre: 531 or 532. (Spring only for (G))

FMC 599 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

Fashion Design and Merchandising (FDM)

College of Tropical Agriculture and Human Resources The minimum required grade for prerequisites is a grade of D or better.

FDM 101 Introduction to the Fashion Industry (3) Introduction to the fields of apparel design and merchandising including theories of fashion change, apparel industry operations, current industry issues, literature of the field, and professional career opportunities in apparel and related businesses. A-F only.

FDM 200 Culture, Gender, and Appearance (3) Social construction of gender within culture and its visual expression through appearance. Analysis of role, identity, conformity, and deviance in human appearance. Repeatable one time. Open to nonmajors. (Cross-listed as WS 200) DS

FDM 205 Basic Apparel Construction (4) (3 Lec, 1-3 hr Lab) Principles, concepts, and procedures for quality construction and custom fitting of clothing.

FDM 210 Western World Fashion History (3) Historic study of dress as related to customs and cultures in the Western world, in sociological and contemporary contexts. Emphasis on 19th and 20th centuries. Pre: 101.

FDM 215 Block Pattern Designing (3) (2 Lec, 1-3 hr Lab) Principles of pattern making for women’s apparel through manipulation of pattern blocks. Pre: 205.

FDM 216 Fashion Illustration (3) (2 Lec, 1-3 hr Lab) Principles and techniques of sketching the fashion figure including garment details and fabric characteristics. Introduction to the use of a computer tract for illustration. Pre: 101. DA

FDM 221 Textiles I (3) Introduction to fibers, fabric structure, and finishes related to selection and care. Interrelationship between textile characteristics, properties, and end uses. Open to non-majors. A-F only. DP

FDM 301 Fashion Forecasting/Marketing (3) Principles of forecasting techniques in fashion trend forecasting and their role in apparel company marketing strategies. Analysis of aesthetics as it related to apparel and marketing. Adapting fashion trend forecasts to apparel lines. FDM majors only. Pre: 101, 210, and 221.

FDM 315 Draping (3) Principles of pattern making through draping muslin models on standard garment forms. Pre: 205.

FDM 316 Advanced Pattern Design (3) Further study of flat pattern methods and industrial practices for fashion design majors. Use of CAD. Repeatable two times. Pre: 210, 221, 212, two FG courses; or consent. Co-requisite: 321L. (Spring only) DP

FDM 321 Textiles Quality Assurance Laboratory (1) Examination of textile properties through standardized textiles testing laboratory equipment. Pre: 210, 212. Consent only. DA


FDM 338 2D/3D Computer Aided Design (3) Exploration of CAD applications from the design to the pattern-making process. Use of Adobe Illustrator and Photoshop for fashion illustration. Use of OptiTex PDS pattern design software featuring 2D and 3D CAD. Repeatable one time. DA

FDM 339 3D Retail Store Design (3) Visual merchandising; use of a virtual 3D store modeling software package. Visual Retailing: Mockshop, to design store interiors, fixtures, lighting, signage, window displays, and window displays. A-F only. (Spring only)

FDM 340 Computerized Pattern Grading (3) Gerber Technology (GT) AccuMark System Management. The system is designed to use CAD for specific applications in grading patterns into different sizes and making production markers. Pre: 338. Computer skills are helpful.

FDM 350 Embellishments (3) Emphasis on design principles as applied to stitchery using a variety of techniques and raw materials. Processes and problems experienced and critiqued in a group environment. Repeatable two times. Pre: 205. DA

FDM 360 Writing for the Fashion Industry (3) Analysis and creation of different types of writing in the fashion industry, with emphasis on creating a professional writing style. A-F only. Pre: 101, 200 or 210, and 221.

FDM 371 Retail Buying and Merchandising (3) Theories and principles of buying and selling apparel and textiles. Types of merchandising organizations, analysis of consumer demand, brick-and-click opportunities and challenges, development of an image, store and store layout. FDM majors only. Pre: 101 and 221.

FDM 375 Merchandise Planning and Control (3) Theories, problems, and procedures of financial management, including methods engineering (detail construction for ordering), store boards and color tables, production measurements, costing, and PLM computer applications. A-F only. (Once a year) FDM 416 Costumes/Cultures of East Asia (3) Development of traditional dress as visual manifestation of culture. Emphasis on the national dress of China, Japan, Korea, Mongolia, Okinawa, Tibet, and Vietnam. Pre: 205. CR/NC only. Pre: consent.

FDM 418 Costumes of South and Southeast Asia (3) Development of traditional dress as visual manifestation of culture. Ethnics and national dress of Afghanistan, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand, and Arabia. Pre: 200, 221, two FG courses; or consent.

FDM 419 Apparel Design Studio I (3) Development of independent expression through creative designing for a ready-to-wear collection. Development of niche market. Problem solving in the design process; includes sketching, draping, blocking, muslin proofs, complete garments, and portfolio. Studio courses must be taken in sequence. Repeatable one time. Pre: 210, 221, 316, 330. Enrollment in 419 or 420 is required to show designs in annual fashion show but doesn’t guarantee acceptance. (Fall only)

FDM 420 Apparel Design Studio II (V) Development of niche market. Problem solving in the design process. Includes personal style of illustration, draping, blocking, muslin proofs, complete garments, and portfolio. Repeatable one time. Pre: 210, 221, 316, and 330. Enrollment in 419 or 420 is required to show designs in annual fashion show but doesn’t guarantee acceptance. (Spring only)

FDM 430 Fashion Show Production (3) Application of principles and procedures related to the promotion of fashion industry, with emphasis on presentation of fashion information through shows, displays, media, and written communications. Repeatable one time. Pre: 101. (Spring only)

FDM 437 Small Business Startup (3) Application of principles, procedures and techniques of organizing a small retail business in a brick-and-click world. Creative use of low and high tech resources. Students plans, write and evaluate small retail business plans. Junior standing or higher. FDM majors only; open to non-majors with instructor’s consent. Pre: one FS or FQ course, or consent.

FDM 460 Costume Museum Management (3) Investigation of skills and techniques needed for handling textile and apparel artifacts in museums and other collections. Active involvement in documenting, researching, interpreting, and exhibiting costumes and textiles. Involves written work and oral presentations. Repeatable one time. FDM majors only. A-F only. Pre: 210, 416, or 418.

FDM 471 International Apparel Trade Issues (3) Theories, concepts, problems of international trade of textile and apparel products. Legislation and export and exporting apparel products globally. Social, political and economic factors affecting textile and apparel trade relationships.

FDM 491 Topics in Fashion (V) Study and discussion of special topics, problems. Offered by staff and visiting faculty. Repeatable five times.

FDM 492 Internship (4) Examination of issues and opportunities associated with careers in fashion and related businesses and industries. Topics include interpersonal skills development, job search and interview strategies, and ethical issues in the workplace. FDM majors only. A-F only. Junior standing or higher. Pre: consent.

FDM 495 Capstone Portfolio (3) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Pre: 492 and senior standing.

FDM 496 Field Study in the Fashion Industry (V) Study tours to various centers of the world to examine historical and modern apparel and textiles. Merchandising and design methods and operations examined. Repeatable up to 12 credits. Pre: consent.

FDM 499 Directed Reading and Research (V) Repeatable up to 15 credits. Pre: consent.

Filipino (FIL)

College of Languages, Linguistics and Literature

FIL 101 Beginning Filipino (4) Listening, speaking, reading, writing skills. Structural points introduced inductively. Meets four hours weekly, includes one hour of class and one hour of out-of-class field experience (Co-curricular activities weekly). HSL

FIL 102 Beginning Filipino (4) Continuation of 101. Pre 101 or consent. HSL

FIL 201 Intermediate Filipino (4) Continuation of 102. Meets four hours weekly, includes one hour of out-of-class field experience (Co-curricular activities) weekly. HSL

FIL 202 Intermediate Filipino (4) Continuation of 201. Pre 201 or consent. HSL

FIL 224 Filipinao for Education (4) Continuation of 102. Lessons focus on various aspects of Philippine culture and specialized topics that cater to the needs of teachers intending to teach Filipino immigrant
students or teach Filipino as a second language. Meets five hours a week; daily lab work. Pre: 102. HSL.
FIN 225 Filipino for Education (4) Continuation of 202 or 224. HSL.
FIN 301 Third-Level Filipino I (3) Conversation, advanced reading and composition on traditional culture and indigenous knowledge. Meets three hours weekly. Pre: 202 or 225, or consent.
FIN 302 Third-Level Filipino II (3) Conversation, advanced reading, and composition on contemporary issues. Meets three hours weekly. Pre: 202 or 225, or consent.
FIN 303 Accelerated Third-Level Filipino (6) FIN 315 Aural Comprehension (3) Training in comprehension of spoken authentic/simulated authentic texts presented in news broadcasts, songs, documentary narration, formal lectures, radio and television soap operas, etc. Pre: 202 or consent.
FIN 330 Filipino Film: Art and History (3) Study and analysis of Filipino films: its history, forms, development and relationship to cultural, social, philosophical, and aesthetic context. Pre: 202 or consent. DH.
FIN 401 Fourth-Level Filipino I (3) Advanced reading in traditional literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent. DH.
FIN 402 Fourth-Level Filipino II (3) Advanced reading in current literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent.
FIN 415 Advanced Filipino Aural Comprehension (3) Continuing training in comprehension and analysis/criticism of spoken authentic materials through films. Pre: 315 or consent. DL.
FIN 435 Filipino Translation Techniques (3) Techniques of bilingual translation: Filipino to English, English to Filipino, A-F only. Pre: 302 or consent.
FIN 451 Structure of Filipino (3) Introduction to phonology, morphology, syntax. Pre: 202 or consent. DH.
FIN 461 Filipino Contemporary Literature (3) Selected readings in poetry, short stories, and plays from early 1900s to present. Co-curricular cultural activities included. Pre: 302 or consent. DH.
FIN 462 Filipino Contemporary Literature: 1980s-Present (3) Survey of literature from the 80s (1986) to the present. Co-curricular cultural activities included. Pre: 302 or consent. DH.
**Finance (FIN)**

Studier College of Business

FIN 301 Personal Finance (3) Focuses on principles and techniques for handling personal financial decisions, including: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, saving and investments, and retirement planning.

FIN 305 Problems of Business Finance (3) Application of financial principles to cases involving important financial decisions. Pre: BUS 314.


FIN 311 Investments (3) Introduction to various investment markets and financial institutions. Topics include the analysis of security returns using techniques such as beta, filter rules, and portfolio theory. Pre: BUS 314 or consent.

FIN 321 International Business Finance (3) Financial management of foreign and international business operations: the regulatory environment of international finance, financing international transactions, international capital markets, taxation. Financial decisions-making in the foreign market. Pre: BUS 314 or consent.

FIN 331 International Banking (3) Commercial, investment, and merchant banking. Includes theory and practical applications. Topics include international lending, Euromarkets, global gap management, Forex activities, and global risk management. Pre: BUS 314 or consent.

FIN 341 Financial Aspects of New Ventures (3) Examination of underlying business models for new ventures, how to determine corresponding financial requirements, and approaches to resource acquisition. Students explore a range of financing sources and related issues of organizational structure. Pre: Junior standing and BUS 314, or consent.

FIN 399 Directed Reading and Research (V) Reading and research in a special area of major under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and the faculty advisor. Repeatable unlimited times.


FIN 415 Security Analysis and Portfolio Management (3) Security analysis and portfolio management from the perspective of the professional analyst and institutional investor. Recent advances in security valuation models, portfolio selection, and techniques for appraising portfolio performance. A-F only. Pre: 311 or consent.

FIN 430 Bank Financial Management (3) Analysis of financial institution management within the domestic economy and regulatory environment. Topics include: money market activities, interest rates, regulation, lending, investments, and asset/liability management. Pre: BUS 314.

FIN 435 Banking and Capital Markets (3) Covers the analytical skills necessary to work in the financial services industry, including: banks, thrifts, savings and loan institutions, foreign banking department or the fixed income capital market sector. A-F only. Pre: (311 and BUS 314) with a minimum grade of B or higher. (Alt. years: spring).

FIN 444 Asian Finance (3) Asian financial systems, regulatory structure over financial institutions in the Asia-Pacfic region. Major financial policy issues for financial sector reforms in the region. Seminar format. A-F only. Pre: BUS 314 or consent.

FIN 450 Enterprise Risk Management (3) Overview analyzing various primary risks faced by corporations and developing important risk management techniques with an emphasis on enterprise risk management. Covers advanced case studies, discussions. BUS majors only. A-F only. Pre: BUS 314 or consent. (Once a year)

FIN 460 Special Topics in Finance, Real Estate or Insurance (3) In-depth analysis of significant topics and problems in the field of finance and finance-related fields. Repeatability two times in different topics. Pre: BUS 314 (with a minimum grade of B) or consent.

FIN 467 Seminar in Financial Planning (3) A capstone course for financial services and planning track. This is a case study course intended to provide students the opportunity to integrate concepts from earlier courses and develop a comprehensive view of the financial planning process. A-F only. Pre: 301 and 311 and two of the following courses: 490E, 490F, ACC 401, INS 300.

FIN 470 Sustainable Development in East Asia (3) Interdisciplinary investigation of development in East Asia: an urgent status, role of Asian business; current technological, economic, and financial development; impact on world economy. A-F only. (Cross-listed as ASIAN 470)

FIN 490 (Alpha) Advanced Topics in Finance (3) In-depth analysis of selected current practices and issues in finance. (B) equity research and corporate valuation analysis and Japanese financial management; (D) financial analysis; (E) retirement and employee benefit planning; (F) finance estate planning. A-F only for (E) and (F). Repeatable for credit for (D). Pre: 314 or BUS 629 for (D); 311 or 634 for (D); 301 for (E) and (F). (Fall only for (B))

**International Finance (FIN)**


FIN 633 Problems in Business Finance (3) Application of financial principles and analytical techniques to financial problems. Case method. Pre: BUS 629 or consent.

FIN 634 Investment Analysis and Management (3) Techniques of security analysis, theories of investment, and the analysis of investment decisions related to portfolio planning. Pre: BUS 629 or consent.

FIN 635 (Alpha) Advanced Topics in Finance (3) Major current financial issues and problems. (C) Japanese financial management; (D) portfolio management theory; (F) stocks, bonds, and modern instruments. Pre: BUS 629 or consent.

FIN 637 International Financial Management (3) Financial decision-making in an international setting: analysis of direct foreign investment; economic, accounting, and regulatory environments, including taxation; international money and capital markets; import and export financing; multinational working capital management; and risk aspects of international finance. Pre: BUS 629 or consent.

FIN 639 International Banking and Commercial Investment, and merchant banking in the international arena. Includes international lending, Euromarkets, global gap management, Forex activities, and international risk management. Pre: BUS 629 or consent.

FIN 641 Entrepreneurial Finance (3) Assessment of financial needs, arranging venture financing, assessing value to the entrepreneur and the investor(s), financial aspects of strategic planning, analyzing the tradeoffs between alternative financing choices and flexibility and control, harvesting the investment. Pre: BUS 629 or consent.

FIN 642 Advanced Capital Markets (3) Regulatory structure over capital market institutions, market developmental issues, market microstructure issues, and corporate governance, and creation of capital market infrastructure. Seminar format. Pre: BUS 629 or consent.

FIN 651 PDEs and Stochastic Calculus (3) Covers PDEs (Partial Differential Equations) and calculus in a stochastic environment. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 652 Programming in Finance (3) Addresses programming principles, and programming languages used in financial modeling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 653 Portfolio Optimization (3) Introduces students to principles of capital markets, classical portfolio theory, and focused on portfolio optimization. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 654 Financial Derivatives (3) Will familiarize the students with the mathematical foundation and the application of Futures, Swaps, and Options. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 655 Financial Forecasting (3) Focus on financial forecasting and market analysis as volatility and correlation modeling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 656 Risk Analysis and Risk Management (3) Introduces students to topics in the actuarial science and latest developments in risk management. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 657 Interest Rate/Credit Models (3) Addresses specific properties of interest rate modelling as mean reversion as well as latest developments in credit risk modelling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 658 Financial Modelling (3) Addresses advanced techniques in financial modelling and related fields. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)
FIN 659 Mortgage/Weather Derivatives (3) Covers the real estate market, mortgage backed securities (MBSs) and real estate derivatives. Focuses on modelling weather, climate change, and weather derivatives. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 660 Seminar in Finance (3) In-depth analysis of selected current problems and issues in finance. Pre: BUS 629 or consent. May be repeated with change in topic.

FIN 661 Research Seminar (3) Students either program a model or write a paper with high practical or scientific merit. Outcome enhances the chances for employment. Represents the culminating experience for students in this program. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 688 Healthcare Financial Management (3) Focus on important accounting and financial management principles relevant to management of health services organizations. Designed around a series of cases that examine the issues that confront healthcare managers. A-F only. Pre: BUS 629. (Alt. years: fall only)

FIN 701 Foundations of Finance (3) First PhD course in Finance. Covers basic theory and empirical methodology in asset pricing, provides a concise framework of conceptual knowledge to understand the literature on finance theory and related empirical evidence. A-F only. Pre: graduate students only.

FIN 702 Seminar in Investments (3) Covers research issues in investments. Topics include empirical asset pricing tests, characteristics of asset returns, behavioral finance, and institutional issues that overlaps with corporate finance, accounting, and economics, etc. A-F only. Pre: PhD student status in business administration, or consent.

FIN 703 Corporate Finance (3) Covers research issues in corporate and financial markets. Topics include capital structure theory, corporate governance, corporate innovations, and mergers and acquisitions, etc. Student develop academic research papers under faculty supervision. A-F only. Pre: student status in PhD in business administration, or consent.

FIN 704 Asian Finance (3) Provides in-depth review of scholarly journal articles and working papers relevant to Asian-Pacific financial markets to prepare PhD students for scholarly research work focusing on market microstructure, corporate finance, investments. A-F only. Pre: PhD student status in business administration, or consent.

FIN 799 Directed Reading and Research (V) Reading and research in a special area of major under direction of faculty member(s). Project must include statements of purpose, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by department chair and the faculty advisor. A-F only. Pre: PhD student status in international management, or consent.

Food Science and Human Nutrition (FSHN)

FSHN 101 Success Skills Development in Human Nutrition, Food and Animal Sciences (1) Combined lecture discussion intended to provide majors in ANSC and FSHN with opportunities to learn about skills, competencies, and university resources necessary to succeed in college. FSHN and ANSC majors only. A-F only. Pre: consent. (Cross-listed as ANSC 101)

FSHN 141 Culture and Cuisine: The Global Diversity of Food (3) A timeline of the world historical foods and how it relates to culture, diversity, ethnicity, and religion. International food demonstrations and tastings included. FGB

FSHN 181 Introduction to Food Preparation (3) Lectures and demonstrations on how food components contribute to the functional, sensory, and safety characteristics of foods, and what changes occur in foods due to preparation, processing, and storage. Co-requisite: 181L.

FSHN 181L Food Preparation Lab (1) (3-1-3 hr Lab) Experiments in foods emphasizing ingredient function and standard preparation methods for food groups. Co-requisite: 181. DY

FSHN 185 The Science of Human Nutrition (3) Integration of natural science concepts basic to the study of human nutrition. Emphasis on nutrient requirements of healthy individuals, food sources, functions of nutrients. DB

FSHN 244 Comparative Nutrition (3) Digestive systems and nutrient functions, interrelationships and metabolism of all animal species, including humans. An intermediate, general nutrition course for Food Science and Human Nutrition and Animal Science majors. Pre: ANSC 200 (or concurrent), CHEM 161L or higher. (Cross-listed as ANSC 244) DB

FSHN 311 Institutional Food Service Management and Sanitation (3) Critical and essential aspects of managing institutional food service operations and personnel in healthcare settings; understanding menu development and costing, purchasing procedures and inventory control for food and beverages; includes national sanitation exam. Pre: 181 and 181L (or concurrent), or consent.

FSHN 312 Quantity Foods and Institutional Purchasing (3) Quantity food and beverage operations, menu development and costing, dietary menu analysis and preparation, quality control, procurement, transportation, legislation. Institutional food service sanitation, Hazard Analysis Critical Control Point and National Restaurant Association Certification. Graduates exam 181 and 181L (with a minimum grade of C), or consent.

FSHN 322 Marketing Nutrition and Food (2) (1 Lec, 1 3-hr Lab) Fundamental marketing principles applied to nutrition and food. Will include concepts such as the psychology of food purchasing decisions and consumer behavior. Field trips and group projects included. Open to non-majors. Pre: 181/181L, 185, 312; or consent.

FSHN 350 Humans, Food, and Animals: Ethics, Issues, and Controversies (3) (2 Lec, 1 3-hr Lab) Ethical issues and other controversies related to human and animal needs; their impact on resource sustainability and the environment. Emphasis on scientifically sound, ethical, and ethical, and empirical approaches. A-F only. Pre: 181 or ANSC 200 or ANSC 201. (Cross-listed as ANSC 350)

FSHN 360 Applied Professional Skills in Nutrition (I) Will apply skills in technology, research, and career development to nutrition. Students will identify evidence-based nutrition information and demonstrate their academic skills set for future professional success through practical work. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 370 Lifespan Nutrition (3) Physiological changes and nutritional requirements during human life stages: prepuberty, pregnancy, infancy, childhood, adolescence, and old age and adulthood. Pre: B or better in 185; C or better in CHEM 161/161L; C or better in PHYL 142/142L. (or concurrent). DB

FSHN 381H Experimental Foods (3) Experimental approach to study food preparation problems. Applying basic food science research design to conduct experiments, interpret data and write reports. Subject matter used to practice critical thinking and problem solving skills. A-F only. Pre: 181/181L, CHEM 161/161L. Co-requisite: 381H. DB

FSHN 381H Experimental Foods Laboratory (1) Experimental approach to study food preparation, food formulation, and sensory evaluation with laboratory exercises in a certified kitchen environment. Applying basic food science research design to conduct experiments, interpret data and write reports. A-F only. Pre: 181/181L, CHEM 161/161L. Co-requisite: 381H. DY

FSHN 389 Nutritional Assessment (2) Addresses concepts and uses of nutrition assessment tools at individual and community levels. Students will be introduced to the use of 18 and more sophisticated body composition measurements. A-F only. Pre: 185 and 370 (or concurrent).

FSHN 403 Microbiology of Foods (3) Microorganism's role in food spoilage; microbial hazards in food; methods of food preservation. Pre: MICR 130 and MICR 140L, or consent. DB

FSHN 411 Food Engineering (3) Principles and applications of thermodynamics, electricity, fluid mechanics, heat transfer, psychrometry, and material and energy balances of food processing and preservation. Prereq: CHEM 171 or CHEM 181A. MATH 243 or MATH 253A, PHYS 151 or PHYS 170 with a minimum grade of C. (Once a year) (Cross-listed as BE 411) DP

FSHN 420 Sensors and Instrumentation for Biological Systems (3) Design course focused on fundamentals of electronic interfacing, control and automation, including biological processes. Topics include sensor physics, basic instrumentation, digital communication, and programming of microcontrollers and other portable computer systems. Prereq: EE 160, EE 211, and MATH 302 or MATH 307 or EE 326; or consent. (Cross-listed as BE 420)

FSHN 430 Food Chemistry (3) Chemical properties of food constituents studied in relationship to their effects on processing, nutrition, and spoilage. Pre: CHEM 161 and 161L or consent. DP

FSHN 430L Food Chemistry Lab (1) (1 3-hr Lab) Application of different chemical methods in the study of food: pigments, enzymes, etc. Pre: 430 (or concurrent). DY

FSHN 440 Food Safety (3) Discussion of potential microbiological, parasitic, chemical, and natural food hazards; food laws and standards; and related aspects of consumer protection. Pre: 180, BIOL 171, and CHEM 272; or consent. DB

FSHN 445 Food Quality Control (3) Fundamental principles of quality control in the food industry: measurement, control, and evaluation of the food products quality assurance and integration of the individual test procedures into grades and standards of quality, sampling, and reporting results.

FSHN 451 Community Nutrition and Nutrition Education (4) (4 Lec) Concepts and methods of nutrition program planning and nutrition education; analysis of nutritional problems of local, national, and international communities; strategies used to educate individuals or institutions. A-F only and either HDFS 380 or NREM 310; or consent.

FSHN 454 Foundation of Childhood Obesity Prevention in the Pacific (3) Provide students with a basic overview of the causes and effects of childhood obesity, evidence-based approaches, community-based research, and policies to prevent childhood obesity as it relates to the Pacific region. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 455 Childhood Anthropometric and Dietary Assessment Field Techniques (1) Teaches techniques for measuring anthropometry and collecting dietary intake in children. Online course imitates hands-on training through partnered organizations and the use of technology. Repeatable one time. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 456 Child Health and Nutrition Monitoring (1) Covers topics related to health and nutritional status monitoring and surveillance, including epidemiology, biostatistics, health and nutrition surveillance systems, and the uses of technology for conducting these activities. Repeatable one time. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 457 Culture and Child Health in the Pacific (3) In-depth study of culture and child health in the Pacific, including an introduction to the land, people, history, culture, and world views. Explore cultural competency, cultural safety, and multidisciplinary approaches to promote a healthy Pacific. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 460 Food Processing Principles (3) Principles and applications of food dehydration, thermal processing, low temperature preservation, chemical and biochemical preservation, irradiation, packaging, manufactured food and water and waste management. Pre: 403 and 430, or consent.

FSHN 467 Medical Nutrition Therapy 1 (V) Development of dietary, anthropometric and clinical lab assessment skills measuring nutritional status. Understanding pathophysiology of disease processes, medical terminology and nutritional intervention, utilizing case studies. Pre: 389 and 486 or consent.
FSHN 468 Medical Nutrition Therapy II (3) Understanding of the pathophysiology of disease processes and nutritional intervention, using medical terminology. (Fall only). DB

FSHN 469 Nutrition Counseling Skills (2) Theory and practice in nutritional counseling. Combined lecture and discussion on nutrition/dietary counseling. Knowledge and theories. Application through lab experience including role playing. Pre: CHEM 161 (or higher) or BIOC 241 (or higher); PHYL 141, BIOL 171; or consent. DB

FSHN 476 Cultural Aspects of Food Habits (3) Study of eating from behavioral perspectives. Implications for health practitioners and health education. Pre: two classes from ANTH 151 or higher or SOC 101 or higher or PSY 100 or higher. Pre: senior standing in FSHN or consent. DB

FSHN 477 Food Analysis (2) Principles of sample preparation and physical and chemical analysis of food components using current methodology. Pre: 430; and CHEM 162 or higher; and BIOL 402 or MBBE 402 or PEP 402. DB

FSHN 477L Food Analysis Lab (2) (2-1 hr Lab) Application of chemical and physical methods for the identification and quantification of food components. Co-requisite: 477. DB

FSHN 480 Nutrition in Exercise and Sport (3) Effects of exercise on nutrition. Emphasis on physiologic and biochemical basis for exercise recommendations to enhance exercise participation and optimize athletic performance. Pre: 185; and PHYL 103 or 141 or 301. (Cross-listed as HSL 480) DB

FSHN 485 Nutritional Biochemistry I (3) Metabolism and biochemistry of carbohydrates, lipids, and proteins, including chemical structure, digestion, absorption, transport, cellular/molecular functions in human nutrition; integration of metabolic pathways; energy metabolism and balance, including relevance to chronic disease. Pre: 185; PHYL 142/142L or PHYL 302/302L; BIOC 341 or higher (or concurrent) or MBBE 402 (or concurrent); or consent. DB

FSHN 486 Nutritional Biochemistry II (3) Metabolism and biochemistry of vitamins, minerals, and dietary fiber, including chemical structure, digestion, absorption, transport, cellular/molecular functions in human nutrition; relevance to establishing nutrient requirements and to mechanisms of chronic disease. Pre: 485 or consent. DB

FSHN 488 Obesity and Issues (2) In-depth study of obesity, including research, etiology, treatment, and prevention. Pre: 480 and 486. DB

FSHN 491 Topics in Food Science and Human Nutrition (V) Study and discussion of significant topics, problems, or laboratory experiments. Repeatable unlimited times. Pre: instructor approval. DB

FSHN 492 Field Experience (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Writing a learning plan and field report. A-F only. Pre: senior standing in FSHN. (Cross-listed as ANSC 492) DB

FSHN 494 Food Science Capstone (3) Field practicum designed to integrate knowledge from previous FSHN courses to develop novel and innovative food products. Students deal with shelflife, marketing, packaging, sensory evaluation, quality assurance. Repeatable one time. Pre: FSHN majors only. A-F only. Pre: 381 and 460, or consent. DB

FSHN 499 Directed Reading and Research (V) Repeatable unlimited times. Pre: instructor approval. DB

FSHN 500 Master’s Plan B/C Studies (1) DB

FSHN 601 The Science of Food Systems (2) (1 50-min Lec, 1 2-hr discussion) Discussion of food systems as they apply to animal science, food science, and human nutrition. Repeatable one time. Pre: graduate standing or consent. (Cross-listed as ANSC 601)

FSHN 607 Advanced Food Science I (3) Advanced topics in chemical and physical characteristics of foods as well as advanced topics in food technology. Repeatable one time. A-F only. Pre: graduate student status with undergraduate courses in organic chemistry, microbiology, additional biological sciences, physics, and biochemistry. Basic knowledge of food science is expected; or consent. (Cross-listed as MBBE 607) DB

FSHN 608 Advanced Food Science II (3) Advances in sensory quality and evaluation, deterioration of foods and food safety, as well as food processing technology. Repeatable one time. A-F only. Pre: graduate student status with undergraduate courses in organic chemistry, microbiology, additional biological sciences, physics, and biochemistry. Basic knowledge of food science is expected; or consent. (Cross-listed as MBBE 607) DB

FSHN 633 International Nutrition (3) Analysis of major nutrition problems in developing countries. Comparative review of implementation, and evaluation of programs to intervene in the development of malnutrition. Pre: 185 or consent. DB

FSHN 650 DNA and Genetic Analysis (2) Combined lecture and presentation of literature reviews in genetic analysis of humans, animals, and other species. Molecular techniques, such as PCR, DNA marker identifications, transgenics, expression analysis and functional genomics, are included. Open to nonmajors. Pre: graduate standing or consent. (Cross-listed as ANSC 650 and MBBE 650) DB

FSHN 652 Information Research Skills (1) Examines the use of libraries and information technology for scholarly investigation in support of scientific research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as ANSC 652, NIREM 652, and TPSS 652) DB

FSHN 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Describes graduate students’ grants and grant proposal writing through lectures, class discussion, writing assignments, and peer review. Open to CTAHHR graduate students only; others with consent. Pre: graduate standing or consent. (Cross-listed as ANSC 657, NIREM 652, and TPSS 652) DB

FSHN 668 Advanced Topics in Clinical Nutrition (2) Advanced topics in nutrition assessment, diagnosis, and interventions of patients with specialized clinical conditions. Students will further their knowledge in clinical research methods through case study presentations and evidence-based review. Repeatable one time. Pre: 389 and 467; or instructor consent. DB

FSHN 668 Seminar in Food and Nutritional Sciences (1) Study of presentation of literature reviews and research. Repeatable five times. Pre: consent. DB

FSHN 682 Topics in Nutritional Sciences (V) Advanced topics in nutritional sciences, from basic to applied research, including current issues in nutrition and critical analysis of current research literature. Repeatable three times, up to 12 credits. Pre: consent. DB

FSHN 683 Global Nutrition (2) Examination of global food and nutrition problems, programs, issues, policies, and strategies for improvement. A-F only. Pre: graduate standing or consent. (Cross-listed as ANSC 683, NSC 657, and TPSS 657) DB

FSHN 685 Nutrition and Disease: Cellular and Molecular Aspects (3) In-depth lecture, discussion, and student presentations on selected topics relating nutrition to the etiology and prevention of chronic diseases at the cellular and molecular level. Repeatable one time. Pre: 485 and 486; statistics or consent. DB

FSHN 686 Advanced Clinical and Adolescent Nutrition (3) Addresses nutrition, growth, and development in children and adolescents and nutrition-related issues, such as childhood obesity and chronic disease risk factors, with a focus on current research in the Pacific region. Pre: 370 or consent. (Fall only) (Cross-listed as PH 686) DB

FSHN 687 Advanced Lab Techniques (3) (1 Lec, 2 3-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. A-F only. Pre: graduate standing or consent. (Cross-listed as ANSC 687 and MBBE 687) DB

FSHN 688 Indigenous Peoples’ Food Systems, Environment and Health (3) Explores Indigenous Peoples’ food systems as local food resources. Indigenous People acquire through specific cultural knowledge of traditional territories. Global forces transforming these food systems and their impact on population health and nutrition are explored. Graduate students only. (Fall only) (Cross-listed as PH 688) DB

FSHN 689 Nutritional Epidemiology (3) Dietary, behavioral, anthropometric, and clinical methods used for evaluating nutrition and diet in the etiology and epidemiology of disease. Pre: 685 and PH 663, or consent. (Cross-listed as PH 689) DB

FSHN 695 Plan B Master’s Project (3) Independent study for students working on a Plan B Master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing or consent. DB

FSHN 749 Epidemiology of Diabetes and Obesity (2) Provides an overview of the epidemiology and prevention of metabolic syndrome, diabetes, and associated complications. Discusses methodological issues associated with evaluating these epidemiologic studies. A-F only. Pre: 663 (with a minimum grade of B-) or consent. (Cross-listed as PH 749) DB

FSHN 784 Dietary Fiber, Bioactive Food Components and Health (3) Lecture/discussion of current research on gut physiology, gut microbes, dietary fiber, bioactive food components, and their impact on health, including cancer, cardiovascular, inflammatory bowel disease, heart disease, diabetes, and immune function. Pre: 485 and 486 (or equivalent), statistics, physiology, or consent. DB

FSHN 784 Diet and Cancer Seminar (1) Presentation-discussion of selected research topics in the field of diet-cancer relationships including: nutritional epidemiology of cancer, diet and supplement intervention trials, and cellular/molecular effects of diet on cancer pathways. A-F only. Pre: 685 and 689, or consent. DB

FSHN 800 Dissertation Research (V) Research for doctoral dissertation in nutrition. Repeatable unlimited times. Graduate standing only. Satisfactory/ Unsatisfactory only. Pre: candidacy for PhD in Nutrition. DB

French (FR) College of Languages, Linguistics and Literature All courses are conducted in French. FR

FR 101 Elementary French (3) Conversation, grammar, and reading. HSL

FR 102 Elementary French (3) Conversation, grammar, and reading. Pre: 101 or consent. HSL

FR 110 Immersion French-Elementary (6) Content of 101-102 covered in one semester. Three-two hour sessions per week. HSL
FR 201 Intermediate French (3) Reading, conversation, laboratory drill, composition. Pre: 102 or 110 or consent. HSL
FR 202 Intermediate French (3) Continuation of 201. Pre: 201. HSL
FR 210 Immersion French-Intermediate (6) Content of 201-202 covered in one semester. Three two-hour sessions per week. Pre: 102 or 110 or consent. HSL
FR 258 Intermediate French Abroad (3) Intensive course of full-time formal instruction on the second-year level in French language and culture in a French-speaking country. Pre: 102 or 110 or consent. HSL
FR 259 Intermediate French Abroad (3) Continuation of 258. HSL
FR 301 French Phonetics (3) Analysis of phonological system; methods of teaching pronunciation; understanding various types of spontaneous speech. Drills in pronunciation, intonation, stress, and rhythm. Pre: 202 or 210 or 259 or consent. DH
FR 302 Reading in French (3) Development of language skills through reading of cultural and literary texts. Pre: 258 or 259.
FR 306 Structure of French (3) Structure of contemporary French as analyzed by descriptive linguists. Pre: 202 or 210 or 259 or consent. DH
FR 309 Business French (3) Reading and writing commercial materials. Pre: 202 or 210 or 259 or consent. DH
FR 311 Conversation (3) Systematic practice for control of spoken French. Further development of vocabulary for accurate, mature expression. Pre: 202 or 210 or 259 or consent. DH
FR 312 Composition (3) Emphasis on strengthening facility with language through further training in syntax, structure, and composition writing. Pre: 202 or 210 or 259 or consent. DH
FR 321 Advanced Conversation (3) Systematic and advanced practice for control of spoken French, advanced development for accurate, mature expression. Pre: 311 or consent. DH
FR 331 Survey of French Literature (3) Major authors and movements. Pre: 311 (or concurrent) and 312; only 311 may be concurrent. DL
FR 332 Survey of French Literature (3) Continuation of 331. Pre: 311 (or concurrent) and 312; only 311 may be concurrent. DL
FR 358 Third-Level French Abroad (3) Intensive formal instruction at the third-year level in French language skills: reading, writing, grammar, or conversation in a French-speaking country. Pre: 202 or 210 or 259 or consent.
FR 359 Third-Level French Abroad (3) Continuation of 358.
FR 360 Intensive Third-Level French Abroad (V) Intensive formal instruction at the third-year level in French language skills: reading, writing, grammar, or conversation in a French-speaking country. Pre: 202 or 210 or 259 or consent.
FR 361 Contemporary French Civilization (3) Survey of culture and institutions of modern France. Pre: 202 or 210 or 259 or consent. DH
FR 364 Survey of French Civilization (3) A historical survey of the development of French culture. The course is interdisciplinary, focusing on the relations between politics, literature, science, and the arts. A-F only. Pre: 202 or 210 or 259 or consent. DH
FR 391 (Alpha) Topics in French Literature (3) (B) French film; (C) the Fantastic; (D) Francophone literature. Repeatable two times with consent. Pre: 311 or 312, or consent. DL
FR 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times with consent. DH
FR 405 Advanced Oral and Written Expression (3) Further development of listening, comprehension, speaking, and writing skills through viewing of French videotapes, reading French newspapers, frequent oral and written reports. Pre: 311 and 312, or 306, or 358, or 360; or consent.
FR 406 French-English Translation (3) Practice in techniques based on contrastive linguistics. Translation of texts from various fields from French into English and the reverse. Pre: 306 or 309, and 312, or consent.
FR 408 Masterpieces of Medieval Literature (3) Samplings from epic, novel, verse and prose, tale, lyric poetry, chronicle, theater, didactic literature. Elementary readings in original text in editions giving modern French equivalents. Pre: 331 or consent. DL
FR 409 Advanced Language Study: French (3) Advanced course in spoken and written French with intensive review of alternative grammatical structures and shades of modern language. Graduates who have not taken prerequisites may request consent. Pre: 306 or 405 (or equivalent); or consent.
FR 410 Masterpieces of 16th-Century Literature (3) Samplings from major writers of the period. Readings in original text in editions giving modern French equivalents for difficult words. Pre: 331 or consent. DL
FR 411 Masterpieces of 17th-Century Literature (3) Principal works of major dramatists: Corneille, Molière, Racine. Principal movements and major authors of non-dramatic prose and poetry. Pre: 351 or consent. DL
FR 413 Masterpieces of 18th-Century Literature (3) Pre: 332 or consent. DL
FR 421 20th-Century French Theater (3) Major French playwrights and their works: Claudel, Giraudoux, Anouilh, Sartre, Camus, etc. Pre: 332 or consent. DL
FR 423 20th Century French Prose and Poetry (3) Study of representative prose and poetry of the major trends of 20th century France: modernism, surrealism, existentialism, postmodernism and multiculturalism. Pre: 332 or consent. DL
FR 458 Fourth-Level French Abroad (3) Intensive course of full-time formal instruction on the fourth-year level in French linguistics, civilization, culture, and literature in a French-speaking country. Pre: 359 or 360 or equivalent.
FR 459 Fourth-Level French Abroad (3) Continuation of 458.
FR 460 Intensive Fourth-Level French Abroad (V) Intensive course of formal instruction on the fourth-year level in French language, culture and literature in a French-speaking country. For semester programs only. Pre: 360 or equivalent.
FR 491 (Alpha) Seminar in French Literature (3) (B) French literature from period; (C) Francophone literature; (D) French film; (E) topic in French literature. Repeatable two time per alpha. Pre: 351 (or concurrent) and 332 (or concurrent); or consent. DL
FR 499 Directe Reading and Research (V) Independent study of approved readings and research with faculty supervision. Repeatable two times. A-F only. Pre: consent.
FR 506 French for Reading Proficiency (3) Reading of scholarly and technical French for graduate students; open to undergraduates with consent of department chair. Not applicable to undergraduate language requirement. Repeatable two times with consent. CR/NC only.
FR 601 Seminar in 20th-Century French Literature (3) Authors and movements of modern period.
FR 620 Masterpieces of the 17th Century (3) Dramatic or prose works of the classical period.
FR 651 Philosophic Currents in 18th Century (3) Philosophic movements and their impact on the social, political, and literary life of the period and the modern era.
FR 661 Advanced French-English Translation: Practice and Theory (3) Advanced practice in translation into and from French to English in various fields (literature, business, medicine; other) with reflection on choices. Readings in translation theory. Repeatable one time.
FR 672 Seminar in Medieval Literature (3)Genesis and evolution of literary genres from the 12th to 15th centuries. Epic, romance, lyric poetry, prose, and drama.
FR 811 Seminar: The Novel in France (3) Novels which have influenced movements or established techniques. Repeatable two times with consent.
FR 690 The Theater in France (3) Historical development; major dramatists who have influenced movements or established techniques. Pre: 6 credit hours at 400 level.
FR 699 Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.
FR 735 Seminar in French Literature (3) Study of authors or a period. Repeatable two times with consent. Pre: consent of instructor and French graduate advisor.

Geography (GEOG)
College of Social Sciences

Sophomore standing or higher is required for all 300-level courses except as noted. Junior standing or higher is required for all 400-level courses except noted.

GEOG 101 The Natural Environment (3) Introduction to physical geography including weather, climate, vegetation, soils, geology, and landforms. Environmental issues and natural hazards. DP
GEOG 101L The Natural Environment Lab (1) A survey of field and laboratory methods commonly used by physical geographers. Pre: 101 (or concurrent). DP
GEOG 102 World Regional Geography (3) World’s major cultural regions; geographic aspects of contemporary economic, social, political conditions.

GEOG 151 Geography and Contemporary Society (3) Elements of economic geography and resource management, population and urban geography; application to current problems of developed and underdeveloped worlds. FGC
GEOG 151 Geography and Contemporary Society (3) Elements of economic geography and resource management, population and urban geography; application to current problems of developed and underdeveloped worlds. FGC
GEOG 300 Introduction to Climatology (3) Elements and controls of climate. World patterns of insulation, temperature, evaporation, precipitation, atmospheric circulation. Climatic classifications. Pre: 101 or ATM0 101 or ATM0 200, or consent. DP
GEOG 302 Global Environmental Issues (3) Use and abuse of natural resources and humanity’s progress toward developing a sustainable relationship with its supporting environment. A-F only. (Once a year)
GEOG 303 General Geomorphology (3) Introduction to geomorphological concepts, process mechanics, and relationships between forms and processes. Emphasis on various subdisciplines of geomorphology: coastal hillslopes, fluvial, aeolian, and glacial. Pre: 101 and 101L, or GG 101 and GG 101L, DP
GEOG 305 Water and Society (3) Interaction of people with water at household, community, regional, national, and international scales, from cultural, political, economic, and biophysical perspectives. Pre: sophomore standing or higher, or consent. DP
GEOG 309 Introduction to Biogeography (3) Introduction to ecosystem concept; environmental adaptations for energy and nutrient transfer; characteristics, dynamics, and distribution of principal vegetation communities. Human dominance. Pre: sophomore standing or higher, or consent. DP
GEOG 310 Introduction to Planning (3) Perspectives on planning; planning tools and methods; specific Hawai’i planning-research problems from a multidisciplinary approach. Pre: junior standing or consent. (Cross-listed as PLAN 310) DS
GEOG 314 Tropical Agrarian Systems (3) Analysis of environmental potential and constraints and of spatial organization of economy and society of tropical
agrarain systems. Emphasis on change through colonial and post-colonial periods. DS
GEOG 320 Economic Geography (3) Examines how factors of production like land, labor and capital; economic growth, consumption, trade, production, and investments; and institutions like state, markets, and corporations alter economic space. A-F only. Prec: 102 or 151. (Fall only) DS
GEOG 322 Globalization and Environment (3) Debates on global trends and development, population and resources; root causes of environmental degradation; impacts of globalization on environmentalism and environmental change; social approaches to environmental change. Prec: 102, 151, or consent. (Once a year) DS
GEOG 324 Geography of Global Tourism (3) Tourist landscape in relation to resources, spatial patterns of tourism, impacts of tourism development, and models of tourist space. Flows between major world regions. Prec: sophomore standing or higher, or consent. (Cross-listed as TIM 324) DS
GEOG 325 Geography, Environment, and Society (3) Examines the geography of resources and environmental change with a holistic and multi-scale perspective. Social approaches to resolving environmental problems. DS
GEOG 330 Culture and Environment (3) Introduction to cultural geography, the cultural landscape, and perceptions of the environment across different cultures. Prec: 102 or 151, or consent. DS
GEOG 335 Principles and Practice of Mapping (3) Examines the political organization of space in then sovereign state system. Contemporary and historical analyses of boundaries, geopolitics, homelands, nations, migration, and sovereignty. Prec: sophomore standing or higher, or consent. DS
GEOG 340 Geography of North America (3) Overview of the physical and cultural geography. Regions and characters. Patterns of population, natural resources, agriculture, and transportation/communication networks. Prec: 101 or 102 or 151, or consent. DS
GEOG 352 Geography of Japan (3) Regional synthesis of physical and cultural features: economic, social, political geography; origins and development of cities. DS
GEOG 353 Geography of China (3) Topics: environmental parameters and resource base, ecological control and resource management, institutional and technological transformation of agriculture, industrial potential and industrial location, settlement patterns and rural urban symbiosis. DS
GEOG 355 Geography of South Asia (3) Introduction to physical and human geography of India, Bangladesh, Pakistan, Sri Lanka, Himalayan kingdoms. Economic, social, cultural, and political factors in development. DS
GEOG 356 Geography of Southeast Asia (3) An investigation of the development context of Southeast Asia including socioeconomic, cultural, and environmental resources. Problems and prospects for change. (Cross-listed as ASAN 356) DS
GEOG 365 Geography of the Pacific (3) Physical character of the Pacific; cultural, political, economic geography of Melanesia, Micronesia, Polynesia (except Hawai‘i). DS
GEOG 366 Geography of Honolulu (3) Development of Honolulu and O‘ahu from 1778. Evolvement of function, land use, and social patterns. Contemporary planning and environmental issues arising from urban growth. DS
GEOG 368 Geography of Hawai‘i (3) Regional, physical, cultural geography. Detailed study of people and resources. DS
GEOG 370 UAV and Aerial Photography (3) (2 Lec, 1 3-hr Lab) Introduction to UAV (unmanned aerial vehicle systems) and the measurement, interpretation, analysis, and use of photography acquired by UAV and other aerial systems. Prec: 104, or consent. DY
GEOG 375 Introduction to Cartography and Air Photo (3) (2 Lec, 1 3-hr Lab) Principles of cartography; compilation and presentation from aerial photographs, alternate forms of data presentation, symbolism, design, and map projection. GEOG 376 Map Design and Production (3) (3 2-hr Lab) Compilation, design and production of maps for presentations, research, and illustration using artists and mapping software. Prec: junior standing or higher, or consent. GEOG 380 Statistical Methods in Geography (3) Quantitative statistical methods will be exploited for describing and interpreting geographic/environmental phenomena. Topics include data collection, measurement, sampling, spatial statistics, dimensional analysis, nonparametric and parametric models. Prec: 101 or 102 or 151 (or concurrent) or consent. GEOG 388 GIS (3) Describes concept, implementation, and use. Database construction and documentation. Techniques for spatial data manipulation and display. Evaluation of existing systems. Student research projects. Prec: 104 or consent. GEOG 389 Geospatial Data Analytics (3) Display techniques for statistical and terrain data. Cartographic communication models, data models, algorithms and symbol conventions. Techniques for assessing map design. Prec: 380 or SOCS 225 or ECON 321, or consent. DS
GEOG 399 Directed Reading (V) Limited to senior majors with a cumulative GPA of 2.7 or a minimum GPA of 3.0 in geography. GEOG 400 Vegetation and the Climate System (3) Role of vegetation in the climate system; links to hydrology and biogeochemical cycling; vegetation and climate change; vegetation ecosystems effects of global warming. Prec: 101 or 300 or 401 or 402 or 405 or ATM 101 or ATM 200 or ATM 302 or ATM 303 or ATM 310, or consent. DP
GEOG 410 GIS - Climate Change (4) Approaches to the study of past and future climate change. Prec: 101 or 300 or 401 or 405 or ATM 101 or ATM 200 or ATM 302 or ATM 303 or ATM 310, or consent. DP
GEOG 421 Agricultural Climatology (3) Analyzing climatic data; relation to photosynthesis, phenological development, and crop yields. Crop-weather models as guides to improved land-use planning and agronomic practices. Prec: 101 or 300 or 401 or 402 or ATM 101 or ATM 200 or ATM 302 or ATM 303 or ATM 310, or consent. DP
GEOG 430 Climate Change (3) A review of the impacts of global warming. Prec: 101 or 300 or 401 or 402 or ATM 101 or ATM 200 or ATM 302 or ATM 303 or ATM 310, or consent. DP
GEOG 431 Human Role in Environmental Change (3) Human impacts through time on vegetation, animals, landforms, soils, climate, and atmosphere. Special reference to Asian/Pacific region. Implications of long-term environmental change for human habitability. Prec: with a minimum grade of B, one of 101, BIOL 101, BIOL 125 and either 322 or BIOL 310 or other consent. (Cross-listed as BIOL 410) DS
GEOG 432 Tea and Culture (3) Examines cultural practices of tea in different parts of the world, focusing on history and culture of tea in China, Japan, and practices of tea in different parts of the world, focusing on history and culture of tea in China, Japan, and other countries. Implications of tea on world cultures. Prec: junior standing or higher, or consent. DP
GEOG 433 Conservation and Evolutionary Biogeography (3) Theories for the analysis of microevolutionary patterns, taught from an interdisciplinary perspective. Examples and readings emphasize Hawai‘i and the Pacific region. Prec: either 309, BIOL 265 or ZOOL 485, or consent. (Alt. years)
GEOG 434 Cultural Biogeography (3) Examines the cultural biogeography of flora and fauna, with special reference to East Asia, the Southeast Asian region, and the Pacific region. Implications of biogeography for understanding cultural and historical relationships. Prec: either 309, BIOL 265 or ZOOL 485, or consent. (Fall only) (Cross-listed as PL 409) DS
GEOG 435 Anthropology of the Ocean (3) Geopolitics of the oceans and the law of the sea as applied to regions of conflict and cooperation in marine resource development and preservation.
on Indo-West Pacific, South China Sea, Arctic Ocean. Pre: junior standing or higher, or consent. DS GEOG 436 Geography of Peace and War (3) Geographical factors underlying conflict in the world. Pre: sophomore standing or higher, or consent. (Cross-listed as PACE 436) DS GEOG 453 Environment and Society in China (3) Explores the relationship between environment and society in the Chinese society, including both traditional and modern environmental issues. Pre: consent. GEOG 468 Topics in Geography (3) Selected topics in geography not offered in the regular geography curriculum. Pre: 101 or 102 or 151, or consent. GEOG 470 Remote Sensing (3) (2 Lec, 1 2-hr Lab) Special topics in remote sensing and image processing skills. Topics include electromagnetic spectrum, sensors, aerial photo and satellite imagery interpretation, geometric and radiometric correction, and digital image processing. Research project, lab, Pre: lab. Prep: GEOG 370 or consent. GEOG 472 Field Mapping (3) Techniques for field measurement and recording of cultural and physical data. Field mapping, plate mapping, oblique photo compilation, and field data. Prep: junior standing or higher, or consent. DS GEOG 476 Web Mapping (3) (3 2-hr Lab) Special topics in web mapping. Pre: consent. GEOG 489 Applied Geographical Information System (3) (2-3 2-hr lab) Application of GIS technologies to various problems or issues in social, natural, and environmental sciences. Research project, lab, Prep: GEOG 388 or consent. (Once a year) GEOG 490 Senior Thesis (3) Preparation of upper-division student thesis, with final faculty supervision. Recommended for admission to graduate program. Pre: senior GEOG major and consent. GEOG 492 Practicum in Geography (V) Internship in applied geography under professional and faculty supervision. Field placement integrated with academic course work. Repeatable up to six credit hours maximum. Pre: senior major and consent. GEOG 493 Capstone Undergraduate Seminar (3) Current and historical geographic literature provides a background for local and global issues. Through discussion, written reviews, and research reports, the geographic perspective in modern life will be explored. Pre: GEOG major only. GEOG 499 Directed Research (V) Geography majors conduct research under faculty supervision on a topic of their choice. Minimum GPA of 3.0 and consent. Repeatable two times, up to six credits. GEOG major only. Senior standing only. GEOG 600 Seminar in Climatology (3) Methods of determining energy budget and water balance; applications in agriculture, hydrology, climatic classifications. Theory of climatic change. Bibliography, Prep: 300 or 400 or 401 or 402 or 405 or ATMO 303 or ATMO 310 or ATMO 320; or consent. GEOG 610 Cultural Geographies of Tourism (3) Social and cultural analysis of tourism practices, with emphasis on Hawaii’s, Asia and the Pacific. Tourism in relation to consumer culture, transnational flows of people and images, post-colonial politics, performance and identity formation. (Cross-listed as ANTH 610) GEOG 618 Human Environment Systems (3) Role and potential of systems science in analysis of human environment interaction, especially resource management. Classroom methodology for problem structuring; overview of techniques. Pre: graduate standing or advanced undergraduate standing with consent. GEOG 621 Human Geographies of the Ocean (3) Core course in the ocean studies specialization in human geography introduces graduate students to themes and methods of human geography and cognate fields as applied to the oceans. Repeatable one time with consent. GEOG 622 Advanced Environmental Impact Assessment (3) Theory and practice of environmental impact assessment. Pre: graduate standing and consent. GEOG 628 (Alpha) Resource Systems (3) Resource development and use in a time perspective. Ecological and socioeconomic impacts, concepts, definitions, and methodology. (B) renewable; (C) nonrenewable. Pre: Re- quest. GEOG 630 Urban and Regional Planning in Asia (3) Key issues and policies in urban planning, rural-urban relations, rural regional planning, and frontier settlement in Asia and the Pacific. Repeatable one time. (Cross-listed as ASAN 630) GEOG 637 Environment and Development (3) Theories and practice of development; how changing development paradigms shape different ideas concerning the management of natural resources; emerging debates in development and change in post-modern era. (Cross-listed as PLAN 637) GEOG 638 Asian Development and Urbanization (3) Theories of globalization and sustainability in development, impacts of globalization and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development. Prep: (ASAN 600 or PLAN 630) with a grade of B or above. (Cross-listed as ASAN 638 and PLAN 638) GEOG 639 Community-based Natural Resource Management (3) Concepts and theories of community, resource access, and governance. Practical challenges to CBNRM in contemporary political economy. Prep: graduate standing. (Cross-listed as PLAN 639) GEOG 652 Contemporary Japan Seminar (3) Selected physical and human features that represent economic, social, and political life of modern Japan. Repeatable with consent of instructor. Pre: consent. GEOG 654 Seminar in Geography of Southeast Asia (3) Repeatable with consent of instructor. Pre: consent. GEOG 665 Seminar in Geography of the Pacific (3) Investigation of geographic problems of Melanesia, Micronesia, Polynesia. Repeatable with consent of instructor. Pre: consent. GEOG 680 Geospatial Analysis of Natural Resource Data (3) Use of geostatistics to estimate spatial dependence to improve soil and regional sampling; provide insight into underlying soil, geographic, and geologic processes, and to provide quantitative scaling up of point measurements to fields, regions, and watersheds. State-space modeling also will be included. A-F only. Prep: GEOG 388 or ZOOI 631; or consent. (Cross-listed as TPS 680) GEOG 692 Faculty Seminar Seminar (1) Graduate seminar to provide geography students a discussion of significant topics, problems. (B) regional geography introduces graduate students to the methodological framework of geographic concepts, processes, and the dynamic relationship between human landscape modification and system response. Pre: consent. GEOG 710 (Alpha) Special Topics (V) Study and discussion of significant topics, problems. (B) regional and locational analysis; (C) geography, environment, and culture; (H) Multi-objective decision analysis. Repeatable two times. Prep: GEOG 455 or consent. GEOG 720 Critical Resource Geography (3) Graduate seminar to provide geography students a road map through the important literature and research on political economic theories of population, natural, and critical resources. Graduate standing only. A-F only. (Fall only) GEOG 728 Seminar: Resource Management in Asia-Pacific (3) Examination of resource management problems in Asia and the Pacific. Problems of resource use—agriculture, forestry, energy, minerals, ocean, air quality. Prep: graduate status. GEOG 735 Seminar: Political Geography (3) Topics vary; may include borders, boundaries, geopolitics, homelands, identity politics, nations and nationalism, social categorization, the sovereign state system, territoriality. Repeatable one time. Prep: graduate standing or consent. (Once a year) GEOG 750 Research Seminar: Biogeography (3) GEOG 752 Research Seminar: Resource Management (3) GEOG 757 Research Seminar: Cultural Geography (3) GEOG 758 Research Seminar: Conservation (3) GEOG 761 Research Seminar: Cartography (3) GEOG 762 Research Seminar: Remote Sensing (3) GEOG 763 Research Seminar: Agricultural Geography (3) GEOG 764 Research Seminar: Social Geography (3) GEOG 766 Society and Space (3) Advanced seminar on social production of space. Topics include spatial metaphor in social theory; western spatiality from the renaissance through the enlightenment, modernity and post modernity; and geography of the body, home, landscape, and nation. Prep: graduate standing or consent. GEOG 800 Dissertation Research (V) Repeatable unlimited times. Geology and Geophysics (GG) School of Ocean and Earth Science and Technology GG 101 Dynamic Earth (3) The natural physical environment; the landscape; rocks and minerals, rivers and oceans; volcanism, earthquakes, and other processes inside the Earth; effects of human use of the Earth and its resources. Field trip. DP GG 101L Dynamic Earth Laboratory (1) (3-hr Lab) Hands-on study of minerals, rocks, and topographic maps. Explore volcanism, hydrology, coastal processes and hazards, geologic time, and earthquakes. Field trips to investigate landforms, beaches and Oahu geology. A-F only. DY GG 102 Quantifying Global and Environmental Change (3) Introduction to statistical approaches to quantifying key aspects of global and environmental change. Includes data analysis, graphical representation and modeling of population growth, greenhouse gas emissions and fate, oceanic resource utilization, and sea level change. A-F only. (Spring only) (Cross-listed as SUST 115) EQ GG 103 Geology of the Hawaiian Islands (3) Geologic history and geomorphic processes: origin of Hawaiian islands, volcanic rocks and minerals, landforms, stream and coastal processes, landslides, earthquakes and tsunamis, groundwater, geologic and environmental hazards. Field trip. DP GG 104 Volcanoes in the Sea (3) Lecture with field trips covering the manner in which geological conditions, resources, and effects have affected past and present circum-Pacific societies.
of small to moderate scope with one or more chosen advisors. The student must complete a document in the style of a scientific journal article. Pre: consent.

GG 500 Master’s Plan B/C Studies (1) Enrollment for degree candidates. Pre: master’s Plan B or C candidate and consent.

GG 593 Earth and Planetary Sciences Workshops (V) Designed for in-service school professionals to learn new approaches and concepts in the fields of earth and planetary sciences. Repeatable for credit. Credits earned in these courses cannot be applied for grade purposes.

GG 600 Equations of Geophysics (3) Least-square approximations by orthogonal series; potential, wave heat flow equations; boundary value problems; Bessel Hankel functions, spherical harmonics, potential theory, plane waves, spherical waves; variational principles. Pre: MATH 244 or MATH 253A, PHYS 400, or consent.

GG 601 Explosive Volcanism (3) Explosive volcanic eruptions: from causes to consequences. Review of current physical volcanology including ascent and fragmentation of magma, transport and deposition processes in pyroclastic eruptions, volcanic crisis management and volcanic eruption scenarios. Seven-day field trip. A-F only. Pre: 300 or consent.

GG 603 Petrology of Ocean Lithosphere (3) (2 Lec, 1-3 Lab) Petrogenesis of the oceanic lithosphere, including mantle processes and rocks from mid-ocean ridges, seamounts, oceanic hotspots, back-arc basins, and intra-oceanic arcs. Pre: 302 or consent. (Alt. years)

GG 604 Disaster Management: Understanding the Nature of Hazards (3) Combined lecture/discussion in disaster management focusing on the scientific understanding of natural hazards and processes underlying natural hazards; and human attempts to respond to these through mitigation and planning activities. Pre: PLANN 670 or consent. (Once a year) (Cross-listed as PLAN 671)

GG 605 Lava Flow Rheology and Morphology (3) Effusion eruptions: from eruption to final flow form. Includes: rheology, effusion rate, heat loss, and field measurements, followed by inflation, flow forms, lava lakes, domes, flow hazard and modeling. Field trips to Kilauea and Makapuu. A-F only. Pre: 300 or consent. (Alt. years)

GG 606 Current Events in Volcanology (1) Discussion of active areas of volcanism, and new publications on volcanology. Repeatable four times. Pre: 300 (or concurrent) or consent.

GG 607 Submarine Volcanoes (3) Seminar exploring different styles of submarine explosive and effusive volcanism, hydrothermal activity, and volcano-hosted ecosystems. Repeatable one time. A-F only. Pre: 300 or consent. (Alt. years; fall)

GG 608 Isotopes and Trace Elements (3) Principles of radiogenic and stable isotope, and trace element geochemistry as applied to igneous petrology, mantle dynamics, plate tectonics, and terrestrial evolution. Pre: 302 and 325. (Alt. years)

GG 609 Graduate Teaching Geology (V) For GG graduate students who lead, under faculty supervision, a scheduled class in Geology and Geophysics. The instructor will define the student’s responsibilities when offering GG 609, and these responsibilities must be met for a passing grade. As the consent to take the class must also be granted by the department chair, the chair will also review these responsibilities required by the department and the credit students only. CR/NC only. Pre: consent of instructor and department chair.

GG 610 Graduate Seminar (1) Seminar in which students present a 15- to 20-minute talk on their research or a related topic. Meets once a week with two to three talks per week. Graduate students are required to register for this course once per year. Repeatable eight times.

GG 611 Accelerated Introduction to Geology I (3) Lecture presenting a rapid-paced survey of geology and geophysics for graduate students. Includes origin of the Solar System, tectonics, volcanology, whole-

earth composition, phase transformations, petrology (igneous, metamorphic, and sedimentary), historical geology, and hydrology. Saturday field trips. (Fall only)

GG 612 Accelerated Introduction to Geology II (3) Lecture presenting a rapid-paced survey of geology and geophysics for graduate students. Includes Earth structure, rheology, seismology, dynamics, origin of continental and oceanic crust, and the evolution of Earth’s surface. Repeatable one time. (Spring only)

GG 613 Introduction to Data Analysis and Statistics (3) Exploratory data analysis, error propagation, probability theory and statistics, curve fitting, regression, sequence and spectral analysis, multivariate analysis, and analysis of directional data. Credits earned only one time for either GG 413 or GG 613. Pre: MATH 242 or (concurrent), or consent. (Fall only)

GG 614 Advanced Field Study (V) Shipboard and land-based projects. Repeatable eight times. Pre: consent.

GG 615 Literate Programming With R and RStudio (3) Lecture programming with R, RStudio, and R Markdown for data analysis and research. Introduction to Math for rapid modeling. Emphasis on reproducible research and publication for scholarly activity in the Earth and environmental sciences. Pre: competence in basic differential and integral calculus. (Fall only)

GG 616 H18 Write a Scientific Paper (3) Designed for students who have collected data and want to know how to publish their work in a scientific journal. Covers the essential parts of paper preparation and submission. Credits earned only. A-F only. Pre: consent. (Alt. years; fall)

GG 620 Coastal Geology (3) Geological history and geologic framework of the Hawaiian shoreline. Modern climate change, paleoclimate, focus on sea level change and other geological and environmental problems in the coastal environment. Coastal planning. Repeatable one time, credit earned one time. Pre: 309 or consent. (Spring only)

GG 621 Elemental Microprobe Analysis (2) Combined lecture-lab on the principles of geochemical analysis by electron microprobe and X-ray fluorescence. Hands-on experience with the electron microprobe. Required to operate the UH electron microprobe. Pre: 301 or consent.

GG 625 Advanced Environmental Geochemistry (3) Theory and applications of contaminant/pollutant distribution in the hydrosphere-geosphere-biosphere-atmosphere system. Topics include aqueous geochemistry, organic, inorganic, gas phase and isotope chemistry of environmental contaminants. Pre: 325 or consent. (Spring only)

GG 630 Numerical Modeling of Physical Systems (3) Finite difference and finite element and other modeling techniques applied to geological and geophysical problems. Physical modeling of heat flow, molecular diffusion, solidification and melting, deformation, fluid flow, wave propagation, and other phenomena. Repeatable one time. A-F only. (Once a year)

GG 651 Geomagnetism and Cosmic Magnetism (3) Magnetic fields of Earth, planets, stars, and galaxies; dynamo theories; palaeomagnetism; terrestrial and lunar rock magnetism; planetary, regional, and local geomagnetic sounding. Pre: consent. (Alt. years)

GG 654 Groundwater Contamination (3) Principles of groundwater and chemical evolution in natural groundwater flow systems; sources of contamination; mass transport processes; hydrochemical behavior of contaminants. Pre: 455.

GG 656 Groundwater Modeling (Introduction to the finite-difference and finite-element steady and transient groundwater flow in saturated and unsaturated media; applications to groundwater recharge and aquifer evaluation. A-F only. Pre: CEE 627 or consent. (Cross-listed as CEE 623)

GG 657 Astrochemistry—A Molecular Approach (3) Formation of astrobiologically important molecules and their precursors in the interstellar medium and in our solar system: first principles and current trends. Pre: consent. (Fall only) (Cross-listed as ASTR 657 and CHEM 657)

GG 666 Planetary Surfaces (3) Comparative geology of terrestrial planets (moon, Mars, Mercury, Venus, and Earth); impact cratering, volcanism, geomorphology; remote sensing; manned and unmanned space exploration. Pre: 601, ASTR 630; or consent. (Alt. years)

GG 669 Cosmochemistry (3) Formation and evolution of planets as astrophysical objects, geologic bodies, and abodes of life; current understanding from studies of the Solar System, star formation, meteorites, extraterrestrial life forms, future exploration of space; atmospheres, oceans, habitability, biosignatures. Pre: 325 or CHEM 351 (or equivalent) or consent. (Alt. years)

GG 671 Alpha Remote Sensing (3) Spectroscopy, radiometry, sensor technology and remote sensing applied to geologic problems; instrumental design and data analysis. (B) planets; (C) volcanoes. Pre: 666 or consent.
GG 672 Seminar in Tectonics (3) Evolution of ocean basins, margins, foldbelts, and platforms, from plate tectonics and regional syntheses of structure, petrology, geophysics, and stratigraphy. Repeatable eight times. (Alt. years)

GG 673 (Alpha) Extraterrestrial Material (3) Mineralogical and compositional characteristics of extraterrestrial matter and the implications for the origin and early evolution of the Earth's oceans, atmosphere, and biosphere. Repeatable one time. Prerequisite: consent.

GG 674 Palaeoecology (3) Study of the palaeoecological and palaeoclimate evolution of the Earth's oceans, atmosphere, and biosphere. Repeatable one time. Prerequisite: consent. (Alt. years—Cross-listed as OCN 674)


GG 691 Data Exploration and Processing (3) Time- and frequency analysis, filtering, factor and cluster analysis, interpolation, quantitative map analysis, and introduction to wavelets and fractals. Prerequisite: 413 or consent.

GG 695 Bayesian Data Analysis (3) Linear and nonlinear techniques for model selection, parameter estimation, simulation and forecasting, from Bayesian principles with particular attention to large data sets and sparse noise. Prerequisites: 600 or 601. (Alt. years)

GG 699 Directed Research (V) Repeatable unlimited times. CR/NC only. Prerequisite: consent.

GG 700 Thesis Research (V) Repeatable unlimited times.

GG 701 Physics of the Earth's Interior (3) Interpretation of geophysical and laboratory data to understand elastic and anelastic properties, composition, phase relationships, temperature distribution in the Earth, and history of the Earth. Prerequisites: 300 or consent.

GG 703 Fractures and Faults (3) Lecture on elasticity theory, fracture mechanics and boundary element modeling, with application to faults and fractures in the Earth. Prerequisite: consent.

GG 710 Selected Topics in Geology and Geophysics (2) Content to be announced. Repeatable eight times. Prerequisite: consent.

GG 711 Special Topics in Geology and Geophysics (3) Content to be announced. Repeatable eight times. Prerequisite: consent.

GG 740 MGeo Seminar (1) Seminar to improve student awareness of trends and practices in geoscience professions, and develop ability to prepare, deliver, and evaluate a professional presentation. Targets abstract writing, oral presentation, and technical criticism. Repeatable two times. A-F only. (Spring only)

GG 750 MGeo Professional Project (V) Practical hands-on professional experience, typically with a local company or agency, and involving a final written report and an oral presentation. A grade of credit is assigned when the internship presentations are satisfactorily completed. Repeatable up to six credits. MGE majors only. CR/NC only.

GG 800 Dissertation Research (V) Repeatable unlimited times.

Geriatric Medicine (GERI) School of Medicine

GERI 541 Geriatric and Palliative Care (V) This four-week rotation provides medical students with an overview of geriatric and palliative care in outpatient, inpatient, and nursing home settings. Students will receive one half-day per week of geriatric medicine didactic seminars and one half-day per week of palliative medicine didactic sessions. The clinical placement will be provided at several teaching sites including Kuakini Medical Center, Queen's Medical Center, the VA, several nursing homes on O'ahu, Kaiser Permanente, Hospice Hawai'i, St. Francis Hospital, Straub Hospital, Triad Hospital, and the Pain & Symptom Management Program at Queen's Medical Center.

GERI 542 Geriatric Medicine Research (V) Medical students will have the opportunity to complete a research project in the field of epidemiology of aging, and present an abstract at a local meeting. Basic principles of epidemiology and statistics will be taught. Repeatable unlimited times. CR/NC only. Prerequisite: departmental approval.

GERI 545 Geriatric and Palliative Medicine Elective (V) Four-week elective provides medical students with an overview of geriatric and palliative medicine in outpatient, inpatient, home care and nursing home settings. Students receive one half-day per week of geriatric medicine didactic seminars and one half-day per week of palliative medicine didactic sessions. CR/NC only.

GERI 595 Medical Student Training in Aging Program (2) Introduces medical students to clinical, research, and academic experiences in geriatrics, under the mentorship of faculty members. MD theses only. CR/NC only. Prerequisite: MDED 554 or consent. (Fall only)

Global Health Protection and Security (GHPS)

GHPS 101 Introduction to Population Studies (3) Introduces the study of population (demography), human fertility, mortality, and migration. Focus on the U.S., Hawai‘i, and the Asia-Pacific region.

GHPS 301 Populations of Hawai‘i (3) Demographic characteristics of Hawai‘i’s populations: origins, distribution, growth, and behaviors. Open to non-majors. ey only. Prerequisite: Consent.

GHPS 302 Population in the Pacific Islands (3) Survey of the characteristics of human populations of the Pacific Islands region. Working of population forces from early settlement to the demographic transitions of the present day. Pre: consent. DS

GHPS 307 Population in Other Regions (3) Study of other regions using demographic methods, global economy and health, and the use of population science course (ECON 120, 130, 131; GEOG 151; POLS 110; or SOC 100) only. Consent.

DS

GHPS 308 Population in the Pacific Islands (3) Survey of the characteristics of human populations of the Pacific Islands region. Working of population forces from early settlement to the demographic transitions of the present day. Pre: consent. DS

GHPS 401 Forced Migration (3) Global view of refugee and other forced migration; emphasis on humanitarian assistance. Pre: junior standing and consent. DS

GHPS 412 Analysis in Population and Society (3) Global and U.S. patterns of population growth; composition and distribution, elementary demographic techniques; development issues and population policy. Pre: SOC 300 or consent. (Cross-listed as SOC 412) DS

DS

GHPS 432 Economics of Population (3) Determinants and consequences of growth and structure of human populations. Relationships between economic factors and fertility, population growth, and economic growth. Pre: ECON 301 (or concurrent). (Cross-listed as ECON 432) DS

DS

GHPS 652 Interdisciplinary Seminar (1) Topics such as contemporary issues in global health and nutrition; international health programs, demographic methods, global economy and health, human rights and humanitarian assistance, social justice, global environmental changes and health. Prerequisite: consent. (Cross-listed as PH 652)
HAW 100 Language in Hawai‘i: A Microcosm of Global Language Issues (3) Survival kit for life in Hawai‘i: Introduction to Hawaiian and language related issues enhancing communicative experience in Hawai‘i). Examination of social, cultural, political, and linguistic cross-cultural interaction locally and globally. Taught in English/Hawai‘i’s Gęge English. FGB

HAW 101 Elementary Hawaiian (4) Listening, speaking, reading, writing. Meets five hours weekly; daily lab work. HSL

HAW 102 Elementary Hawaiian (4) Continuation of 101. Pre: 101 or exam. Content of HSL

HAW 105 Intensive Elementary Hawaiian (8) Content of 101 and 102 covered in one semester. Meets two hours daily, Monday–Friday, plus lab work. HSL

HAW 200 I ‘Olelo Nō Ke Ola (4) Accelerated lecture/lab to bridge fluent speakers mainly from Kula Kaipou to Waikīhuila’s system of Hawaiian that reflects a Hawaiian worldview, including HAW 101–201 content, grammar, writing, and spelling conventions. Students matriculate into HAW 202. Pre: instructor consent required. (Spring only) HSL

HAW 201 Intermediate Hawaiian (4) Continuation of 102. Meets five hours weekly; reading of traditional text daily lab work. Pre: 102 or exam or consent. HSL.

HAW 202 Intermediate Hawaiian (4) Continuation of 201. Pre: 201 or exam, or consent. HSL.

HAW 206 Intensive Intermediate Hawaiian (8) Content of 201 and 202 covered in one semester. Meets two hours daily, plus lab work. Pre: 102 or 105, or exam. HSL.

HAW 261 Hawaiian Literature in Translation (3) Survey of Hawaiian literature, including prose narration and grammar, reference to Polynesian and Western themes and forms. DL


HAW 301 Third-Level Hawaiian (3) Continuation of 202. Conducted in Hawaiian. Advanced conversation and reading. Pre: 202 or exam, or consent.

HAW 302 Third-Level Hawaiian (3) Continuation of 301. Pre: 301 or exam, or consent.

HAW 321 Hawaiian Conversation (3) Systematic practice on various topics for control of spoken Hawaiian. Repeatable up to six credit hours. Pre 202 or consent.


HAW 332 Listening Comprehension and Transcription (3) Development of listening comprehension through transcription and discussion of taped recordings. Pre: 202.

HAW 345 Ulu ka Hoi (3) Lecture offered focusing study and creation of Hawaiian language newspapers with a concentration on the characteristics of writing in this genre. Students will produce a monthly newsletter in Hawaiian. Repeatable one time. Pre: 302 (or concurrent) or consent. DH

HAW 373 Ka Moʻomeheu Hawaiʻi (3) A survey course on the study of traditional Hawaiian culture including origins, the socioeconomic system, land tenure, religion, values, and the arts. The course will be taught in Hawaiian. Pre: 302 (or concurrent) or consent. DH

HAW 383 HanaʻOe a Kani Pono-Hawaiian Radio Broadcasting (3) Combined lecture/lab involving students in the planning and production of a weekly Hawaiian language radio broadcast. Includes research, writing, and voicing of mele and their stories on live radio. Repeatable one time. Pre: 302 or 304 (or concurrent with consent), or consent. DH

HAW 384 Ka Haku Mele (3) Composers and Their Compositions. Provides a venue which will allow students to analyze and discuss mele (song, poetry and chant), paying close attention to the style of composition by identifying recurring nuances found in mele composed by the same as well as various authors. Pre: completion of 202 or consent. (Once a year)

HAW 401 Fourth-Level Hawaiian (3) Advanced reading, writing, and discussion in Hawaiian. Transcribing and translating Hawaiian language tapes. Translating English into Hawaiian, and Hawaiian into English. Pre: 302 or exam, or consent. DH

HAW 402 Fourth-Level Hawaiian (3) Continuation of 401. Pre: 401 or exam, or consent.

HAW 425 Moʻolelo Hawai‘i (3) Survey of the major works by Hawaiian scholars writing about the historical and culture of Hawai‘i, including David Malo, Kamakau, Kepelino, and John Papa ʻĪi. Pre: 302. DH

HAW 426 Kaʻao Hawai‘i (3) Survey of the core literature written by Hawaiian scholars, including both historical and mythological epics and folk tales. Pre: 302. DL

HAW 427 L e Ka Hula I Ka Hoʻopua (Moʻolelo, Kaʻao, Mele and Hula) (3) The incorporation of mele and hula performance with moʻolelo and ka‘ao. Pre: 401 or exam. DH

HAW 428 Ka Manaʻo Politiaka Hawaiʻi—Political Thought in Hawaiian (3) Study of Hawaiian political thought in writing and speech. Pre: 302 (or concurrent) or consent. (Cross-listed as POLS 365)

HAW 429 Ka Hōʻike Honua (3) Study of Hawaiian land tenure practices through readings and discussions of audiotapecs, written primary sources, maps, wind names, rain names, ‘ōlelo no‘eau (wise sayings), and mele (poetry). Readings are drawn from 19th and 20th century Hawaiian newspapers and other primary sources. Pre: 302 (or concurrent) or consent.

HAW 430 Ma Ka Hana Kaʻike (3) Study of traditional Hawaiian language practices through hands-on applications and lectures. Pre: 302 (or concurrent) or consent.

HAW 433 I Paʻa Ke Haua (3) An experiential approach to the acquisition of vocabulary, which will allow students to broaden their knowledge of language and the range of domains to perpetuate Hawaiian as a living language. Repeatable one time. Pre: 302 (or concurrent) or consent.

HAW 434 E Pū Paʻakai Kākou: A Study of Traditional Hawaiian and Contemporary Food Culture (3) A study of traditional Hawaiian and contemporary food culture through hands-on applications and lectures. Pre: 302 (or concurrent) or consent.

HAW 435 (Alpha) Problems in Translation (3) Problems in translation of: (B) legal documents; (C) newspapers. Pre: 302 or consent.

HAW 445 Nā Politiaka ma ka Nīhau Hawaiʻi—Politics in Hawaiian Language Media (3) Study of Hawaiian news media with emphasis on political content. Includes field trips to various archives. Pre: 302 (or concurrent), or consent. (Cross-listed as POLS 344) DH

HAW 452 Structure of Hawaiian (3) Descriptive linguistic analysis. Intensive exercises in advanced grammar. Pre: 302 (or concurrent) or consent. DH

HAW 453 ‘Olelo Niʻihau I (3) Study of ‘Olelo Niʻihau. Speaking and listening comprehension will be developed through listening to audio recordings, watching video recordings, and participating in face-to-face conversations with Ni‘ihau native speakers. Pre: 402 (or concurrent) or consent.

HAW 454 History of the Hawaiian Language (3) Development from proto-Polynesian. Phonology, morphology, and grammar; history of research. Pre: 302 (or concurrent) and 452, or consent. DH

HAW 462 (Alpha) Haʻuku: Sports Education Through the Medium of Hawaiian (2) Provide Hawaiian language students with linguistic tools necessary to provide sports education to Hawaiian immersion schools and for basic intergenerational use of Hawaiian in the linguistic domain of sports. (B) basketball; (C) volleyball; (D) football; (E) baseball. Repeatable for other topics.

HAW 463 Language for the Classroom (3) Examination of language needs in various classroom settings and introduction to new vocabulary in school content areas. Pre: 302, 452, and consent.

HAW 466 Kuleana Hawai‘i (3) Examination of the political struggles of the Kula Kaipou (Hawaiian Immersion Program)—past and present. Special attention given to federal and state governments, Department of Education, and internal political struggles. Pre: 401 (or concurrent with consent).

HAW 470 Hoʻomohala Haʻawaia Kaipou Curriculum Development (3) Examination of curricular issues of indigenous language programs;
weekly participation in an immersion classroom; development of materials. Repeatable one time. Pre: 302 or consent.

HAW 483 Papa Mele Wahi Pana (3) Will provide students with the opportunity to learn mele, mainly poetry and song, composed specifically for a certain area of Hawai‘i. Pre: 302 or consent.

HAW 484 Hawaiian Poetry (3) Historical survey and analysis of poetry found in traditional chants, folk songs, chants written in Hawai‘i. Interpreting and composing Hawaiian poetry. Pre: 302 and consent, or 401. DL

HAW 485 Haku Hanakeaka–Hawaiian Language Playwriting (3) The creation and authoring of Hawaiian language play scripts based on traditional motifs. Repeatable one time. Pre: 402 (or concurrent) or consent. DA

HAW 486 Kahuna Hanakeaka (Hawaiian Medium Stage Production) (3) From design to performance, students mount an original production based on traditional motifs. Repeatable one time. Pre: 402 (or concurrent), or consent.

HAW 488 'Olelo speckau (3) Survey and analysis of traditional proverbs and their kauna‘o or symbolic meanings. A-F only. Pre: 402 or consent.

HAW 490 Ka Maku‘o‘olelo A‘o Kula Kaipuni Hawai‘i (1) Assess the linguistic competence of prospective Hawaiian language immersion teachers to assure that all teachers entering the state DOE Hawaiian Immersion Program meet the requirements of the program with respect to Hawaiian language proficiency, 0.402 (or concurrent), and 463 (or concurrent), or consent.

HAW 499 Directed Studies (V) Study of Hawaiian language through vernacular readings in various academic fields. Repeatable up to 6 credits. Pre: 302 and consent.

HAW 601 Kākau Mo‘olelo (3) Analyzes various genres of written Hawaiian literature. HAW majors only. Pre: graduate standing and 402, or consent.

HAW 602 Kākā‘olelo Oratory (3) A survey of oral performance styles to build increased oral skills. Pre: graduate standing and 601, or consent.

HAW 604 Haku Palapa Nui Lāeo o/Writing a Hawaiian Master’s Proposal (3) Seminar to select and develop students’ research topic, proposal, and organizational plan for Plan A or B completion. Majors are encouraged not to take this course in their first semester of the program. A-F only. (Once a year)

HAW 605 Ka Hana Nui‘oi (Research Methods) (3) Research methodology course utilizing active research in the major repositories of Hawaiian language materials and Hawaiian-related knowledge. A-F only. Pre: 604 or consent. (Once a year)

HAW 612 Nā Mana o’ Polī tik Hawai‘i (Hawaiian Political Thought) (3) Study of Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: 402, 428, and POLS 305; or consent. (Cross-listed as POLS 612)

HAW 615 Ku‘aan‘ike (3) The examination of Hawaiian ways of knowing, as contrasted with English focusing on those features that are uniquely Hawaiian and can be said to constitute a Hawaiian worldview. Section 1 taught in Hawaiian; Section 2 taught in English. Pre: 302 or consent.

HAW 625 Mo‘olelo Hawai‘i (3) Intensive study, research, and analysis of Hawaiian history. Repeatable two times with consent of advisor. Pre: 402 or consent.

HAW 638 (Alpha) Nā Mea Kakau/Nā Haku Mo‘olelo (3) Study of an individual author, his/her works and nuances of his/her works. (E) J. H. Kanepu‘u (2 cr. Lec, 2 cr. Lab) Introduction to a variety of fibers used in the Hawaiian customary and contemporary uses of a variety of visual technologies for use in resource management and the ethical application of these technologies. Pre: 107 and 224, or consent. (Once a year)

HAW 639 Ke A‘o ‘Olelo Hau ‘Ana (Teaching Hawaiian As a Second Language) (3) Survey of existing texts and teaching resources; analysis of student clientele and needs; review of pedagogical approaches for heritage and non-heritage learners; syllabus and materials development; practicum. Pre: 401 and 402 or consent.

HAW 652 Pilina ‘Olelo (3) In-depth examination and research into the grammar of Hawaiian including discussion of theories of language and incorporation of meta-language. Pre: 452 or consent. (Once a year)

HAW 653 ‘O‘olelo Nii‘hau (3) Intensive, advanced study and analysis of traditional Hawaiian Nii‘hau dialects and their relationship with Nii‘hau native speakers, listening to audio recordings and watching video recordings of Nii‘hau native speakers. Pre: 402 and 453 with a minimum grade of B- or consent.

HAW 684 No‘oi ‘Mele (3) Intensive study focusing on original compositions of Hawaiian poetry and song. Pre: 402 and 484, or consent.

HAW 695 Papahana Lāeo’o (V) Research for Plan B projects. Course will include but not limited to individual work with cultural practitioners. Repeatable to six credits. HAW majors only. CR/NC only. Pre: consent of graduate advisor.

HAW 699 Directed Research (V) Repeatable unlimited times. A-F only. Pre: consent of instructor and graduate chair.


Hawaiian Studies (HWS) 
School of Hawaiian Knowledge
A grade of C or better in the prerequisite courses is required for continuation, unless otherwise noted.

HWS 107 Hawai‘i’s Center of the Pacific (3) An introduction to the natural and cultural origin, point of view in Hawai‘i and in the larger Pacific with regards to origins, language, religion, land, art, history, and modern issues. DH

HWS 207 Hawaiian Perspectives in Akup‘a’a (3) Examination of the Hawaiian as a system as it was conceptualized by the ancient Hawaiians, and exploration of its relevance in modern society; an introduction to the ma‘iluma ‘aina track designed to build critical writing skills. A-F only. Pre: 107. (Cross-listed as SUST 217)

HWS 220 Introduction to Hawaiian Visual Culture Studio (3) Introduction to a variety of material (fiber, bone, wood, and stone) and skills in the media used in the Hawaiian culture. Research and explore basic techniques within the media with emphasis on cultivation, preparation, uses, and conservation. Repeatable one time. A-F only. Pre: 107 or consent.

HWS 222 Introduction to Hawaiian Fiber Arts Studio-Hana No‘eau Ma‘awe (4) (2 cr. Lec, 2 cr. Lab) Introduction to a variety of fibers used in the Hawaiian customary and contemporary uses of a variety of visual technologies for use in resource management and the ethical application of these technologies. Pre: 107 and 224, or consent. (Once a year)

HWS 224 Introduction to Hawaiian Painting and Drawing Studio (3) Research and explore personal relationship to specific Hawaiian paradigms through visual culture and language. Students will further their definitions, analysis skills, research, and understandings through painting and drawing media. Repeatable one time. A-F only. Pre: 107 and 224, or consent. (Once a year)

HWS 235 Advanced Hawaiian Painting Studio (4) (2 cr. Lec, 2 cr. Lab) Advanced Native Hawaiian perspective in imagery in print and the material, technical, and conceptual aspects of hand printed imagery. Lecture-lab with studio work time. Repeatable one time. A-F only. Pre: 107 and 225, or consent. (Once a year)

HWS 237 Mele Hula o Peleho’omaua (3) Performance based course introducing the multi-identity and world view through ancestral knowledge as presented in the Pele and Hi’aka epic and preserved in the hula tradition. Pre: 107, 270, HAW 102 or consent. (Fall only)

HWS 238 Native Hawaiian Traditions in Literature (3) Discusses theoretical frameworks, main features, and cultural contexts of Hawaiian literature. Pre: 107, 270, and HAW 202; or consent.

HWS 239 Hawaiian Geography Survey of major Hawaiian chiefly lineages from the four main islands: Hawai‘i, Māui, O‘ahu and Kaua‘i. Political history from the Kumulipo to Western contact. Pre: 270 and HAW 202

HWS 301 Perspectives in Hawaiian Studies (3) Interdisciplinary lectures and discussions examining traditional and contemporary experiences in Hawaiian society and setting, research methods, and techniques. Repeatable one time. Pre: HAW 202 or consent. DH

HWS 307 Mālama ‘Āina Resource Management Visual Technologies (3) Requires a broad set of knowledge systems. Will introduce students to a variety of visual technologies for use in resource management and the ethical application of these technologies. Pre: 107 and 224, or consent. (Once a year)

HWS 320 Advanced Art Media (3) Examine and explore advanced techniques within the media and the customary and contemporary uses of a variety of material and skills used in traditional Hawaiian daily life. Repeatable six times. A-F only. Pre: 107 or 220, or consent. (Once a year)

HWS 322 Advanced Hawaiian Fiber Arts Studio-Hana No’eau Ma‘awe (4) (2 cr. Lec, 2 cr. Lab) Examine the customary and contemporary use of fiber materials and the skills used in Hawaiian culture. Research and explore advanced techniques within the media used in traditional Hawaiian’s A-F only. Repeatable one time. Pre: 107 and 222, or consent. (Once a year)

HWS 324 Advanced Hawaiian Painting and Drawing Studio (3) Advanced research and expression of personal relationship to specific Hawaiian paradigms through visual culture and language. Students will further their definitions, analysis skills, research, and understandings through painting and drawing media. Repeatable one time. A-F only. Pre: 107 and 224, or consent. (Once a year)

HWS 325 Advanced Hawaiian Printmaking Studio (4) (2 cr. Lec, 2 cr. Lab) Advanced Native Hawaiian perspective in imagery in print and the material, technical, and conceptual aspects of hand printed imagery. Lecture-lab with studio work time. Repeatable one time. A-F only. Pre: 107 and 225, or consent. (Once a year)

HWS 327 Mele Hula o Peleho‘omaua (3) Performance based course introducing the multi-identity and world view through ancestral knowledge as presented in the Pele and Hi’aka epic and preserved in the hula tradition. Pre: 107, 270, HAW 102 or consent. (Fall only)

HWS 330 Native Hawaiian Traditions in Literature (3) Discusses theoretical frameworks, main features, and cultural contexts of Hawaiian literature. Pre: 107, 270, and HAW 202; or consensus.

HWS 331 Hawaiian Geography Survey of major Hawaiian chiefly lineages from the four main islands: Hawai‘i, Māui, O‘ahu and Kaua‘i. Political history from the Kumulipo to Western contact. Pre: 270 and HAW 202

HWS 332 Chiefs of Post-Contact Hawai‘i (3) Survey of Hawaiian chiefs from 1778 to the present, including genealogy, political function, and historical impact. Pre: 107, 341, or HAW 201

HWS 333 Myths of Hawaiian History (3)
Metho s (3)
Survey course introduces students on historical, legal, and cultural changes from the Inventorying “Ceded Lands” in Hawai‘i with emphasis on possibilities for contemporary expression in other traditional media in indigenous cultures, and the analysis techniques, and (3) applying those techniques to analyze akua as elements and as a paradigm for self-determination; introduced to legal case briefing, critical examination of modern indigenous women’s poetry from the Pacific Islands; thematic analysis of dominant research methodologies from the perspective of indigenous Hawaiians. HWST majors only. Junior/senior standing only. (Fall only)

HWST 445 Hawaiian Institutions (3) Comprehensive analysis of institutions like Bishop Estate/Kamehameha Schools, OHA, Lī‘i‘ukolani Trust, Department of Hawaiian Home Lands and The Queen’s Hospital. Pre: 342.

HWST 451 Wehe Ka ‘Aina: Cultivating a Sovereign Land  (3) Introduction to ecological and agricultural systems in Hawai‘i, after the islands were ceded to the U.S., and the historical period of the Kingdom of Hawai‘i, after the islands were ceded to the U.S., and the contemporary politics that surround the region today. A-F only. Pre: 107 or consent.

HWST 353 Makawalua Pa’ (4) Study of traditional Hawaiian fishpond management with hands-on experience at He‘eia fishpond near Kane‘ohe, merging traditional Hawaiian knowledge and ways of Western science. A-F only. Pre: 107 and 207/SUST 217. (Once a year)

HWST 356 Aloha Kanaloa-Marine Resources and Abundance (3) Undergraduate course exposing students to the resources and processes of the ocean, marine ecosystems, and the cultivation and uses of aquatic herbs to formulate a healing combination. -F only. Pre: 107, 285 or 390 (or concurrent) or 490 (or concurrent) or consent.

HWST 457 ‘Âina Mauliola: Hawaiian Ecosystems and Economics (3) Comprehensive analysis of traditional Hawaiian and modern resource management. Rigorous overview of the dominant physical and biological processes from the uplands to the oceans in Hawai‘i. Pre: 107, BOT 105 or 107, and junior standing; or consent. (Cross-listed as BOT 457 and SUST 457).

HWST 458 Native Plant Medicinoplasties and Ethics (4) Overview of the history of land, resources and power in Hawai‘i; players and processes influencing land and natural resources policies today explored from Native Hawaiian and other perspectives. Extensive use of case studies. Pre: 457/BOT/SUST 457. (Cross-listed as BOT 458)

HWST 459 Strategies in Hawaiian Resource Use (3) Analyzing diverse land and water use strategies of O‘ahu, from traditional Hawaiian, scientific, and economic perspectives, through classroom and on-site lectures. Topics include traditional Hawaiian, modern development, threatened ecosystems, ecosystem sciences, and natural resource research. A-F only. Pre: 457/BOT/SUST 457, 458/BOT 458 (or co-requisite), 459/BOT 459; or consent. (Spring only). (Cross-listed as BOT 461)

HWST 460 Hui Konohiki Practicum (3) A ‘hands-on’ internship in resource management organization in Hawai‘i. The experience will be broadened and supplemented by classroom lectures, discussion and analysis from traditional Hawaiian, scientific and economic perspectives. A-F only. Pre: 457/BOT/SUST 457, 458/BOT 458 (or co-requisite), 459/BOT 459; or consent. (Spring only). (Cross-listed as BOT 464)

HWST 461 Indigenous Economies (3) Students will map out indigenous economies by articulating cultural similarity and diversity between academic experience and professional experiences. A-F only. Pre: 107 or consent.

HWST 467 Mālama ‘Âina Field Methods Course (6) Intensive field methods program to research Mālama ‘Âina strategies. Introduces students to a variety of field techniques in doing land research and integrating it with written records. Travel cost covered by student. Junior standing or higher. Pre: 307 and 457 or consent. (Summer only)

HWST 470 ‘Ike Akua Papakī Makawalū Ancestral Understandings (5) Co-taught by Dr. Pu’u‘ala Kaheahele’s Papakī Makawalū methodology to analyze akua as elements and as a paradigm for understanding ancestral knowledge. Senior standing or higher. Pre: 342 (or concurrent), and HAW 301 (or concurrent).

HWST 478 Mele Au Hou: Music and Native Identity (3) Presents Hawaiian music as it has been an avenue for native social, cultural and political expression in traditional and contemporary society. A-F only. Pre: 107 or 343 or 390; or consent.

HWST 485 Mahi Lā‘au Lapa‘au: Hawaiian Medicinal and Horticultural Practice (3) Research seminar for developing student’s undergraduate internship in agricultural plant sciences and harvesting Hawaiian medicinal plants and exploring production and marketing strategies. Pre: 107, 285 and 385; or consent.

HWST 487 Hawaiian Aquatic Medicine (4) Identification, extraction, preparation, and analysis of traditional Hawaiian uses of aquatic herbs to formulate a healing combination to help fashion student’s research and thesis proposal.

HWST 493 Hawaiian Political Speech: Ha‘i ‘Olelo Ku’e (3) Senior seminar in short, extemporaneous speeches, persuasive, passionate, and skillful delivery. Junior/senior standing only. (Once a year)

HWST 494 Modern Pacific Women’s Poetry (3) Critical examination of modern indigenous women’s poetry from the Pacific Islands; thematic concentration on land, family, sexual and national oppression. Pre: 107, 207, or consent. DL

HWST 495 Kumu Kanawai: Western Law and Hawai‘i (3) The rise of Western law in Hawai‘i, its contribution to nation building and colonialism. Pre: 342 or 343 or 390 or 490 (or concurrent) and [207/SUST 217 or 281 or 285 or 351 and 222 or 224 or 225 or 372 or 478 or 490 (or concurrent)].(Fall only)

HWST 496 Kâ‘owaiwai: Practical Application of Rights (3) Historical analysis of land use, race and self-determination; introduction to legal case briefing, analysis of legal precedent, impacts of rules and regulations and the sociopolitical factors that influence law and law enforcement. A-F only. Pre: 390 or consent.

HWST 499 Directed Reading/Research (V) Individual reading/research. Pre: instructor consent. Students must receive a grade of B- or better in ALL courses counted towards their MA in Hawaiian Studies degree.

HWST 601 Indigenous Research Methodologies (3) Reading seminar for developing a Native Hawaiian epistemology from sources in comparative indigenous thought. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 602 Hawaiian Archival Research (3) Research seminar aimed at familiarizing students with the rich historical primary sources existent in various archives in Honolulu. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 603 Review of Hawaiian Literature (3) Seminar in review of Hawaiian literature to understand the significance of secondary sources in Hawaiian subjects. This makes up one time. Junior/senior standing only. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 604 Writing a Hawaiian Thesis (3) Seminar to help fashion student’s research and thesis proposal. To be taken by all HWST MA students as they begin designing their capstone project will be taught by HWST faculty. Repeatable one time. A-F only. Pre: 601 and 602, 603 (or concurrent).

HWST 620 ‘Ike Pono-Visual/Cultural Interpretations (3) Graduate seminar and visual studio that examines (from a Kanaka Maoli viewpoint) the similarities and diversity between academic experience and professional experience. A-F only. Pre: 107 or 343 or 390; or consent.
resilience and resistance; and re-titling. A-F only. Pre: 107, and one course from 220-225, and one course from 320-325; or consent. (Fall only)

HWST 621 ʻIke Maka-Visual/Cultural Knowledge (3) Graduates of this course carefully examines and develops critical consciousness - a Kanaka Maoli viewpoint - visual hegemony, rhetorical tropes, and representation - imagining and re-imagining. A-F only. Pre: 620 or consent. (Spring only)

HWST 631 Pono Science: Ethical Implications of Science in Hawai’i (1) Support student dialogue on the foundations of pono science. Through discussions and structured guidance, students will explore Hawaiian ethics, implications of research, and decolonizing methodology. Repeatable three times. Graduate students only.

HWST 644 Models of ʻOwi: Historical Perspectives (3) Research seminar for developing interpretations of the past from Native Hawaiian and foreign world views with particular emphasis on understanding the meaning of culturally-based knowledge systems. A-F only.

HWST 650 Hawaiian Geography and Resource Management (3) Seminar in geography of Hawai’i from a Native Hawaiian perspective that will enable the student to define and develop resource management methods consistent with Native Hawaiian understandings and traditions. A-F only. Pre: 107, 270, 341 (or concurrent); 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent). (Once a year)

HWST 652 ʻĀina Waiwai: Water, Food, Sovereignty and Natural Abundance (3) Topical graduate seminar focuses on indigenous perspectives on water, food sovereignty, Hawaiian terrestrial and marine food production systems, and ancestral abundance. Seminar perspective to change each term. Repeatable two times. Pre: 207/SUST 217 and HAW 202 or consent.

HWST 654 Kānāwai Hawai’i’s Ocean and Fisheries Laws (3) Seminar on pre-contact, customary laws on fishing and ocean stewardship, their codification in written laws during the Hawaiian Kingdom period, and changes and impacts through U.S. annexation and statehood, including current models of ocean governance. (Alt. years: Fall) (Cross-listed as SUST 652)

HWST 670 Kumu Kahikina: Comparative Hawaiian and Tahitian Cosmogonies (3) Seminar comparing Gods/myths written by Teiaia Henry (600 pages) with the six volumes of Hawaiian historians Kamakau and Malo. A-F only. Pre: 341 or concurrent. (Alt. years)

HWST 671 Kumu Kahikina: Pacific Life Narratives in Mixed Media and Literature (3) Research seminar in relevant literary traditions, histories of interaction, colonization, and literary politics in the Pacific region through the examination of life narratives in mixed media and literature. A-F only. HWST majors only. Pre: 603 (or concurrent) or consent. (Once a year)

HWST 675 Huaka‘i Hulihai Hawai‘i‘inui‘akau: Study Abroad on Polynesian Temples (6) Comparative study of Hawaiian/Polynesian temple design taught over a 3-week period in Hawai‘i and Polynesia. Travel costs to be paid by student. Pre: 670 (with a minimum grade of B) and HAW 302 (with a minimum grade of B). (Summer only)

HWST 690 Kūkūlani Aupuni: Envisioning the Nation (3) A research seminar designed to provide an overview of community activism and Native Hawaiian empowerment in Hawai‘i in contexts that range from local to international, and to provide a foundation for further study and professional growth. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent). (Spring only)

HWST 691 Kūkūlani Aupuni: Sovereign Hawaiian State, Domestic Kingdom Law, Governance and Politics (3) Research seminar on the subject of domestic law and politics of the Hawaiian Kingdom and the historical relevance of this to the contemporary case for independent, sovereign state continuity under public international law. A-F only. (Alt. years)

HWST 695 Practicum Research Plan B (V) Practicum for Plan B. Repeatable unlimited times. CR/NC only. Pre: consent.

HWST 699 Directed Reading and Research (V) Repeatable unlimited times. A-F only. Pre: consent.

HWST 700 Thesis Research (V) Repeatable for master’s thesis. (F) Full-time. S/U for (F) only. Repeatable up to six credits; Repeatable unlimited times for (F). Pre: 700 for (F).

Health Sciences and Social Welfare (HSSW)

College of Health Sciences and Social Welfare

HSSW 477 Southeast Asian Cultures in Health/Social Welfare (3) The study of cultures and their implications in the health/social welfare context for a number of countries in Southeast and South Asian region. A-F only.

HSSW 478 Pacific Cultures in Health/Social Welfare (3) The study of cultures and their implications in the health and social welfare context for a number of countries in the Pacific region.

Hindi (HNDI)

Language, Linguistics and Literature Students choosing Hindi for the language requirement should be aware that it may not be offered if demand is limited.

HNDI 101 Elementary Hindi (4) Listening, reading, writing, speaking skills, language structure, and culture integrated in a variety of communicative and creative activities. HL

HNDI 102 Elementary Hindi (4) Continuation of 101. Pre: 101 or consent. HL

HNDI 201 Intermediate Hindi (4) Continuation of 102. Listening, reading, writing, speaking skills, language structure, and culture integrated in a variety of communicative and creative activities. Pre: 102 or consent. HL

HNDI 202 Intermediate Hindi (4) Continuation of 201. Pre: or consent. HL

HNDI 301 Third-Level Hindi Culture (3) Continuation of 202. Advanced listening, reading, writing, conversation skills, language structure, and culture integrated in a variety of communicative and creative activities based on selected cultural themes. Pre: 202 or consent.

HNDI 302 Third-Level Hindi Film (3) Continuation of 202. Advanced listening, reading, writing, conversation skills, language structure, and culture integrated in a variety of communicative and creative activities based on selected Hindi-Urdu films. Pre: 202 or consent.

History (HIST)

College of Arts and Humanities

HIST 151 World History to 1500 (3) Historical narratives and global perspectives on human societies and cross-cultural interactions from prehistory to 1500; includes ways to think about the past and ways to use primary sources.

HIST 152 World History since 1500 (3) Continuation of 151. Historical narratives and global perspectives on human societies and cross-cultural interactions from 1500 to present; includes ways to think about the past and ways to use primary sources.

HIST 155 Issues in World History (3) In examining aspects of the histories of Africa, Asia, the Americas, Europe and Oceania, this course highlights the myriad ways in which global contact has transformed our world and narratives of the past.

HIST 156 World History of Human Disease (3) Examines how disease has affected humans in terms of society, culture, politics, religion, and economics. Explores the impact over a broad range of time periods, from pre-history to the present/future. FGB

HIST 161A World Cultures in Perspective (3) Development of civilizations from prehistoric origins to 1500. Offered as discussion and/or problems course. Alternative for 151 and 152; students in Honors program only.

HIST 162A World Cultures in Perspective (3) Continuation of 161A. Development of civilization from 1500 to the present. Offered as discussion and/or problems course. Alternative for 151 and 152; students in Honors program only.

HIST 230 Early European Civilization (3) Political evolution and major economic, social, and cultural development of European states before 1500, including classical and medieval eras. A-F only. (Alt. years)

HIST 231 European Civilization 1500-1800 (3) Political evolution and major economic, social, and cultural development of European states. 1500-1800.

HIST 232 Modern European Civilization 1800- (3) Continuation of 231. Major political, social, economic, and cultural trends from Napoleon to the present. DH

HIST 241 Civilizations of Asia (3) Survey of major civilizations of Asia from earliest times to 1500; East Asia, Southeast Asia, South Asia. DH

HIST 242 Civilizations of Asia (3) Continuation of 241. Survey of major civilizations of Asia from 1500 to the present; East Asia, Southeast Asia, South Asia.

HIST 245 Atlantic History: Colonies to Revolutions (3) Comparative and historical survey of colonialism and revolutions in the Atlantic World from 1500 to 1830. (Alt. years) DH

HIST 281 Introduction to American History (3) Interpretive survey from earliest settlement to 1865. A-F only. DH

HIST 282 Introduction to American History (3) Interpretive survey from 1865 to the present. DH

HIST 284 History of the Hawaiian Islands (3) Survey of state and local history from Polynesian chieftains to Hawaiian Kingdom to American territory and state.

HIST 288 Survey of Pacific Islands History (3) Survey of Pacific Islands from pre-colonial to modern times; early settlement, cultural contact, colonization, contemporary problems. DH

HIST 294 History of the Philippines (3) Traces developments in Philippine history and society from pre-colonial to contemporary times and explores ways in which the peoples of the Philippines embraced, resisted or negotiated new modes of thought, behavior and social organization influenced by the Spanish, American, and Japanese regimes as well as the post-colonial global order. DH

HIST 296 Topics in History (3) Introduction to methods of historical inquiry; current issues in World, American, European, or Pacific history. Repeatable one time. A-F only. DH

HIST 301 History of Early India (3) Historical survey of India and South Asia from Mohenjo-Daro to the Mughal Empire, tracing political, social, religious, economic, cultural, and intellectual developments from ancient times to the 18th century. (Cross-listed as IP 300) DH

HIST 302 History of Modern India (3) Historical survey of India and South Asia from the Mughal Empire to the new millennium, tracing political, social, religious, economic, and intellectual developments from the 18th century to the present. DH

HIST 305 History of Southeast Asia (3) Survey of development of civilizations and growth of nations in Southeast Asia, to the 18th century. DH

HIST 306 History of Southeast Asia (3) Continuation of 305, from 18th century to the present. DH

HIST 309 East Asian Civilizations (3) Characteristics of East Asian civilizations as they developed in pre-modern China; variant patterns in Japan and Korea; the modernization process to 1500. DH

HIST 310 East Asian Civilizations (3) Continuation of 309. Period after 1500. DH

HIST 311 History of China (3) Chinese civilization to the 17th century. DH

Key to symbols & abbreviations: see the first page of this section.
HIST 410 Twentieth-Century China (3) An examination of the political, intellectual, economic, cultural, and social transformations of China in the twentieth century. Lecture/study critical events in the making of modern China and explores important issues in the modernization of Chinese life in the twentieth century. DH

HIST 411 Local History of Late Imperial China (3) Chinese social, political, and economic development and Chinese society from local and regional perspectives; modes of control and disorder during the 19th century. DH

HIST 412 Local History of 20th-Century China (3) Sociopolitical change and continuity at local and regional levels since 1919, stressing provincial reform, Hsien and sub-Hsien politics, warlordism, Kuomintang tutelage, and the Chinese Communist movement and its rise. DH

HIST 416 Chinese Intellectual History (3) Interpretive survey of Chinese ideas and values in their cultural, social and political settings from classical age to 1600. Pre: upper division standing or consent. DH

HIST 417 Chinese Intellectual History (3) Interpretive survey of Chinese thought from 1600 to the contemporary period, with special emphasis on the themes of cultural collision and change. DH

HIST 418 China's Foreign Relations (3) Systematic review from tradition with emphasis on modern and contemporary history, analyses of foreign policy formulation, objectives, and implementation. Recommended: 312. DH

HIST 419 The Search for Modern China (3) Origins, development, and meaning of modern revolution in China, 19th century to People's Republic. Recommended: 311 and 312. DH

HIST 420 People's Republic of China (3) Salient developments from 1949 to the present. Social revolution and modernization, critically relevant foreign relations. Recommended: 312 or 419. DH

HIST 421 China in World History (3) Interpretative survey of China's changing position, significance, and function in the contemporary world history as a way to provide a better understanding of its past and present. Junior standing or higher. DH

HIST 422 Tokugawa Japan (3) Japanese history and culture, 1600-1867. Recommended: 321. DH

HIST 423 Okinawa (3) Survey of social, cultural, economic, and political history from earliest times to present. DH

HIST 424 20th-Century Japan (3) Problems of Japan's political, social, and cultural development since institutional consolidation of Meiji state (c.1890). Pre: upper division standing or consent. DH

HIST 425 Women in East Asian History (3) Survey of the changing political, social, economic, and cultural positions of women in China, Japan, and Korea from ancient times to the present. Pre: one course in Japanese history or consent. DH

HIST 426 History of Japanese Cuisine and Foodways (3) Explores the history of Japanese cuisine and investigates the cultural, economic, and geopolitical aspects of foodways in Japanese domestic and international identity. DH

HIST 428 WWII and the Making of Modern Japan (3) Explores how the history of the Asia-Pacific War was both shaped and was shaped by the rise and fall of Japan in the twentieth century. Includes extensive source analyses and discussions. DH

HIST 429 War in Asia (3) Explores post-World War II Allied war crimes trials in the Asia-Pacific region and transitional justice in Asia. Involves extensive source analyses and discussions. Repeatable one time. DH

HIST 431 Ancient Near East: Pyramids and Writing Tablets (3) Civilizations of the Sumerians, Babylonians, Assyrians, ancient Egyptians, Hittites, Hebrews, and Achaemenid Persians. Emphasis on discussion of literate and pre-literate material. DH

HIST 432 Crisis and Conflict in the Middle East (3) In depth study and analysis of major crises and conflicts in the Middle East since World War II: the Arab–Israeli Wars, civil wars and civil wars in the Arab countries, the Turkish experiment with secularism, the Islamic/ Islamic revolution. Afghanistan, the Gulf War. Recommended: 354 or 355. DH

HIST 433 Medieval Cultures (3) Topical study of cultural and cross-cultural issues in the medieval period (circa 300-1500). Class discussion and written work emphasize analysis of primary source documents using analytical and critical methodologies. DH

HIST 434 History of Christianity to 1500 (3) Historical analysis of definitions of Christianity and elements of diversity within Europe and in relation to other parts of the world. Focus on the interpretation of primary sources and discussion of cultural issues. (All yrs: spring) DH

HIST 436 World Environmental History, 1500 to Present (3) Explores interactions between humans and the natural world from early modern era to the present. Topics include invader species and biotic exchanges; environmental policies; and the ecological impact of industrialization, urbanization, science, technology, war, etc. Pre: junior standing or consent. (One year) DH

HIST 438 European Cult of the Primitive (3) Historical investigation of European beliefs in the superiority of primitive societies. Topics include how primitivist ideas shaped historiography, religion, art, gender, political economy. Pre: upper division standing or consent. (Alt. years: spring) DH

HIST 439 The Darwinian Revolution (3) Social and intellectual origins of evolutionary thought and its continuing impact; emphasis on Darwin and the Victorian scientific community. Pre: upper division standing or consent. DH

HIST 440 20th-Century Europe (3) Contemporary problems and their historical background. DH

HIST 441 Expansion of Europe (3) Historical processes in modern Europe, with emphasis on expansion from 16th to 20th century; impact on non-Europeans in Asia and Africa. (Alt. years: fall) DH

HIST 442 War and Violence in Early Modern Europe (3) History of the intellectual, social, and cultural causes of violence, including military conflicts. Pre: upper division standing or consent. (One year) DH

HIST 443 Nazi Germany (3) Origins, establishment, and impact of Hitler's Third Reich. Recommended: 344. (Alt. years: spring) DH

HIST 444 The History of the Holocaust (3) The origins and progress of the Holocaust, the almost complete destruction of European Jews, and other Nazi genocidal policies. Open to nonmajors. DH

HIST 445 French Revolution and Napoleon (3) Causes, course, and conduct of the Revolutionary and Napoleonic periods, their impact upon Europe; emphasis on the conflict of ideologies inherent in the Revolutionary process. DH

HIST 448 Imperial Spain and Portugal (3) The influence of Spain and Portugal on people and cultures in Europe, Africa, America, and Asia; Portuguese captivity and the defeat of the Spanish Armada. DH

HIST 450 Topics in African History (3) Selected themes in African history, including, for example, the politics, economics, societies, and cultures of pre-colonial, colonial, or modern Africa. Topics to be pre-announced. Repeatable one time. (One year) DH

HIST 451 (Alpha) History and Literature (3) Explores the many relationships between history and literature, including how film has reflected and shaped society in the past and our relationship to the past. (C) Europe; (D) Asia/Pacific; (E) World/Comparative; (F) Provisional

HIST 452 (Alpha) History and Film (3) Explores the many relationships between history and film including how film shaped society in the past and our relationship to the past. (C) Europe; (D) Asia/Pacific. Repeatable one time for different alphas. Pre: junior standing or consent. (Once a year for (D)) DH

HIST 453 Colonial Medicine (3) Evolution of Western medical traditions; challenges created by European expansion and colonial interactions; development of modern racial and gender theories. Junior standing or higher. A-F only. (Spring only) DH

HIST 454 Tsarist Russia (3) Development of the Russian state to the 19th century. Kievan state and early development of culture and art; Mongol era; rise of Moscow, autocracy, and serfdom; Petrine reforms; Western impact; emergence as a major European power. DH

HIST 456 Modern Russia (3) Creation of the Soviet Union, Stalinization, the Cold War, the collapse of the empire, the post-Soviet states. DH

HIST 457 Russia in Asia and the Pacific (3) Russian/Soviet Siberia and Central Asia; Russian American Company and the Pacific; evolving relations with Asian and Pacific powers. DH

HIST 458 The American Revolution (3) Lecture/discussion on the origins, development, and consequences of the American Revolution, explored within the context of the broader revolutionary Atlantic world. Pre: junior standing or consent. (Once a year) DH

HIST 459 African American History (3) Lecture/discussion on the origins of racial slavery, slave and free black culture, slave resistance and antislavery, post-emancipation black life, the rise of Jim Crow, the Harlem Renaissance, and the Civil Rights Movement. DH

HIST 460 Native American History (3) Lecture/discussion on the history of North American Indians from the seventeenth century to the present. Open to nonmajors. DH

HIST 461 Early America (3) Lecture/discussion on Native Americans, Africans, and Europeans in North America from contact to independence. Social, cultural, and economic themes and intersections of race, class, and gender explored. DH

HIST 462 The Early American Republic (3) Lecture/discussion on the Constitution, the growth of partisan politics, the market revolution, religious revivalism, abolitionism and the expansion of slavery in the U.S. during the age of Jefferson and Jackson. DH

HIST 463 American Civil War Era 1841–1877 (3) The crisis of the Union: antebellum society and culture, slavery, reform, sectionalism, the Civil War and Reconstruction. DH

HIST 464 Transformation of America 1877–1920 (3) Selected themes that explain major changes in American life during the late 19th and early 20th centuries, including the westward movement, consolidation of capitalism, world power diplomacy, popular culture, progressivism, World War I. DH

HIST 465 The United States 1920–1948 (3) The Roaring Twenties, the Depression, New Deal, coming of World War II, America during the war, origins of the Cold War. DH

HIST 466 The U.S.: 1948 to the Present (3) The atomic age and the Cold War, the age of anxiety, the 1960s, the Vietnam War, the Reagan-Bush era, and beyond. DH

HIST 467 American Television History (3) Lecture/discussion examining the impact of television on American society, culture and politics. Analyzed in depth are family sitcoms, presidential politics, Vietnam and the presentation of gender and ethnicity. Open to nonmajors. DH

HIST 468 Viva Las Vegas! (3) Upper-division lecture on the historical and cultural significance of Las Vegas in twentieth-century America. Open to nonmajors. DH

HIST 469 The Cold War (3) Cold War as a global struggle. Topics will include U.S.-Soviet economic and political rivalry, Capitalism vs. Communism as practical policy and ideological struggle, the nature of Third World anti-colonial nationalism. A-F only. Pre: junior standing or higher, or consent. DH

HIST 471 Music, Industry, and Society (3) History of U.S. music and recording industry. How industry retrofits economy as a whole, and how it reflects broad patterns and trends in American culture and society. (Cross-listed as MUS 440) DH

HIST 472 American Social History (3) Introduction to the new social history; interdisciplinary approaches to the study of the everyday lives of ordinary Americans in past generations. DH

HIST 473 Slavery and Freedom (3) Examines the history of slavery, race, and abolition in the Americas.
from a comparative, global perspective, and traces the legacy of slavery in the post-emancipation societies of the New World. (Cross-listed as AMST 432) DH

HIST 474 The American West (3) Lecture/ discussion survey of the contact, collision, and consolidation of North American frontiers and the post-frontier development of the American West. DH

HIST 475 Constitutional History of the U.S. (3) Origins, development of Constitution, Colonial to modern times. DH

HIST 476 Race and Racism in America (3) Racial ideas and ideologies, and their effects throughout American history. (Cross-listed as AMST 440) DH

HIST 477 History of American Workers (3) Conditions of labor in major phases of American development; response of labor and community to changing work environment. Capitalism, unionism, race, gender, law, etc. Emphasis on 20th century. (Cross-listed as AMST 431) DH

HIST 478 Colonial Latin America (3) Pre-Colombian civilizations: Spanish and Portuguese colonization; political, economic, social, and religious evolution to 1810; independence. (Cross-listed as LAS 468) DH

HIST 479 Latin America Since Independence (3) Political, economic, and social development since 1825; case studies from Brazil, Mexico, and Cuba. DH

HIST 480 American Environmental History (3) Survey history of the complex relations between American societies and diverse U.S. ecosystems, from European contact to the present. (Cross-listed as AMST 425) DH

HIST 481 Pacific Islands I (3) The Pacific past from first human settlement to the start of the colonial period; emphasis on historiography and analysis of islanders’ responses to Euro-American intrusion. DH

HIST 482 Pacific Islands II (3) The colonial experience to the present. DH

HIST 483 United States in the Pacific (3) Growth of economic and political interests and policies. DH

HIST 484 The Hawaiian Kingdom 1819–1893 (3) Transformation of a Hawaiian kingdom into a state influenced by American and European ideas and institutions and Asian peoples. Pre: upper division standing or consent. DH

HIST 485 History of 20th-Century Hawai’i (3) Formation of an American Hawai’i with its unique local culture from 1898 to the present. Pre: upper division standing, DH

HIST 489 World Maritime History (3) Survey of world maritime history from earliest times to the present, with emphasis on the evolution of nautical technology, motives from maritime enterprises, and the impact of cross-cultural encounters between oceanic peoples. (Cross-listed as AMST 489) DH

HIST 490 Maori and American Indians (3) Compares indigenous sovereignty issues arising among the Maori or Aotearoa-New Zealand and Indian tribes of the U.S. from 1776 to the present. (Once a year) DH

HIST 492 Women and Revolution (3) Conditions under which women’s activism and participation in protest and revolutionary movements developed in the 19th- and 20th-centuries. Cross-cultural comparisons. (Cross-listed as ASIAN 492 and WS 492) DH

HIST 495 (Alpha) History Colloquium (3) Extensive or intensive treatment of special problems. (B) Special readings on the rise, spread, and development of a field of study in the humanities. (C) U.S. foreign relations; (D) history in Oceanica; (E) Chinese: traditional government. Recommended for honors students. Pre: 372 (or concurrent) or consent for (C); consent for (B) and (E). DH

HIST 496 (Alpha) Senior Tutorial in History (3) Analysis of sources and evaluation of methods of historical writing. Students undertake a major research and writing project in field of special interest. Capstone course requires 60–25 page minimum final research paper. Required for majors except those in Honors Program. (B) United States; (C) Europe; (D) Asia/Pacific; (E) comparative/World. A-F only. Pre: 350 (or concurrent) or consent for alpha. DH

HIST 499 Directed Reading (V) Individual projects in various fields. History majors with consent. DH

Key to symbols & abbreviations: see the first page of this section.
alternate years. Repeatable one time. (Alt. years: fall)
HIST 678 Hawaiian Historical Research: Documents and Methods (3) Research and writings emphasizing the interpretation of Hawaiian and English language sources. Development of source materials, approaches, and methods in Hawaiian history. A-F only. Graduate standing only. Pre: HAW 301 with a B or better, or instructor consent.

HIST 699 Directed Research (V) Individual research topics. (1) American; (2) Pacific; (3) Japanese; (4) European; (5) English; (6) Chinese; (7) Russian; (8) Hawaiian; (9) South Asian; (10) Southeast Asian; (11) Korean. Restricted to plan A (thesis) students. Maximum 2 credit hours. Repeatable one time. Pre: consent.

HIST 700 Thesis Research (V) Repeatable unlimited times.
HIST 702 Institutional History of Korea (3) Major political, economic, and social institutions. Repeatable one time. Pre: graduate standing or consent. (Alt. years: spring)

HIST 790 Teaching History (1) HIST 151-152 faculty supervisors mentor their Teaching Assistants who teach the discussion labs. Course addresses issues of teaching strategy, grading and historical content. Enrollment limited to Teaching Assistants in the World History Program. Repeatable seven times. A-F only. Pre: History graduate Teaching Assistants assigned to 151-152.

HIST 800 Dissertation Research (V) Repeatable unlimited times. Pre: consent.

Honors (HON)
Honors Programs
These courses are limited to students in the Honors Programs.

HON 101 Introduction to Research and Creative Work at Mānoa (3) Combines lectures by instructors and faculty guests with workshops and hands-on experience in small group projects, including bibliographic searches, laboratory science, social surveys and interviews. A significant portion is dedicated to writing instruction. Honors Program students only. A-F only.

HON 120 Mathematical Modes of Thinking (3) Mathematics is both a language and a thought process expressed in that language. Historical and contemporary relations to culture. A-F only.

HON 190 Honors Tutorial (1) Supplements a 100 or 200 level standard lab time with discussion section, instructor-intensive lab time or directed research. Limited enrollment. Repeatable three times.

HON 291 (Alpha) Sophomore Seminar (3) Special inquiry-based study of multi-disciplinary topics in particular historical, cultural, geographical, environmental, or other contexts. Emphasis on primary sources and/or fieldwork and extensive instruction in writing. (B) biological science; (H) humanities; (P) physical science; (R) arts; (S) social science; (T) literature. Repeatable one time. A-F only. Pre: 101 or departmental approval. DB for (B); DH for (H); E for (P); DA for (R); E for (S); DL for (T)

HON 301 Public Policy-Making (3) Students develop understanding of theory, practice, and ethical issues of public policy-making. Combines lecture/discussion and fieldtrips. Students develop policy analysis and strategic plans that identify issues, interests, and methods of influence. Repeatable one time. A-F only. Pre: 101 or 291, or departmental approval. (Cross-listed as POLS 386)

HON 303 Civic Engagement, Volunteerism & Community Service (3) Seminar on history and theory and practice of volunteerism in the U.S. Involves comparative study of volunteerism, individual research projects on volunteerism, and conduct of field service activities together with written reports. Repeatable one time. A-F only. Pre: 101 or 291, or departmental approval.

HON 330 Honors Study Abroad Project (V) Honors students participating in study abroad enhance their experience through an individually proposed project to be carried out in the host country. Project must be approved by the Honors and Study Abroad directors. Repeatable one time, up to three credits. Honors students only. Pre: consent of Honors director and study abroad director.

HON 333 Experiential Learning and Scholarly Engagement (3) Students develop an understanding of theory and practice of experiential learning through direct engagement and focused scholarly reflection while assimilating and synthesizing new knowledge and developing critical thinking skills. Repeatable two times. Honors Program approval only. A-F only.

HON 340 The Publication Process (3) Publication process focuses on experiential learning and ethics. Learn how to solicit contributions, review and edit articles, and learn about publishing from multiple perspectives. Repeatable one time. Honors students only. Pre: consent of Honors director and instructor. (Spring only)

HON 380 Peer Mentoring (3) Students develop understanding of dynamics of leadership skills within the contexts of paired to large groups. Significant portion is dedicated to writing and oral communication instruction. Honors Program students only. Pre-semester training sessions, on-going training and supervision. Repeatable one time. A-F only. Pre: 101 or departmental approval.

HON 491 Junior Seminar (3) Project-based experiential learning involving community-based research or creative work. Focus on project design, practical skills, and teamwork. Significant portion is dedicated to writing instruction. Multi-disciplinary topics vary each semester. Honors Program students only. Repeatable one time. A-F only.

HON 492 Honors Colloquium (3) Weekly meetings for discussion of enduring issues and problems of an interdisciplinary nature. Limited to candidates for Honors degree. CR/NC only.

HON 494 Honors Workshop (0) Supplemental workshop for students beginning independent work on their senior honors thesis. Honors students only. Junior or senior standing only. CR/NC only. Pre: 495 or consent.

HON 495 Honors Thesis Proposal (3) Library research skills; scholarship of research and creative work; methodological and ethical issues; development of individual proposal or prospectus for Senior Honors Project. Limited to candidates for the Honors degree. Repeatable one time.

HON 496 Senior Honors Project (3) Original research, creative work, performance or other form of scholarly project appropriate to a major and supervised by a faculty member. Limited to candidates for Honors degree. Repeatable one time for each major. A-F only. Pre: 495 or consent.

HON 499 Directed Reading/Research (V) Directed reading and/or research. Repeatable 3 times or up to 12 credits. Selected Studies students also have the option of taking A-section courses from the following list when they are offered by departments:

- ACC 201A Introduction to Financial Accounting
- AMST 150A America and the World FGB
- AMST 202A Diversity in American Life DH
- AMST 220A Introduction to Indigenous Studies DH
- ANTH 151A Emerging Humanity FGA
- ANTH 152A Culture and Humanity FGB
- ART 101A Introduction to Visual Arts DA
- ART 175A Survey of Global Art I FGA
- ART 176A Survey of Global Art II FGB
- ASAN 312A Contemporary Asian Civilizations DS
- ASTR 110A Survey of Astronomy DP
- ASTR 120A Astronomical Origins DP
- BOT 101A General Botany DB
- BOT 105A Ethnobotany FGC
- BOT 107A Plants, People, and Culture FGC
- CHEM 181A Honors General Chemistry DP
- CHN 101A Elementary Mandarin HSL
- CHN 102A Elementary Mandarin HSL
- CHN 201A Intermediate Mandarin HSL
- COMG 151A Personal and Public Speech DA
- COMG 251A Principles of Effective Public Speaking DA
- ECON 130A Principles of Microeconomics DS
- ECON 131A Principles of Macroeconomics DS
- ECON 300A Intermediate Economics: Macroeconomics Analysis DS
- ECON 301A Intermediate Economics: Price Theory DS
- ECON 317A The Japanese Economy DS
- ECON 362A Trade Policy and Globalization DS
- ENG 100A Composition I FW
- ENG 270A Introduction to Literature: Literary History DA
- ENG 271A Introduction to Literature: Genre DL
- ENG 272A Introduction to Literature: Culture and Literature DL
- ENG 273A Introduction to Literature: Creative Writing and Literature DL
- ES 101A Introduction to Ethnic Studies DS
- GG 101A Introduction to Geology DP
- HWST 107A Hawai‘i: Center of the Pacific DH
- HIST 161A World Cultures in Perspective FGA
- HIST 162A World Cultures in Perspective FGB
- ICS 101A Digital Tools for the Information World
- ICS 111A Introduction to Computer Science
- ICS 211A Introduction to Computer Science II
- IS 300A Field Study
- MATH 251A Accelerated Calculus I FS FQ
- MATH 252A Accelerated Calculus II
- MATH 253A Accelerated Calculus III
- MICR 140A Microbiology Laboratory DY
- MUS 107A Music in World Cultures FGC
- PHIL 100A Introduction to Philosophy: Survey of Problems DH
- PHIL 101A Introduction to Philosophy: Morals and Society DH
- PHIL 102A Introduction to Philosophy: Asian Traditions DH
- PHIL 110A Introduction to Deductive Logic
- PHYS 170A General Physics I DP
- PHYS 272A General Physics II DP
- POLS 110A Introduction to Political Science DS
- POLS 335A Political Philosophy and Theory DS
- PSY 100A Survey of Psychology DS
- PSY 371A Abnormal Psychology DS
- REL 151A Religion and the Meaning of Existence DH
- REL 210A Understanding Christianity DH
- SOCS 150A Street Science: Evaluating and Applying Evidence in Daily Life
- SOC 100A Introduction to Sociology DS
- SOC 300A Principles of Sociology Inquiry DS
- SPAN 201A Intermediate Spanish HSL
- SPAN 202A Intermediate Spanish HSL

Key to symbols & abbreviations: see the first page of this section.
HDFS 230 Human Development (3) Concepts, issues, theories of human growth and development from conception to maturity. Approaches to inquiry into factors affecting growth and development.

DS

HDFS 331 Infancy and Early Childhood (3) Growth and development from conception to age 5. Historical and current issues and research based on ecological, cross-cultural perspective. Focus on optimal development. Pre: 230 or consent. DS

HDFS 332 Childhood (3) Intensive investigation into development of children ages 6-12 years. Historical and current issues, research, and examination of the role of schools and other community resources. Focus on optimal development. Pre: 230 or consent. DS

HDFS 333 Adolescence and Early Adulthood (3) Problems, concepts, and research related to development from puberty through early adulthood. Examination of biological, cognitive, social, and cultural factors affecting the individual. Pre: 230 or consent. DS

HDFS 334 Middle Age and Aging (3) Change and continuity in midlife and late life from theoretical and applied perspectives. Coverage of physical and psychological events as well as social attitudes, values, and programs regarding aging. Pre: 230. DS

HDFS 335 Family Resource Management (3) Study of intimate relationships, marriages, and families, their dynamics, strengths, growth and development, challenges, choices and opportunities, in the context of social change and cultural diversity. Pre: 230 or PSY 100 or SOC 100; or consent. DS

HDFS 340 Parenting (3) Parenting theories, methods, skills, issues, and resources; parent-child relations in various cultural contexts. Pre: 340 or consent.

HDFS 350 Leadership and Group Process (3) Exploration of leadership research and theories and their application to leadership development; designed to enhance personal and interactive leadership. Pre: any FG course.

HDFS 352 Community Needs and Resources (3) Theory and practice in determining community needs and resources; community resource development based on needs identification. Pre: any FG course. DS

HDFS 356 Family Resource Management (3) Concepts and processes in managing family and household resources. Pre: 230 or consent.

HDFS 361 Family Financial Planning (3) Analytical approach to family financial planning from the perspective of changing family demands over the life cycle. Pre: 360 or an ECON course, or consent.

HDFS 363 Consumer Economics (3) Consumer rights, responsibilities, and resources; consumer decision-making; factors affecting consumer functioning within economy. Pre: 360 or an ECON course, or consent.

HDFS 380 Research Methodology (3) Fundamentals of scientific methodology and techniques in data collection; introduction to statistics for decision-making and program evaluations in agriculture and human resources. FDM, HDFS, or TPSS majors only. Pre: 230 or FDM 200 or TPSS 200/SUST 211, or consent. Co-requisite: 380L. DS

HDFS 380L. Research Methodology Lab (1) (1-3 hr) Lab test design, computer use, data analysis, FDM, HDFS, or TPSS majors only. Co-requisite: 380L.

HDFS 425 Partnerships with Families and Professionals (4) Lecture, discussion and hands-on course, prepares students for direct, educational work with parents and children for continued professional development in family and family studies. Counseling, psychology, social work and/or family life education. A-F only. Pre: 341 or consent.

HDFS 435 Mindfulness and Skillful Living (3) Lecture, discussion, experiential activities of principles and practice of an evidence-based contemplative science discipline, including applications to daily life and with youth and families. Pre: completed DS course.

HDFS 442 Marriage Development (3) Marital interaction and development; divorce and remarriage; resources and techniques for marital adjustment, enrichment, and growth. Pre: 340.

HDFS 444 Contemporary Family Issues (3) Investigation of social, cultural, and international impact upon family quality of life, with emphasis on the interdependent nature of families and their environments. A-F only. Pre: 340 or consent. DS

HDFS 445 Family Life Education Methodology (4) Lecture, discussion and hands-on course, with service learning on Family Life Education Methodology. Repeatable one time. Pre: 341 or 442, or consent.

HDFS 452 Community Program Development (3) Concepts and theories of community program development; principles, practices, and procedures in administration and supervision of volunteer services surveyed and analyzed. Pre: 352.

HDFS 454 Family Public Policy (3) Cross-national survey of family public policy: analysis, revision, and development of family public policy; impacts of policy on consumers and families. Pre: DS 352. DS

HDFS 455 Consumer Communications (3) Development, modification and evaluation of consumer materials for print media. Use of desktop publishing computer programs. Pre: 360 or an ECON course, or consent.

HDFS 468 Family Economics (3) Study of personal family resources and its interaction with the economy. Focuses on contemporary economic problems that affect the welfare of families. Pre: 500 or an ECON course, or consent.

HDFS 491 Topics in Family Resources (V) Study and discussion of significant topics, problems. Offered by visiting faculty and/or for extension programs. Repeatable.

HDFS 492 Internship (4) Integration and application of academic knowledge and critical skills in supervised work at an approved internship site and through analytical writing assignments and class discussions. Repeatable up to 12 credits. Pre: DS 101. A-F only.

HDFS 495 Capstone Portfolio (3) Preparation of a senior portfolio to be used as assessment of competence relative to national FCS standards. Includes evidence of student learning, and resources to support professional development. Pre: any FG course. DS

HDFS 499 Directed Reading and Research (V) Independent reading and research on a topic, done under supervision of a faculty member; outcomes presented in written or oral form at beginning of semester. Repeatable two times or up to nine credits. Pre: consent.

Human Resources Management (HRM)

Shuler College of Business

HRM 200 Career Development (1) HRM 351 Human Resource Management (3) Survey of the field covering recruitment, selection, training, appraisals, grievance handling, communications, discipline, safety, compensation, and benefits.

HRM 353 Leadership and Group Dynamics (3) Develop understanding of theory and research on managerial, entrepreneurial leadership and team dynamics in organizations. Topics include leadership, decision making, motivation, personality, and rewards within group settings.

HRM 354 Organizational Change and Effectiveness (3) Identify and evaluate methods to promote an effective change transition through efficient implementation of corporate goals with the organizational environment.

HRM 361 Labor Problems (3) Problems and economics of labor; history, structure, government, activities of trade unions. DS

HRM 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department head and faculty advisor.


HRM 455 The Staffing Process (3) Contemporary practices and trends in personnel planning for a competent work force; legal constraints, recruitment and selection, differential placement, training, career programming. Pre: 351.

HRM 463 Negotiation and Workplace Dispute Resolution (3) Theory and practice in negotiating; designed and operation of various kinds of workplace dispute resolution (such as mediation, arbitration, and various alternatives); features exercised on bargaining and negotiation and advocacy and decision skills. (Sold only.)


HRM 467 Labor Management Relations (3) Review and analysis of basic factors that distinguish employment relations; examination of the development of recent legislation and programs at federal, state, and municipal levels. Specific consideration given to collective bargaining on the mainland and Hawai‘i. Pre: consent.

HRM 468 Training and Development (3) Analysis of the current concepts and practices in the design, delivery, and assessment of training. A-F only.

HRM 469 Seminar in HRM (3) In-depth analysis of selected current practices and trends in HRM. Repeatable one time for different topics. Pre: consent.

HRM 671 Human Resource Management (3) Analysis and critical evaluation of current issues, policies, and trends in personnel administration. HRM majors only. Graduate students only. A-F only.

HRM 672 Training and Development (3) Covers issues in design, delivery, and assessment of training, theoretical background of training and development process, types of training process, cross-cultural and other types of diversity training and development of training modules. HRM majors only. Graduate students only. A-F only.

HRM 673 Advanced Organizational Behavior (3) Organizational development (OD) and major concepts in organizational behavior. MHRM majors only. A-F only.

HRM 674 Finance for Human Resource Management (3) Intends to give HR professionals a basic overview of the vocabulary and concepts of financial decision-making. Topics include: understanding financial information, budgeting, the finance of retirement and employee benefit and business valuation. MHRM majors only. A-F only.

HRM 675 Compensation (3) Survey of compensation methods and procedures including job evaluations, incentive systems, salary administration, fringe benefits, appropriate legislation, policies and strategy issues of compensation systems. HRM majors only. Graduate students only. A-F only.

HRM 676 The Staffing Process (3) Recruiting and selection to optimize organizations including job design, job analysis, recruitment and selection methods, such as types of interviews and assessment centers, within legislative environment. HRM majors only. Graduate students only. A-F only.

HRM 677 Negotiations and Labor Relations (3) Theory and practice of negotiation. Exploration of alternative strategies, team building, compromise, and conflict resolution techniques. Study of dyadic multi-party, cross-cultural, and assisted negotiations. MHRM majors only. A-F only.

HRM 678 International Human Resources (3) Exploring global trends in human resources with focus on the Asia Pacific region. HRM majors only. Graduate students only. A-F only.

HRM 679 Human Resource Management Topics (3) In-depth analysis of selected current practices and
trends in human resources. Repeatable four times with change in topics. MHMR majors only. A-F only.

HRM 680 Human Resource Management Capstone (3) The final course in the MHMR curriculum. It provides students opportunity to integrate and apply previous course content to their professional organization offering a value-added opportunity to enhance organizational performance. MHMR majors only. A-F only.

HRM 688 Human Resources Leadership in Healthcare Organizations (3) Builds on previous leadership and management courses, focus on development of individual leadership skills emphasizing ethical critical decision making, effective working relationships, and a systems-perspective relevant to healthcare organizations. A-F only. Pre: BUS 626. (Alt. years)

Ilokano (ILO)

College of Languages, Linguistics and Literature

ILO 101 Beginning Ilokano (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets four weeks weekly. HSL

ILO 102 Beginning Ilokano (4) Continuation of 101. Pre: 101 or consent. HSL

ILO 107 Ilokano for Health Sciences (3) Development of listening, speaking, reading, writing and other communication skills designed specifically for Nursing, Dental Hygiene, Public Health and Social Work students. Culture integrated with language study.

ILO 201 Intermediate Ilokano (4) Continuation of 102. Meets four hours weekly; three of four hours devoted to drill and practice. Pre: 102 or consent.

HSL

ILO 202 Intermediate Ilokano (4) Continuation of 201. Pre: 201 or consent. HSL

ILO 301 Third-Level Ilokano (3) Continuation of 202. Continuing advanced reading, composition. Meets three times weekly. Pre: 202 or exam. or consent.

ILO 302 Third-Level Ilokano (3) Continuation of 301. Pre: 301 or exam. or consent.

ILO 315 Ilokano Aural Comprehension (3) Training in listening comprehension of different authentic and simulated materials as presented in documentaries, soap operas, radio and television news and other cultural materials. Emphasis on vocabulary, speech, plays, nature conversations, songs, and student-created sitcoms and dramas. Pre: 202 or consent.

ILO 331 Contemporary Ilokano Literature (3) Conducted as a seminar course exploring the literary landscape of Ilokano literature from the perspective of Ilokano writers based in the Philippines as well as those outside of the country. Pre: 301 or consent.

ILO 340 Fourth-Level Ilokano (3) Continuation of 302. Continuation of 301. Pre: 301 or exam. or consent.

ILO 351 Ilokano Aural Comprehension (3) Training in listening comprehension of different authentic and simulated materials as presented in documentaries, soap operas, radio and television news and other cultural materials. Emphasis on vocabulary, speech, plays, nature conversations, songs, and student-created sitcoms and dramas. Pre: 202 or consent.

ILO 400 Fourth-Level Ilokano (3) Continuation of 401. Pre: 401 or exam. or consent.

ILO 424 Introduction to Ilokano for Interpreters (3) Techniques for interpreting Ilokano into English and vice versa. A-F only. Pre: 302 or consent.

ILO 425 Ilokano Interpretation Field Practicum (3) Provide extensive practical training in consecutive, simultaneous, sight and telephonic interpreting. It requires observation and study of interpretation techniques in interactive communication. Pre: 301 or consent.

ILO 451 Structure of Ilokano (3) Introduction to phonology, morphology, and syntax. Pre: 202 or consent.

ILO 486 Ilokano for the Mass Media (3) Ilokano as the medium for print journalism, for radio show programming, and for television production. Pre: 302 or consent. (Fall only)

Indo-Pacific Languages (IP)

College of Languages, Linguistics and Literature

In addition to the languages normally offered by the department, other languages commanded by individual faculty members may be offered if demands and staff permit, e.g., classical Arabic, Aisulu, Avestian, Balinese, Japanese, Malaysian, Old Persian, and Sudanne. Interested students should consult the department chair. Language concentrations in other degree programs, e.g., through the interdisciplinary Student Services Program, may be arranged. Inquire at the department office.

IP 101 Directed Elementary Language Study (4) Directed study of a South Asian, Southeast Asian, or Pacific language not regularly listed by the department. Pre: consent.

IP 102 Directed Elementary Language Study (4) Continuation of 101. Pre: 101 or consent.

IP 190 Introductory Language Study (V) Introductory study of a South Asian, Southeast Asian, or Pacific language. Contact hours and credits determined by student interests and faculty resources. Repeatable up to six credit hours. Pre: consent.

IP 201 Directed Intermediate Language Study (4) Continuation of 102. Pre: consent.

IP 202 Directed Intermediate Language Study (4) Continuation of 201. Pre: 201 or consent.

IP 261 Topics in Indo-Pacific Literature/Culture (V) Study of a literature or culture of the Indo-Pacific area through readings in various fields in English. Repeatable up to six credit hours. Pre: consent.

IP 273 (Alpha) Introduction to Indo-Pacific Language and Culture (3) Introduction in English to language(s) and culture(s) of Indo-Pacific country or region. (B) Indian; (C) Southeast Asian; (D) Polynesian; (E) Philippine. Sophomore standing or higher for (C). Pre: 101 or exam. or consent. (V) determined by student interests and faculty resources. Repeatable up to eight credit hours. Pre: at least six credit hours of elementary study in the same language.

IP 300 History of Early India (3) Historical survey of India and South Asia from Mohenjo-Daro to the Mogul Empire, with emphasis on historical, economic, cultural, and intellectual developments from ancient times to the 18th century. (Cross-listed as HIST 301) DH

IP 301 Directed Third-Level Language Study (3) Continuation of 202. Pre: consent.

IP 302 Directed Third-Level Language Study (3) Continuation of 301. Pre: 301 or exam. or consent.

IP 360 Filippo Food, Music, and Rituals: Art and Culture Studies (3) Survey of the art and culture of Filipinos food, music, and rituals-history, forms, social development, influences, and impact. Sophomore standing or consent. DS

IP 361 Southeast Asian Literature in Translation (3) Survey in English of modern and contemporary literatures of Southeast Asia. (Cross-listed as ASIAN 361) DL

IP 362 Philippine Drama: History, Art, Culture (3) Historical survey from precolonial to contemporary periods. Studies forms, conventions, and literature within the social, political, and cultural context of the times as reflected in the history of Philippine drama. Explores plays in the diazpora. Sophomore standing or higher, A-F only. (Fall only) DL

IP 363 Philippine Contemporary Literature in English (3) Critical survey of 20th-century Philippine literature written in English; cultural values. Pre: one ENG DL course or consent. (Cross-listed as ENG 375) DL

IP 364 Philippine Popular Culture (3) Appreciation, re-examination, and analysis of Philippine popular culture in the Philippines and in the diaspora; an examination of such forms using critical hermeneutic frameworks. A-F only. Pre: sophomore standing or consent. DH

IP 365 South Asian Literature in Translation (3) Survey of traditions in South Asian literature. Literature written originally in English. DL

IP 366 Literatures of Ancient India (3) Survey of South Asia literature from ancient times to the early medieval period, with emphasis on Sanskrit, Prakrit and Tamil poetry traditions. Readings in English translation. (Cross-listed as CLAS 366) DL

IP 367 Persian Theater and Culture (3) Study of Persian and Iranian theater and culture with an overview of history from 2500 B.C. to the contemporary era. Pre: THEA 101 or consent.

IP 369 Introduction to South and Southeast Asian Film, History, Theory, and Appreciation (3) Study and analysis of South/Southeast Asian films—history, forms, development, theoretical framework and relationship to cultural, social, and aesthetic context. (B) Filipino; (C) Indonesian. Sophomore standing or higher, A-F only for (B). DH

IP 369 (Alpha) Study Abroad (3) B) Samoa; C) Tahiti; D) Vietnam. Repeatable for (B) and (C). Pre: instructor consent for (C).

IP 370 Philippine Travellers: People, Places, and Practices (3) A virtual guided tour of the Philippines that moves its multicultural diversity through its people, places, and practices. Sophomore standing or higher. A-F only. DH

IP 373 Vedic Hindu Mythology (3) Study of major Hindu myths of the Vedic Sanskrit literature within the perspective of ancient Indian civilization. Literary sources will be tapped for understanding creation, cosmogony and celestial, atmospheric and terrestrial divinities. Sophomore standing or higher, A-F only. (Fall only) (Cross-listed as REL 373)

IP 374 Classical Hindu Mythology (3) Study of major myths of Epic Sanskrit literature, primarily with focus of the Ramayana and Mahabharata. Literary sources will be tapped for appreciating myths and epics, especially with reference to karma, ways of life. Sophomore standing or consent. (Spring only) (Cross-listed as REL 574)

IP 376 Philippine Diasporic Literature (3) Appreciation, reexamination, and analysis of Philippine literature of exile; a reevaluation of Philippine writing from the diaspora. Sophomore standing or higher, A-F only.

IP 377 Critical Discourses in IP Literature Studies: Philippines (3) Revaluation and analysis of critical discourses in Philippine languages and literatures and an examination of alternative perspectives to the prevailing studies on Philippine culture; an examination of emerging knowledge on the Philippines. Sophomore standing or higher, A-F only.

IP 389 Theories in Ilokano Studies (3) Examines the various theories employed in the study of Ilokano society, language, and culture from a variety of historical periods. A-F only. Junior standing or higher, or consent. (Alt. years; spring)

IP 391 Literary Traditions of the Philippines and Southeast Asia (3) An appreciation, re-examination, and an analysis of the literary and cultural relations among the various nation states of Southeast Asia. Various texts are examined to establish the connections of these nation states. Sophomore standing or higher, or consent. (Alt. years) DH

IP 395 Polyvocal Folklore in Translation (3) Traditional polyvocal genres (legends, myths, folktales, fables, proverbs, songs, riddles, jokes) examined in translation and culturally and structurally interpreted. Pre: one of ENG 270-272.

IP 396 Philippine Literature and Folklore in Translation (3) Philippine folk literature translated into English; myths, fables, and other folklore. Classic works of vernacular writers. Pre: one ENG DL course or consent. (Cross-listed as ENG 376) DL

IP 399 Third-Level Language Study (V) Third-level study of a South Asian, Southeast Asian, or Pacific language. Contact hours and credits determined by student interests and faculty resources. Repeatable up to six credits. Pre: at least 6 credits of intermediate study of the same language.

IP 401 Directed Fourth-Level Language Study (3) Continuation of 302. Pre: consent.

IP 402 Directed Fourth-Level Language Study (3) Continuation of 401.

IP 403 Ilokano Language in Translation (3) Overview of Ilokano literature from the early writings to the major works of contemporary writers. A-F only. Pre: ILO 201 or consent.

IP 427 (Alpha) Topics in Samoan Literature (3) Writings of Albert Wendt; (C) Samoan women writers. Pre: SAM 227 or one of ENG 270-272; or
consent for (B), Prec. SAM 227 or one of ENG 270-273 or WS 245; or consent for (C). DL

IP 431 Rizal’s Literary Works in Translation (3) Interpretation and analyses of Rizal’s novels Noli and Fili as they touch the social, political, and historical context of the Spanish regime in the Philippines. Prec: one DL course, or consent. DL

IP 432 The Writings of Carlos Bulosan (3) Intensive study of the major writings of Carlos Bulosan; his literary and cultural milieu with thematic concentration on aesthetics and the issues of diasporic experiences (e.g., immigration, assimilation, nation, etc.) and transnationalism. Prec: 361 or 363 or 396 or 431 or any ENG DL course.

IP 465 (Alpha) Hawaiian and Indo-Pacific Teaching Practicum (3) An experienced-based introduction to various approaches in language teaching methodology and techniques. Students’ skills in teaching the Hawaiian or an Indo-Pacific language are developed through supervised teaching, class planning and evaluation. (B) Southeast Asian languages. Repeatable one time. CR/NC only. Prec: 402-level of the language practicum or consent; (B) CAM 402 or IND 402 or THAI 402 (or concurrent) and consent of instructor or equivalent language skills.

IP 470 Folklore (3) Theory and method of comparative and analytical folklore study, with special applications to Pacific traditions. Prec: ANTH 152 or consent.

IP 499 Directed Studies (V) Study of a Pacific, South Asian, or Southeast Asian language through vernacular readings in various academic fields. Repeatable. Prec: third-level language and consent.

IP 699 Directed Research (V) Repeatable unlimited times. Prec: consent.

Indonesian (IND)

College of Languages, Linguistics and Literature

IND 101 Elementary Indonesian (4) Emphasis on the development of communicative competence in both oral and written language. HSL

IND 102 Elementary Indonesian (4) Continuation of 101. Prec: 101. HSL

IND 103 Beginning Indonesian I (3) Introduction into the Malay-Indonesian language for the purpose of communication, travel, further study, and enjoyment. (Fall only) HSL

IND 104 Beginning Indonesian II (3) Introduction into the Malay-Indonesian language for the purpose of communication, travel, further study, and enjoyment. (Spring only) Prec: 101. HSL

IND 201 Intermediate Indonesian (4) Continuation of 102 or 104. Prec: 102 or equivalent. HSL

IND 202 Intermediate Indonesian (4) Continuation of 201. Prec: 201. HSL

IND 203 Intermediate Indonesian I (3) Intermediate language study for the purpose of communication, travel, further study, and enjoyment. Prec: 202 or 104 or equivalent language skills in Indonesian or Malay, or consent. (Fall only) HSL

IND 204 Intermediate Indonesian 2 (3) Intermediate Indonesian language study for the purpose of communication, travel, further study, and enjoyment. Prec: 201 or 203 or equivalent language skills in Indonesian or Malay. (Spring only) HSL

IND 301 Third-Level Indonesian (3) Continuation of 202. Conducted in Indonesian. Meets three hours a week. Reading, discussion, composition, and projects. Prec: 202 or consent.

IND 302 Third-Level Indonesian (3) Continuation of 301. Prec: 301.

IND 305 Third Level Indonesian (2) Online course consists of modular, thematic, proficiency-based units exploring colloquial and formal Indonesian with a strong emphasis on listening and writing comprehension. Not open to students who have taken IND 301. Prec: 202, 204, or consent.

IND 306 Third Level Indonesian (2) Online course consists of modular, thematic, proficiency-based units exploring colloquial and formal Indonesian with a strong emphasis on listening and writing comprehension. Not open to students who have taken IND 301. Prec: 301 or 305 (or equivalent), or consent. (Spring only)

IND 307 Third Level Indonesian Conversation (2) Topic-based course aimed at enhancing student’s listening and speaking skills in the Indonesian language. Not open to students who have taken IND 301. Prec: 202 or 204, or consent. Co-requisite: 305. (Fall only)

IND 308 Third Level Indonesian Conversation (2) Topic-based course aimed at enhancing student’s listening and speaking skills in the Indonesian language. Not open to students who have taken IND 301. Prec: 202 or 204, or consent. Co-requisite: 305. (Spring only)

IND 402 Fourth-Level Indonesian (3) Continuation of 401. Prec: 401. HSL

IND 405 Fourth Level Indonesian (2) Online course consists of modular, thematic, proficiency-based units exploring the language of the contemporary Indonesian media with an emphasis on reading, writing, and listening comprehension. Prec: 302, 306, or consent. (Fall only)

IND 407 Fourth Level Indonesian Conversation (1) Topic-based course aimed at enhancing student’s listening and speaking skills in the Indonesian language. Prec: 302, 306, or consent. Co-requisite: 401. (Fall only)

IND 452 Structure of Indonesian (3) Introduction to grammar; some sociolinguistic background. Prec: 302 or equivalent. (Fall only) DH

IND 454 History of Indonesian (3) Social and linguistic development of Indonesian from roots in earlier Malay to contemporary form and function. Prec: 202 and 452. (Spring only)

IND 461 Modern Indonesian Literature (3) Selected readings, 1900 to present. Discussion and composition. Prec: 402 or consent. DL

Information and Computer Sciences (ICS)

College of Natural Sciences

ICS 101 Digital Tools for the Information World (4) Fundamental information technology concepts and computing terminology, productivity software for problem solving, computer technology trends and impact on individuals and society. Emphasizes the utilization of operating systems and the production of professional documents, spreadsheets, etc. Prec: 141. (1 lecture, 3 hr. Lab) Basic machine architecture, microprocessors, computer instruction set, computer organization paradigms, programming environments, use of debugging and development tool, data and control abstractions. Programming using a simple scripting language; (P) Python. Each alpha repeatable unlimited times, but credit earned one time only.

ICS 102 Introduction to Data Science (3) Overview of the field of data science. Introduction to subjects such as data format, processing, visualization, and storage. Special emphasis on historical and wider context, and simple practical examples. Repeatable one time. A-F only.

ICS 110 (Alpha) Introduction to Computer Programming (3) Basic concepts needed to write computer programs. Simple program design and implementation using a specific programming language; (C) C: (D) through animations; (P) Python. Each alpha repeatable unlimited times, but credit earned one time only.

ICS 111 Introduction to Computer Science I (4) Overview of the fundamentals of computer science emphasizing problem solving, algorithm development, implementation, and debugging/testing using an object-oriented programming language. Prec: Recommended: IND 407 or IND 410.

ICS 112 Discrete Mathematics for Computer Science I (3) Includes logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting and probability. Prec: MATH 215 or 241 or ZF FQ

ICS 201 Information Systems in Society (3) Lecture/discussion critically explores sociopolitical dimensions of Information and Communication Technology (ICT), and the information professions. A-F only. Prec: departmental approval. (Once a year)

ICS 211 Introduction to Computer Science II (4) (5 Lec, 1-3 hr. Lab) Reinforce and strengthen problem-solving skills using abstract data types and introduce software development practices. Emphasize the use of searching and sorting algorithms and their complexity, recursion, object-oriented programming, and data structures. Prec: grade of “B” or higher in 111 or consent.

All students seeking to enroll in ICS courses above 211 except ICS 241 must meet the prerequisite grade requirement of B or higher in ICS 111 and 211 prior to registering for the course.

ICS 212 Program Structure (3) Program organization, paradigms and environments, implementation of a module from specifications, the C and C++ programming languages. Prec: 211 or consent.

ICS 215 Introduction to Scripting (3) Introduction to scripting languages for the integration of applications and systems. Scripting languages include: shell scripting, web pages, server-side application integration, regular expressions, and event handling for languages such as Perl, JavaScript, PHP, Python, shell scripting. A-F only. Prec: 211 (or concurrent), or consent. (Once a year)

ICS 222 Basic Concepts of Computer Science (3) What is the subject of computer science? What is a computer? Understand the basic models of computation and the concepts of computability, complexity, and network computation, and learn to use them in practice. A-F only. Prec: 141.

ICS 235 Machine Learning Methods (3) Introduction to fundamental methods for empirical inference, data modeling, and machine learning. A-F only. Prec: MATH 241, MATH 203, MATH 215, or MATH 251A. (Fall only)

ICS 241 Discrete Mathematics for Computer Science I (3) Includes program correctness, recurrence relations and their solutions, relations and their properties, divide and conquer relations, graph theory, and their applications. Introduction to formal languages and automata theory. Prec: 141 (with a minimum grade of B) or consent.

ICS 290 Computer Science Careers: An Exploration of the Specialties of Computer Science (1) Exploration of the specialties of computer science. Meets every two week for 2.5 hours to explore specific areas in computer science. CR/NC only. (Once a year)

ICS 311 Algorithms (4) (4 hr. Lec) Design and correctness of algorithms, including divide-and-conquer, greedy and dynamic programming methods. Complexity analyses using recurrence relations, probabilistic methods, and NP-completeness. Applications to order statistics, disjoint sets, B-trees and balanced trees, graphs, network flows, and string matching. Prec: (211 and 241) with a minimum grade of B or better, and (MATH 216 or 242 or 252A), or consent.

ICS 312 Machine-Level and Systems Programming (3) Machine organization, machine instructions, addressing modes, assembler language, subroutine linkage, linking to higher-level languages, interface to operating systems, interrupt handling, loaders, compilers. Prec: 212 (or concurrent), (311 or EE 367), and 314, or consent.

ICS 313 Programming Language Theory (3) Syntax, semantics, control structures, various programming languages and their use. Programs in assembly and machine code, data representations, data and control abstractions. Programming in functional (LISP) and logic (Prolog) programming styles. Prec: Prec. 212, (311 or EE 367), and 314, or consent.

ICS 314 Software Engineering I (3) Problem analysis and design, team-oriented development, quality assurance, configuration management, project planning. These topics are covered in the sequence 313-314-311 and 241, or concurrent.

ICS 321 Database Systems I (3) Introduction to relational database systems, data modeling, query processing, transaction processing, storage, and indexing. Prec: (311 or EE 367), and 314, or consent.

ICS 331 Logic Design and Microprocessors (4) (4-3 hr. Lab) Basic machine architecture, microprocessors, bus organization, circuit elements, logic circuit analysis and design, microcomputer system design. Prec: 212, (311 or EE 367), and 314, or consent.

ICS 332 Operating Systems (3) Operating system concepts and structure, processes and threads, CPU scheduling, memory management, scheduling, file systems, inter-process communication, virtualization, popular operating systems. A-F only. Prec: (311 or EE 367) and 314.
ICS 351 Network Design and Management
Overview of the internet and its capabilities: introduction to HTTP, TCP/IP, ethernet, and wireless 802.11; routers, switches, and NAT; network and wireless security; practical experience in designing and implementing networks. Pre: (311 or EE 367) and 314, or consent. (Once a year)
ICS 355 Security and Trust I: Resource Protections
The knowledge of underlying principles and skills to follow, confinement, information assurance, malicious
ICS 425 Introduction to Artificial Intelligence Programming
Introduction to the theory of Artificial Intelligence and the practical application of AI techniques in Functional (Common LISP and/or Scheme) programming languages. Students gain practical experience through programming assignments and projects. A-F only. Pre: (212 or 215) and (311 or EE 367) and 314, or consent.
ICS 390 Computing Ethics for Lab Assistants
A lecture/discussion/internship on ethical issues and instructional techniques for students assisting a laboratory class. The class uses multiple significant writing and oral presentation activities to help students learn course content. Pre: 101(Alpha) and consent.
ICS 414 Software Engineering II (3)
Continuation of 314. Professional ethics, and productivity control, testing and validation, team management. Team-oriented software-implementation project. Pre: (311 or EE 367) and 314.
ICS 415 Intro to Programming for the Web (3)
Introduction to emerging technologies for construction of World Wide Web (WWW)-based software. Covers programming and scripting languages used for the creation of WWW sites and client-server programming. Students will complete a medium-sized software project that uses languages and concepts discussed in class. Pre: (311 or EE 367) and 314, or consent.
ICS 419 The Science, Psychology and Philosophy of Systems Design (3)
Scientific, psychological and philosophical bases of systems design, including a survey of human-factors and ergonomic standards; the nature of innovation and creativity as it relates to systems design. Web-enhanced course. Pre: (311 or EE 367) and 314, or consent. (Once a year)
ICS 421 Database Systems II (3)
Very large database systems, data integration, data warehousing, designing big data systems, parallel query processing, distributed transactions. Pre: 321 or consent.
ICS 422 Network Science Methodology (3)
Computational and statistical methods for analyzing network topology, information networks and biological networks. Introduction to relevant data analytics and graph analysis software packages. Pre: 311 or consent.
ICS 423 Data Security and Cryptography I (3)
ICS 424 Application Frameworks (3)
Experience producing applications with at least two different applications frameworks. A-F only. Pre: (311 or EE 367) and 314, or consent.
ICS 425 Computer Security and Ethics (3)
Theoretical results, policy, encryption, key management, digital signatures, certificates, passwords. Ethical use of this 311 course can have professional effects. Effects of the computer revolution on society. A-F only. Pre: 355 or consent. (Once a year)
ICS 426 Computer System Security (3)
Information flow, confidentiality, information assurance, malicious programs, vulnerability analysis, network security, writing secure programs. A-F only. Pre: 355 or consent. (Once a year)
ICS 428 Digital Forensics (3)
Provides students with the knowledge of underlying principles and skills to identify, preserve, and extract electronic evidence for further analysis. Pre: 355 or consent.
ICS 431 Computer Architecture (3)
Memory management, control flow, interrupt mechanisms, multiprocessor systems, special-purpose devices. Pre: 331 or EE 361/361L.
ICS 432 Distributed and High-Performance Programming (3)
Principles of concurrent and high performance programming. Multi-threading in C and Java for shared-memory programming. Distributed memory programming systems. Introduction to cluster computing. A-F only. Pre: 212 and 322 and (311 or EE 367) and 314, or consent. (Once a year)
ICS 435 Machine Learning Fundamentals (3)
ICS 441 Theory of Computation (3)
Grammars, sequential machines, equivalence, minimalization, analysis and synthesis. Pre: 311 or EE 367 and 314, or consent.
ICS 442 Analytical Models and Methods (3)
Applications of mathematical methods in computer science with emphasis on linear algebra, algorithmic design, numerical computation, algebraic models, operations research. Pre: (311 or EE 367) and 314, or consent.
ICS 443 Parallel Algorithms (3)
Introduction to parallel models of computation and design analysis of parallel algorithms. Pre: (311 or EE 367) and 314. (Fall only)
ICS 451 Data Networks (3)
Network analysis, architecture, digital signal analysis and design; circuit switching, packet switching, packet broadcasting; protocols and standards; local area networks; satellite networks; ALOHA channels; examples. Pre: 212 and (311 or EE 367) and 314, or consent.
ICS 452 Software Design for Robotics (3)
Sensors, actuators, signal processing, systems of robotic software design, introduction to machine learning, introduction to computer vision, and robot-to-human interaction. A-F only. Pre: two ICS 400-level courses or consent. Recommended: 312 and 313. (Once a year: spring)
ICS 455 Security and Trust II: Information Assurance (3)
ICS 461 Artificial Intelligence (3)
Survey of artificial intelligence: natural language processing, vision and robotics, expert system fundamentals: concepts, search, planning, and problem solving, logic, knowledge representation. Pre: 311 or consent.
ICS 462 Artificial Intelligence for Games (3)
Techniques to simulate intelligent behavior in video games: movement, pathfinding with A* search, decision/beavior trees, state machines, machine learning, tactics. Extend games with your own AI implementations; experience "shootout" contests for the best AI algorithm/implementation. Pre: 212 and (311 or EE 367) and 314 and (PHYS 151 or PHYS 170). (Alt: years)
ICS 464 Human Computer Interaction I (3)
Application of cognitive and methodological concepts of human factors, psychology and software engineering to address ergonomic, cognitive, and social factors in the design and evaluation of human-computer systems. Pre: (311 or EE 367) and 314, or consent.
ICS 465 Introduction to Hypermedia (3)
Basic issues of interactive access to information in various formats on computers. Available hardware and software; editing and programming. Implementation of a sample information system. Pre: (311 or EE 367) and 314.
ICS 466 Design for Mobile Devices (3)
Lecture introducing design issues, programming languages, operating systems and mark-up languages for internet-enabled mobile devices, such as cell phones and PDAs. A-F or Audit. Pre: (311 or EE 367) and 314, or consent. (Spring only)
ICS 469 Cognitive Science (3)
Introduces basic concepts, central problems, and methods from cognitive science. Identifies contributions from disciplines such as cognitive psychology, linguistics, artificial intelligence, philosophy, and neuroscience. Pre: (311 or EE 367) and 314, or consent.
ICS 471 Probability, Statistics and Queuing (3)
A hands-on introduction to probability, statistical inference, regression, Markov chains, queueing theory. Use of an interactive statistical graphics environment such as R. Pre: (311 or EE 367) and 314, or consent. (Once a year)
ICS 475 Introduction to Bioinformatics Sequences and Genomes Analysis (3)
Introduction to bioinformatics to computer sciences students by focusing on how computer science techniques can be used for the study, analysis, prediction and simulation of biological sequences (DNA, RNA and proteins). A-F only. Pre: (311 or EE 367) and 314, or consent. (Once a year)
ICS 476 Bioinformatics Algorithms and Tool Development (3)
Study of commonly used bioinformatic algorithms, with an emphasis on string, tree, and graph algorithms. Presentation of probabilistic and deterministic methods. Implementation of the studied algorithms and design of applications. Pre: 475 or consent. (Once a year)
ICS 481 Introduction to Computer Graphics (3)
Fundamentals of computer graphics including mathematical models, hardware, rendering, and display of two- and three-dimensional objects, use of commercial software. Pre: (MATH 216, MATH 242, or MATH 252A) and (311 or EE 367) and 314; or consent.
ICS 483 Computer Vision (3)
Introductory course in computer vision. Topics include image formation, image processing and filtering, edge detection, texture analysis and synthesis, binocular vision, segmentation, tracking, object recognition and applications. A-F only. Pre: 212 and (311 or EE 367) and 314, or consent. Once a year.
ICS 484 Data Visualization (3)
Introduction to data visualization through practical techniques for turning data into images to produce insight. Topics include: information visualization, geospatial visualization, scientific visualization, social network visualization, and web visualization. Course work and projects will be in higher. Pre: (311 or EE 367) and 314. (Spring only)
ICS 485 Video Game Design and Development (3)
Students will team design, build, and demonstrate video games or related interactive entertainment environments and applications. Topics will include emerging computer science techniques relevant to the development of these types of environments. Junior standing or higher. Pre: two ICS 300-level courses. (Spring only)
ICS 491 Special Topics (3)
Reflects special interests of faculty. Oriented toward juniors and seniors. Repeatable one time for BS/CS students. Pre: at least two 300-level ICS courses or consent. (Alt: years: fall)
ICS 499 Computer Project (V)
Individual or small-group projects in system design or application under faculty supervision. Pre: consent.
ICS 500 Master’s Plan B/C Studies (1)
Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
ICS 606 Intelligent Autonomous Agents (3)
Theory, methods and practical applications of autonomous agent systems, including common applications of both software and hardware (robotic) agents. In-depth practical experience with autonomous agents through programming assignments and projects. Pre: 315 or EE 467 (or equivalent), graduate standing or consent. (Once a year) (Cross-listed as EE 660)
ICS 611 Compiler Theory and Construction (3)
Design and implementation of compilers, syntactic and semantic descriptions of programming languages, algorithms for syntax analysis and object code generation. Pre: 312 or consent.
ICS 612 Theory of Operating Systems (3)
Advanced study in operating systems theory and design with emphasis on case studies and distributed systems.
ICS 613 Advanced Software Engineering (3)
Fundamental software engineering procedures,
including planning, estimation, design, testing, process definition and improvement, and software quality assurance. Measurement techniques are used to support empirically-driven software process improvement throughout the course. Pre: 414 or consent.

ICS 614 Medical Informatics 3 (Introduction to the field of medical informatics, which is found at the intersection of clinical science, public health, information technology, and communications technology. Concentration on current issues. Pre: consent.)

ICS 616 Information Architecture and Web Design 3 (Design and development of websites; Survey Information Architecture (IA) systems, organization, navigation, labeling, searching; gain experience in methodologies for creating IA, tools for IA, web standards, and ICS and LIS majors only. A-F only. Pre: graduate standing in ICS or LIS or related field or consent. (Once a year)

ICS 621 Analysis of Algorithms 3 (Analysis and design of algorithms; modeling, comparison, measures, applications. Pre: 311.)

ICS 622 Network Science 3 (Modeling human-made and natural systems as networks to understand their structure and dynamics. Computational and statistical methodologies and research results they enabled. Use of network analysis software. Applications to topics of interest to students.)


ICS 624 Advanced Data Management 3 (Exploration of information retrieval and object-relational tools and methods for the management of distributed multimedia database systems. Pre: 321 or 421 or LIS 670, or consent.)

ICS 632 Principles of High Performance Computing 3 (Principles of high performance computing for single-processor and parallel architectures. Detailed coverage of parallel architectures and exposure to shared-memory, distributed-memory, and hybrid parallelism. Hands-on experience with message-passing and multi-threaded programming. A-F only. Pre: graduate standing in computer science or closely related field, or consent. (Once a year)


ICS 636 Information Theory in Machine Learning 3 (Basics of processing and learning in the brain; neural networks; learning algorithms based on information maximization; applications in molecular biology and bioinformatics. A-F only. Pre: graduate standing in computer science or mathematics background, or consent. (Once a year)

ICS 641 Advanced Theory of Computation 3 (Advanced topics in formal languages, automata, computability, computational complexity. Pre: 441 or consent.)

ICS 643 Advanced Parallel Algorithms 3 (Design and analysis of parallel algorithms, with emphasis on advanced techniques and latest advances in parallel algorithms. Pre: 311 (with a minimum grade of B) or equivalent.)

ICS 651 Computer Networks 3 (Elementary principles of modern computer networking. Detailed coverage of TCP/IP architecture and the physical, data link, and network layers, with emphasis on the network layer. Pre: 451.)

ICS 655 Security and Trust III: Cyber Security and Commerce 3 (Tools and methods for security management. Techniques and methods to secure and monetize services and applications. Network as a computer and as a market. Problems of cyber war, cyber crime, cyber bullying. Graduate students only. (Spring only)

ICS 660 Computer Architecture I 3 (Models of computation, high-performance processors, pipelined machines, RISC processors, VLIW, superscalar and fine-grain parallel machines. Data-flow architectures. Hardware/software tradeoffs. Pre: EE 461. (Cross-listed as EE 660)

ICS 661 Advanced Artificial Intelligence 3 (Current issues in artificial intelligence, including expert systems, qualitative reasoning, knowledge representation, planning, scheduling, learning, natural language processing. Pre: 461 or consent.)

ICS 663 Pattern Recognition 3 (Nature of the problem in pattern clustering; explanation of various algorithms. Pre: MATH 371.

ICS 664 Human-Computer Interaction II 3 (Studies of human performance in designing and using information systems. Emphasizes concepts and methodologies from human factors, psychology, and software engineering relating to human performance. Pre: 464 or consent.

ICS 665 User Interfaces and Hypermedia 3 (Advanced concepts in development of applications between computers and their users. Hypermedia information structures, guidelines, problems, and tradeoffs. Discussion of selected readings, implementation of prototypes. Pre: 465 or consent.

ICS 666 Social Informatics 3 (An advanced introduction to the design of human-computer systems and other technological artifacts for supporting human collaboration in learning, work and social contexts, and to theoretical perspectives and empirical studies of collaboration that inform such design. A-F only. Pre: 465 or 664 or 665 or 667 or LIS 677 or consent.)

ICS 669 HCl Design Methods 3 (Advanced analytical and empirical methods for the design and evaluation of usable, useful, and robust human-computer interfaces. Students will apply selected methodologies in a major design system project. Pre: 464 or 465, or consent.

ICS 668 Social Informatics 3 (An advanced introduction to the design of human-computer systems and other technological artifacts for supporting human collaboration in learning, work and social contexts, and to theoretical perspectives and empirical studies of collaboration that inform such design. A-F only. Pre: 465 or 664 or 665 or 667 or LIS 677 or consent.)

ICS 670 Social Computing 3 (Participative analysis of online communities and user-generated content collections. Theoretical and practical aspects of online interaction, identity, trust, and virtual social capital. A-F only. (Once a year)

ICS 674 Evolutionary Computation I: Survey of Methods 3 (Evolutionary computation surveys in the field to prepare students for research. Topics include diverse engineering applications, theory, and concepts including search spaces, representation, objective functions, variation operators, selection, and population based search. Pre: 211 (B or better) and 241 (C or better) and admitted to a graduate program or capable of graduate-level work in computer sciences, or consent. (Once a year)

ICS 675 Bioinformatics: Sequences Analysis 3 (To expose students to the biological and mathematical sequences analysis level (DNA, RNA, proteins). Several bioinformatics methods and algorithms are introduced. Students are required to present one paper per term, in a specific research group project. A-F only. Pre: 475 or MBBE 683, or consent. (Once a year)

ICS 676 Bioinformatics: Microarrays 3 (Introduction to the basic principles of biology relevant for microarray gene expression data and to Bioconductor. Collaborative open-source project to develop a modular general framework for the analysis of DNA array data. A-F only. Pre: 311 or background in biology, or consent. (Once a year)

ICS 681 Computer Graphics 3 (Selected advanced topics in computer graphics. Substantial project required. Pre: 481 or consent.)

ICS 682 Numerical Computation 3 (Selected topics in numerical analysis, mathematical software, and scientific computation; examples include sparse matrix methods, finite element methods, mathematical programming. Pre: consent.

ICS 683 Advanced Computer Vision 3 (Fundamental problems and core concepts and techniques in computer vision, covering both theoretical and practical issues in the field. A-F only. Pre: 483 or consent.

ICS 685 Virtual and Augmented Reality 3 (Students will learn the science, engineering, art, and applications of virtual reality and augmented reality, with an emphasis on creative work in virtual environments. Graduate students only. (Fall only)

ICS 686 Digital Video Information (3) Principles and techniques of technical and context analysis of digital video information. Video capture and editing tools, compression and analysis algorithms, visual style, narrative structure, juxtaposition of multimedia elements and their effects on information transmission. Pre: graduate standing or consent. (Alt. years)

ICS 690 Seminar in ICS 1 (Series of talks on advanced research topics. Repeatable unlimited times. CR/NC only.

ICS 691 (Alpha) Topics in Computer Science 3 (Reflects special interests of faculty in various areas of computer science. (B) area 1; (C) area 2; (D) area 3; (E) area 4; (G) general. Repeatable unlimited times in different topics and different areas. Pre: consent.

ICS 695 Advanced Special Topics in Security 3 (Concepts and applications of security and privacy in the field of information assurance and cyber security. Repeatable unlimited times. (Alt. years: spring)

ICS 699 Directed Reading/Research 3 (Repeatable unlimited times. Pre: graduate standing and consent.

ICS 700 Thesis Research 3 (Research for master’s thesis. Repeatable unlimited times.

ICS 800 Dissertation Research 3 (Research for doctoral dissertation. Repeatable eight times. Pre: candidacy for PhD in computer science.

Information Technology Management (ITM)

Shidler College of Business

ITM 115 Using Computers and Applications 3 (Using Windows computers browsers, Microsoft Office (or equivalent) and other applications.

ITM 311 Project Management 3 (Project management application and techniques such as planning methods; PERT/CPM forecasting; risk analysis; application in information technology projects and other areas. Pre: BUS 310 and 311.

ITM 322 Supply Chain Processes 3 (Improving organization productivity with an emphasis on analyzing supply chain processes and principles in terms of scheduling, inventory, quality control techniques, through most current practices. Pre: BUS 310 and 311.

ITM 352 Programming Application Systems 3 (Introduction to applications programming. Fundamentals, essential concepts, file handling, report writing. Emphasis on systems development and disciplined programming. A-F only. Pre: ICS 101, or ICS 112, or ICS 113, (or equivalent), or consent.

ITM 353 Information Technology Analysis and Design 3 (Analysis and design of systems in organizations. Includes role of general systems concepts, systems development life cycle, identifying systems requirements, logical and physical design. A-F only. Pre: 352 and BUS 311.

ITM 354 Database Systems 3 (Introduction to database management and data structures, including database planning and design, normalization, relational and network data models, and physical organization and implementation. A-F only. Pre: 353.

ITM 360 Current Topics in ITM 3 (Repeatable three times with permission of department chair. Pre: varies with topic.

ITM 366 Information Systems in Organizations 3 (Practice of information systems in organizations. Capstone course for MIS majors. A-F only. Pre: 353 and 354 (concurrent), and BUS 311.

ITM 385 Electronic Commerce (3) Survey of electronic commerce technologies and business strategies, with an emphasis on technology and application development. The development of web-based and multimedia applications; the impacts of EC on business strategy; legal and ethical issues. A-F only. Pre: BUS 311 or consent.

ITM 387 (Alpha) Advanced Topics in Information Systems 3 (Computerized management information systems, operations research business problems: (B) software systems economics; (C) advanced topics in programming; (D) web-based application development; (E) advanced techniques in MIS; (F) systems development; (G) database systems; (H) advanced business applications; (I) ethics of research; (J) ethics of business.

Key to symbols & abbreviations: see the first page of this section.

2018-2019 Courses 447
Elementary (V) Standards-based planning, assessment, instruction, reflection; inclusive classroom environment; unique multicultural environment; issues in education and curriculum. Developing knowledgeable, effective professionals to support student’s academic, social, emotional, physical needs. Emphasis on writing instruction; lecture/ lab; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 313 (Alpha) Principles and Methods of Reading Instruction (V) First of two methods courses focusing on theories and research-based practices related to reading instruction in elementary classrooms. Emphasis on reading instruction; lecture/ lab; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 314 (Alpha) Principles and Methods of Writing Instruction (V) First of two methods courses focusing on theories and research-based practices related to writing instruction in elementary classrooms. Emphasis on writing instruction; lecture/ lab; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 315 Field Training – Blended ECE (4) Students spend 15 hours per week in settings appropriate to concurrently enrolled classes; supervision provided by participating teacher and college supervisor. Repeatable two times. A-F only. Pre: 417 and SPED 304 (with a minimum grade of B-); or consent. (lt. years: spring)

ITE 316 Field Experience (V) Field experience in schools. Minimum of 8 hours per week in conjunction with professional education courses. Repeatable twice, up to three credits. A-F only.

ITE 317 (Alpha) Field Experience (V) Supervised field experiences include in-classroom, independent, and group instruction in laboratory and related classes, and field experience in schools. Emphasis on writing instruction; lecture/ lab; (B) dual preparation in ECE and elementary education; (C) elementary education. Repeatable two times or up to 9 credits per alpha. CR/NC only.

ITE 318 Child Development from Prenatal Through Age Eight (3) Growth and development of children from prenatal through age eight. Historical and current issues through a research-based ecological, cross-cultural perspective. Focus on children’s optimal development and how this informs teaching practices in early education. A-F only.

ITE 319 Children’s Literature (2) Acquaintance with wide range of children’s books; criteria for evaluation of literature; using literature in the classroom. DL

ITE 320 Instructional and Assessment Methods for Multilingual Learners (3) Introduction to language use and development as it relates to multilingual learners. Learners analyze and apply strategies to create inclusive and collaborative classrooms for learners at various levels of English language development. A-F only.

ITE 321 Social Studies and Science in Early Childhood Education (3) Assessment, instructional methods, and materials for teaching social studies and science to children in preschool through grade 3. Emphasis on developmentally appropriate practices and lesson planning designed for teaching social studies and science. A-F only. Pre: 417, and 315 (or concurrent) or SPED 315 (or concurrent). (Alt. years: spring)

ITE 322 (Alpha) Social Studies, Elementary (V) Purposes, methods, curriculum, and assessment in teaching social studies. Focus: enriching children’s understanding of the communities of which they are a part through inquiry, investigation, collaboration, and expository skills. Emphasis on writing instruction; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 323 (Alpha) Science, Elementary (V) Science education in elementary school; methods and materials; laboratory activities selected from new science curricula; (B) dual preparation in ECE and elementary education; (C) elementary education. Each alpha repeatable one time, up to 3 credits. A-F only.

ITE 324 (Alpha) Mathematics, Elementary (V) Inquiry-based approach to concepts and algorithms of whole numbers and introduction to geometry measurement. Laboratory experiences with appropriate manipulatives; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only. Pre: MATH 111 and MATH 112.

ITE 325 (Alpha) Mathematics, Elementary II (V) Inquiry-based approach to concepts and algorithms of fractions, decimals, graphing, and probability and statistics. Laboratory experiences with appropriate manipulatives; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only. Pre: 324B or consent for (B); 324C or consent for (C).

ITE 326 (Alpha) Visual Art, Elementary (V) Scope and sequence of visual art in select grades in the elementary school. Emphasis on the visual arts; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 327 Curriculum, Materials, and Assessment Development for Multilingual Learners (3) Introduction to the development of curriculum materials, and assessments for diverse and multilingual learners. Teacher candidates will learn specific strategies and methods for teaching non-native speakers of English. A-F only.

ITE 329 (Alpha) Performing Arts Expression, K-6 (V) Standards-based teaching, with in, through, and about music, dance, and drama. Developing verbal and non-verbal communication skills through creative expression with an emphasis on planning, teaching, and assessing pre-K-6 lessons that integrate the performing arts; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 334 (Alpha) Personal and Social K-6 Health Skills (V) Standards-based planning, teaching, assessment in health education. Developing interactive learning opportunities to teach personal and social responsibility for health through curriculum integration. Training, practice and evaluation of oral communication skills; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 336 Methods of Instruction, Industrial/ Agricultural Education (3) Techniques of individual and group instruction in laboratory and related classes, evaluation of various methods.

ITE 337 Management of Industrial/Agricultural Facilities (3) Organization of instruction; handling, selecting, and buying materials, keeping records; making inventories.

ITE 338 Teaching Business and Office Education (3) Theory and methods of teaching business and office education. Developing interpersonal and group teaching skills; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 339 Teaching Marketing and Distribution (3) Theory and methods of teaching marketing and distribution courses. Pre: MKT 341 or MKT 351.

ITE 353 Music in the Elementary School (2) Goals, concepts, literature, materials, procedures, and evaluation for teaching music in the K through 6 school curriculum. Not intended for elementary music majors.

ITE 360 Introduction to Multicultural Education (3) Concepts and methods to develop sensitivity and awareness of cultural influences on behavior as these relate to the schooling process. A-F only. (Cross-listed as ED 360) DS


ITE 380 Managing Classrooms (3) Analysis of the factors that contribute to student learning and the development of teacher behaviors that promote such learning. A-F only.

ITE 390 (Alpha) Student Teaching (V) Full-time supervised experience in school. (B) dual preparation in ECE and elementary education; (C) elementary; (D) secondary; (M) dual preparation in elementary education. A-F only. Pre: 380B or consent for (B); 380C or consent for (C).
edcation and multilingual learning; (S) dual preparation in elementary and special education. CR/NC only. Pre: completion of all other program requirements, passing Praxis II exam(s). Co-requisite for D: 391D.

ITE 391 (Alpha) Seminar for Student Teaching (V) With student teaching as context, examination of knowledge, skills, and dispositions for teaching; standards-based teaching, assessment, and reflection; inclusive classroom management; professional growth and development; integration of research, theory, and practice. Emphasis on writing instructional materials and contributing reflections in teaching notes. (D) dual preparation in ECE and elementary education; (2); (C) elementary; (2); (D) secondary; (M) dual preparation in elementary education and multicultural learning; (D) preparation in elementary and special education (1). Repeatable nine times for (D), CR/NC only.

ITE 392 (Alpha) Student Teaching Modified (6) Modified student teaching for individuals who have had prior extensive teaching experience and wish to repeat student teaching. CR/NC only. (C) elementary; (D) secondary. Pre: extensive teaching experience; requirements listed under "student teaching" approval of review committee; consent. Co-requisite: 391.

ITE 399 Directed Study (V) Individual work supervised by instructor. May consist of reading, research, observation/participation, teaching, and/or projects. Repeatable up to 12 credits. Pre: consent of instructor.

ITE 401 Engaging the Adolescent Learner (3) Examines how reading, writing, speaking, listening, viewing, and play are integral tools for learner engagement and engaging diverse adolescents across all disciplines. Includes a disciplinary literacies framework influencing curriculum planning, classroom culture, and assessment practices. (C) only.

ITE 402 (Alpha) Teaching Practicum (3) Observation, analysis, participation and teaching in middle or high school. A seminar accompanies the field experience. Subtopics: (B) art (C); (D) business and marketing; (D) language arts; (E) physical education; (F) industrial arts/agriculture; (G) mathematics; (H) science; (I) social studies; (K) foreign languages; (K) music; (M) home economics; (N) interdisciplinary; (P) English as a Second Language. Repeatable one time. CR/NC only. Pre: admission to COE Secondary Teacher Education Program and 401. Consent of instructor required.

ITE 403 (Alpha) Seminar in Educational Inquiry (V) Study and discussion of general school-related topics and issues, e.g., dimensions of elementary and/or secondary schooling, school governance, curriculum development, the study learner, classroom management; (B) service learning; (C) exploratory education. Each alpha is repeatable one time, up to six credits. Junior standing or higher. A-F only.

ITE 404 (Alpha) Teaching in the Subject Field (3) Purposes, procedures, curricula, evaluation in secondary subject field: (B) art; (C) business and marketing; (D) language arts; (E) physical education; (F) industrial arts/agriculture; (G) mathematics; (H) science; (I) social studies; (K) foreign languages; (K) music; (M) home economics; (N) interdisciplinary; (P) English as a Second Language. Repeatable seven times for (P). A-F only. Pre: 401 or consent. Co-requisite: 402.

ITE 405 (Alpha) Teaching Residency, Secondary (V) Full-time student teaching experience in school. Student teachers will receive training and evaluation for oral communication, organization, and planning skills. Subject field: (B) art; (C) business and marketing; (D) language arts; (E) industrial arts; (G) mathematics; (H) science; (I) social studies; (K) foreign languages; (K) music; (M) home economics; (P) English as a second language. CR/NC only. Pre: successful completion of all required courses; pass the content area Praxis in the state teaching licensure.

ITE 406 Seminar in Teaching Residency (3) Analysis and resolution of current ethical issues and practices in classrooms; teaching skills and strategies; curriculum planning, professional growth and development; and integration of teaching experiences with professional standards. Instruction in preparing an extensive written portfolio. A-F only. Pre: successful completion of all required courses or consent. ITE 410 Supervision of the Observation-Participation Student (2) General guidelines for developmental support of the student teacher relationship between the professional teacher and the observation-participation student. Pre: two years' teaching experience and consent.

ITE 415 Observation and Assessment in Early Childhood Education (3) Introduction to this purposes, theories, and methods of early childhood assessment. Emphasizes observation, documentation, and assessment to provide evidence of children's development and learning and how to use this evidence to guide teaching and learning. Pre: HDFS 331 or consent.

ITE 415L Observation and Assessment in Early Childhood Education (1) Field experience in early childhood settings to facilitate young children's growth and learning. CR/NC only.

ITE 416 Teaching and Learning for Diverse Young Children (3) Continuation of 415: focuses on the design, implementation, evaluation of meaningful, challenging integrated curriculum that promotes comprehensive developmental and learning outcomes for diverse young children (pre-K). Pre: 415P or consent. (Cross-listed as EDCS 416L)

ITE 416L Teaching and Learning for Diverse Young Children Lab (3) Continuation of 415L. CR/NC only. Co-requisite: 416. (Cross-listed as EDCS 416L.)


ITE 420 Supervision of Student Teaching (3) Principles and methods; role of supervisor; human resources supervision in student teaching. Open to teachers interested in pre-service teacher education. Pre: three years' teaching experience and consent.

ITE 425 Family and Community Centered Programs (3) Knowledge and appreciation for the complex characteristics of children, families, and communities. Analysis and development of skills for creating respectful, reciprocal relationships with diverse children and families from diverse backgrounds. Lecture/lab. Pre: 318 (or concurrent), or HDFS 331 (or concurrent), or consent.

ITE 430 Advanced Supervision of Student Teaching (3) Advanced instructional methods and techniques for clinical supervision, observation recording, analysis, interpretation of classroom teaching; human resources supervision in student teaching. Pre: 420; successful supervision of two or more student teachers, and consent.

ITE 436 Cooperative Vocational Education (3) Planned work-experience program for special areas of vocational technical education. Acceptable type of wage-earning employment. Minimum of six 40-hour weeks or 240 work hours required. Repeatable unlimited times. Pre: consent.

ITE 438 Foundations of Vocational Education (3) Historical development, foundations of vocational technical education, overview of federal and state legislation and contemporary practices. Special emphasis on vocational education program in Hawai'i.

ITE 439 Office and Marketing Technology (3) Understanding and use of word processing, spreadsheet, and database software for business applications. Explore software across the office and marketing content areas.

ITE 440 Curriculum Implications of Multicultural Education (3) Examination of trends, issues, school practices, and program in multicultural education and integrated area/grade bicultural education. Cross-listed as EDCS 440.

ITE 441 Hawaiian Studies, Methods (3) Examination of issues in Hawaiian and U.S. views of education and their application to the teaching of Hawaiian studies. Field experience required. A-F only. Pre: 312C, 312D; or consent. Co-requisite for BEd students: 317. ITE 444 Education of Exceptional Children in Regular Classroom (3) Pracricals that facilitate teaching special needs students in regular classrooms. Techniques for meeting academic/social needs, classroom management, peer interaction, collaboration between special and regular educators. Includes an emphasis on instruction in writing.

ITE 445 Educating Exceptional Students in Regular Classrooms, Secondary (3) Teaching students with disabilities and those who are gifted/talented. Meeting academic/social needs, classroom management, peer interaction, collaboration between special and regular educators. Includes an emphasis on instruction in writing.

ITE 480 Issues in Computer Education (3) Integration of microcomputer and key issues related to microcomputer use in education. Pre: LTEC 442 or consent. (Cross-listed as EDCS 480).

ITE 499 Directed Activity (V) Individual work supervised by instructor. May consist of reading, research, teaching, and/or projects. Pre: consent of division director.

ITE 500 Master's Plan B/C Studies (1) Enrollment for degree completion. Pre: consent of major advisor or Director. Pre: master's Plan B or C candidate and consent.

ITE 550 Newspaper in the Classroom (2) ITE 572 Common Core State Standards in ELA: Content and Curriculum for Teachers (V) Professional development for K-12 teachers to upgrade their knowledge of ELA content and develop their instructional strategies to be consistent with the ELA practices of the Common Core State Standards. Repeatable unlimited times. CR/NC only.

ITE 578 Common Core State Standards in Mathematics: Content and Curriculum for Teachers (V) Professional development for K-12 teachers to upgrade their knowledge of mathematics content and develop their instructional strategies to be consistent with the mathematical practices of the Common Core State Standards. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

ITE 582 (Alpha) Practicum in Curriculum Development: Natural Science (2) For in-service teachers to upgrade subject matter and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

ITE 583 (Alpha) Practicum in Curriculum Development: Natural Science (3) For in-service teachers to upgrade subject matter and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

ITE 600 Master of Education in Teaching Program Seminar (1) Mandatory program seminar for Master of Education in Teaching (MEdT) teacher candidates; access to tools and skills necessary for distance education program success, introduction to the teaching profession. CR/NC only. Pre: admission into the MEdT program, or consent.

ITE 601 (Alpha) Professional Studies I (V) Development of theoretical and practical knowledge base and skills for understanding, analyzing, and solving teaching problems. (B) license; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 602 (Alpha) Clinical Partnership and Practice I (V) Supervised field study of a school. (B) license; (C) non-licensure. Each alpha is repeatable one time, up to 12 credits. A-F only.

ITE 603 (Alpha) Clinical Partnership and Practice II (V) Team collaboration on responding to identified school need; supervised experience in mini-teaching. (B) license; (C) non-licensure. Each alpha is repeatable one time, up to 12 credits. A-F only.

ITE 610 (Alpha) Clinical Partnership and Practice III (V) Supervised experience in instructional 2018-2019 Courses 449
planning and practice teaching, (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 611 Alpha Professional Studies III (3) Planning and methods seminar in conjunction with practice teaching, (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 612 (Alpha) Clinical Partnership and Practice IV (V) Field-supervised teaching experience. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 613 (Alpha) Professional Studies IV (Collaborative problem solving of issues and concerns encountered in current teaching experiences. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 699 Directed Reading and/or Research (V) Individual research. Repeatable five times. A-F only. Pre: written consent.

Insurance (INS)

Shilder College of Business

INS 300 Principles of Insurance (3) Risk management and insurance application to business and personal financial decision-making. Introduction to basic risk management concepts and techniques. Analyze various types of insurance: including life, property, casualty, liability, health, disability, and long-term care.

INS 411 Property and Casualty Insurance (3) Treatment of risk of financial loss of personal and business property, including limiting loss of income occasioned by fire and allied perils. Forms of insurance used by individual business executives and firms including crime, transportation, liability, and worker compensation.

INS 431 Life Insurance (3) Treatment of the risk of premature death through use of various life insurance policies. Policy forms, calculation of premiums, reserves, non-forfeiture values, underwriting, regulation of policy provisions, related coverage. Pre: 300.

Interdisciplinary Studies (IS)

Office of Undergraduate Education

IS 099 Mânoa International Exchange (V) Designed for students accepted for participation in an international study program enrolled at UH Mânoa. Repeatable unlimited times, credit for 60 or 110 or 160.

IS 100 Marine Option Program Seminar (1) Overview of ocean issues and organizations involved with marine activities, management, education, research, and business. Introduction of internships, research, and career opportunities. Preparation of resumes, proposals, and professional presentations. Not a BIOL major elective. (Cross-listed as BIOL 104)

IS 250 Personal Development for Effective Teams (3) Exploration and application of basic leadership theories and processes which foster personal and interpersonal development via cognitive experiential classroom exercises and group interaction with experienced peer leaders. (Cross-listed as ENGR 250)

IS 291 Community Service Practicum (V) Supervised fieldwork in community agency, arranged by student. Repeatable one time. Pre: written proposal approved by Honors director and appropriate faculty advisor.

IS 300 Field Study (V) Pre-arranged systematic field investigation of selected topics. Pre: written proposal approved by Honors director and appropriate faculty member. Repeatable up to 16 credits.

IS 311 Independent Study Tutorial (V) Independent study tutorial. A-F only.

IS 321 Native Americans and Native Hawaiians (3) Comparative-contrastive examination of similarities and differences between Native Americans and Native Hawaiians as the only indigenous peoples of the U.S. with special attention to sociocultural parallels and mutual contacts since contact with Europeans. Perspective is explicitly interdisciplinary by drawing not only on sociology and history, but also on archaeology, ethnology, linguistics and still other disciplines. A-F only. Pre: HIST 152 and an introductory course in cultural anthropology, political science or sociology; or consent. (Alt. years) DS IS 322 Ethnography of Everyday Life, i.e. the interdisciplinary, holistic and inclusive investigation of the histories of native peoples drawing not only on documented sources, but also on ethnography, history, anthropology and other disciplines as an alternative to conventional Eurocontinental history. A-F only. Pre: HIST 152, or consent. (Alt. years) (Cross-listed as ANTH 327)

DS IS 330 Information Technology and Culture (3) Investigation of the impact of information technologies on contemporary culture from a variety of perspectives. A-F only. Pre: upper division or consent.

DS IS 331 Science and Culture (3) Cultural studies of science from historical, philosophical, sociological and literary perspectives. Examination of intersections of science, race, gender and environment. A-F only. Pre: upper division or consent.

DS IS 340 Human Values and the Environment (3) Examination of nature-culture dynamic over a range of contexts--literary ecology, systems ecology, political ecology, eco-feminism, environmental ethics--in order to articulate new interdisciplinary understanding of the human place in nature. A-F only. Pre: any ENG DL or PHIL or GEOG course, or consent. (Once a year) (Cross-listed as SUST 340)

DS IS 347 Pidgin and Creole Languages (3) Nature, history, structure, varieties, and evolution of pidgins and creoles. Pre: LING 102 or consent. (Alt. years) (Cross-listed as LING 347)

DS IS 361 People, the Ocean and the Environment (3) People’s impact on quality of coastal and ocean environments, especially Hawaiian; scientific, legal, socioeconomic aspects. Ocean pollution, ocean technology. Pre: OCN 201, ORE 202, or ZOOL 200; or consent.

DS IS 369 British Life and Culture (3) For Study Abroad Program students participating in the UH Mânoa Semester in London. Emphasis is placed on understanding within historical context of important issues for contemporary British society— particularly those of class, power, gender, and race. A-F only. Pre: participation in London Semester Program.

DS IS 399 Directed Reading and Research (V) Directed reading and research. Repeatable two times.

DS IS 400 Ocean Internships and Research (V) Students carry out marine-related internships, practica, research projects or field experience on-or-off campus with faculty guidance. Repeatable one time. A-F only. Pre: Ocean internum GPA of 2.5, junior or senior standing in any field of study and IS 100/BIOL 104 or consent, project proposal. (Cross-listed as BIOL 400)

DS IS 410 The Humboldt Brothers’ Legacy (3) Life and thought of the two Humboldt brothers. Alexander (1769-1859) helped to lay the foundations of modern science, including geology, geography, botany, zoology, physiology and anthropology. Older, less well-known Wilhelm (1767–1835) was an eminent, reowned, multi-disciplinary scientist, with significant contributions in natural history, botany, zoology, physiology and anthropology, an influential statesman, classical scholar, man of letters, humanist, political philosopher, anthropologist and linguist. An adventure through Berlin, Potsdam, Hamburg, and Berlin. Review of the two polymaths’ impact on modern science in the Americas, the Pacific and Asia. A-F only. Pre: upper-division or consent; DH

DS IS 414 Introduction to Linguistic Anthropology (3) Introduction to the ethnographic study of speech and language. Pre: ANTH 152. (Once a year) (Cross-listed as ANTH 414 and LING 414) DS IS 489 Environmental Practicum (3) Field experience in study and prevention of environmental problems under faculty direction. Project proposal, narrative activity log, and documentary report are required. Pre: upper division standing, courses in appropriate discipline.

DS IS 499 Directed Reading and Research (V) Directed reading and research. Repeatable one time.

DS IS 610 Field Study in Gerontology (V) Individually designed field experience for advanced certificate in gerontology students. Placement arranged at community programs, research sites, and special projects at the Center on Aging. Repeatable one time. A-F only.

DS IS 611 Integrative Seminar in Gerontology (V) Integrative seminar. A-F only. Pre: graduate standing or consent.

DS IS 650 Principles of Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (3) Combined lecture-discussion on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

DS IS 651 Laboratory A in Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (2) Combined lecture-laboratory on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

DS IS 652L Laboratory B in Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (3) Practical laboratory, field rotation on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. Pre: IS 650 and 651L. A-F only. Pre: IS 650 and 651L or consent. (Once a year)

DS IS 750 Topics in Biocultural Diversity and Conservation (3) Biological, cultural, and linguistic conservation are intimately linked but rarely studied simultaneously. Adopting a biocultural perspective of diversity and conservation of nature, cultures, and languages, along with issues in anthropology, law, and ethics. (Fall only)

International Cultural Studies (CUL)

College of Social Sciences

CUL 609 Faculty Seminar Series (1) Seminar consists of a series of presentations by certificate faculty on topics of ongoing research. Presentations will open current debates in theoretical and method in cultural studies. Repeatable one time. A-F only.

CUL 610 International Cultural Studies: History and Theory (3) Seminar on the history and theory of interdisciplinary cultural studies. The politics of culture are examined in comparative perspective, focusing on their significance for identity formation, intercultural relations, and global flows of images, people and capital. Approaches to the study of media and popular culture are taken up in terms of their relevance for contemporary issues, especially in Hawai‘i and the Asia/Pacific/U.S. region. Repeatable one time. A-F only. (Fall only)

CUL 750 International Cultural Studies: Research Project (3) Directed reading and research culminating in a project that engages issues in international cultural studies. Types of projects include scholarly essays, community-based projects, performances or exhibitions. Written statement of purpose and self-evaluation required. A-F only. Pre: 609 and 610.

Italian (ITAL)

College of Languages, Linguistics and Literature

Students choosing Italian for the language requirement should realize it may not be offered if demand is limited.

ITAL 101 Elementary Italian (3) Conversation, grammar, and reading. HSL

ITAL 102 Elementary Italian (3) Conversation, grammar, and reading. Pre: 101 or consent. HSL

ITAL 110 Immersion Italian-Elementary (6) Combined content of 101 and 102 covered in one summer session. (Summer only) HSL

ITAL 160 Intensive Elementary Italian Abroad (V) Intensive course of formal instruction on the second-year level in Italian language and culture in Italy. HSL

ITAL 201 Intermediate Italian (3) Reading, conversation, composition. Pre: 102 or 110. HSL

ITAL 202 Intermediate Italian (3) Continuation of 201. Pre: 201. HSL

ITAL 258 Intermediate Italian Abroad (3) Intensive course of full-time formal instruction in Italy on the second-year level in Italian language and culture. Pre: 102 or 110 or 160. HSL
ITAL 259 Intermediate Italian Abroad (3) Continuation of 258. HSL
ITAL 311 Conversation (3) Systematic practice for control of spoken Italian. Further development of vocabulary for accurate, mature expression. Pre: 202 or consent.
ITAL 358 Third-Level Italian Abroad (3) Intensive formal instruction at the third-year level in Italian language skills: reading, writing, grammar, or conversation in an Italian-speaking country. Pre: 202 or 259 or equivalent.
ITAL 359 Third-Level Italian Abroad (3) Continuation of 358.
ITAL 360 intensive Third-Level Italian Abroad (V) Intensive formal instruction at the third-year level in Italian language skills: reading, writing, grammar, or conversation in an Italian-speaking country. Pre: 202 or equivalent.
ITAL 458 Fourth-Level Italian Abroad (3) Intensive course of full-time formal instruction in Italian on the fourth-year level in Italian language, linguistics, culture, and literature. Pre: 359 or 360 or equivalent.
ITAL 459 Fourth-Level Italian Abroad (3) Continuation of 458.
ITAL 460 intensive Fourth-Level Italian Abroad (V) Intensive course of formal instruction on the fourth-year level in Italian language and culture in Italy. For semester programs only. Pre: 360 or equivalent.

Japanese (JPN)

College of Languages, Linguistics and Literature

All students taking language courses in this program for the first time must take a regularly scheduled placement test; those with placement must come to the Department of East Asian Languages and Literatures for a brief interview. A grade of C+ or better in the prerequisite course is required for continuation.

JPN 100 Elementary Japanese, Special (3) Same material as 101, covered more quickly for students with some language background. Pre: placement test. HSL
JPN 101 Elementary Japanese (4) Listening, speaking, reading, writing, grammar. Meets one hour, four times a week, plus lab work. Pre: placement test or consent.
JPN 102 Elementary Japanese (4) Continuation of 100 or 101. Pre: 100 or 101, or consent. HSL
JPN 105 Accelerated Elementary Japanese (8) Content of 101 and 102 covered in one semester. Meets two hours, four times a week. Pre: consent. HSL
JPN 111 Elementary Japanese for Oral Communication I (3) The first of a series of courses focusing on speaking and listening skills necessary to participating in common situations in Hawai’i and Japan. Pre: consent. HSL
JPN 112 Elementary Japanese for Oral Communication II (3) Continuation of 111. Pre: 100 or 101 or 111, or consent. HSL
JPN 201 Intermediate Japanese (4) Continuation of 101 and 102. Meets one hour, four times a week, plus lab work. Pre: 102, 105, or placement test; or consent. HSL
JPN 202 Intermediate Japanese (4) Continuation of 201. Pre: 201 or placement test; or consent. HSL
JPN 205 Advanced Intermediate Japanese for Pre-Professionals (8) Content of 201 and 202 covered in one semester. Emphasis on practical Japanese used in professional contexts. Meets two hours, four times a week. Pre: 202; or consent. HSL
JPN 211 Intermediate Japanese for Oral Communication I (3) Continuation of 111-112. Pre: 102 or 105 or 112; or consent. HSL
JPN 212 Intermediate Japanese for Oral Communication II (3) Continuation of 211. Pre: 201 or 211, or consent. HSL
JPN 217 Introduction to Japanese Reading and Writing with Basic Kanji (3) For students who have completed the oral communication courses up through JPN 212 and wish to develop reading, writing, and vocabulary skills. Also appropriate for semi-bilingual students who lack literacy skills. Pre: 212 or consent.
JPN 258 Intermediate Japanese Abroad (4) Intensive course of formal instruction on the second-year level in Japanese language and culture in Japan. Pre: 102 or 105. HSL
JPN 259 Intermediate Japanese Abroad (4) Continuation of 258. Pre: 201 or 258, or consent. HSL
JPN 301 Third-Year Japanese (4) Transitional course employing four skills (listening, speaking, reading, writing) and grammar training to prepare students to address academic content in Japanese. Meets one hour, four times a week, plus lab work. Pre: 202, 205, 217, or placement test; or consent.
JPN 302 Third-Year Japanese (4) Continuation of 301. Pre: 301 or placement test, or consent. HSL
JPN 305 Accelerated Third-Year Japanese (8) Content of 301 and 302 covered in one semester. Meets two hours, four times a week, plus lab work. Pre: 202, 205, 217, or consent.
JPN 307 Special Japanese Reading and Writing (3) For bilingual students whose aural and spoken skills in Japanese were acquired informally. Emphasis on reading and writing through 301 level. Pre: placement test.
JPN 308 Special Japanese Reading and Writing (4) For bilingual students whose aural and oral skills in Japanese were acquired informally. Emphasis on reading and writing. Pre: placement test or consent of instructor.
JPN 311 Third-Year Japanese for Professional Communication I (3) Training in oral communication skills essential for operating in a Japanese-speaking professional environment or workplace. Pre: 305 or 302, or placement test; or consent. (Fall only)
JPN 312 Third-Year Japanese for Professional Communication II (3) Training in oral communication skills essential for operating in a Japanese-speaking professional environment or workplace. Pre: 311 or placement test, or consent. (Spring only)
JPN 315 Third-Year Japanese Aural Comprehension (3) Training in strategies for listening to various types of spoken material presented in narrations, interviews, news broadcasts, and lectures. Pre: 314 or consent.
JPN 318 Oral Fluency Through Film (3) Training in oral communication and comprehension skills utilizing the spoken text and visual segments from Japanese film and television dramas. Pre: 301 or consent.
JPN 332 Advanced Japanese Reading and Writing (3) Web-based training in Japanese reading and writing to develop skills at the advanced level. Course activities combine independent work with communicative and communicative practice. Ideal for in-service professionals seeking language development and maintenance. Repeatable one time. Pre: 301 (or concurrent) or consent. HSL
JPN 350 Introduction to Japanese Linguistics (3) Introduction to major areas of linguistic description as applied to Japanese language. Pre: 301 or 307, or consent. DH
JPN 359 Third-Level Japanese Abroad (4) Continuation of 301 or 358. Pre: 301 or 302.
JPN 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., reading texts in area of specialization or at a pace more rapid than those of standard courses. CR/NC only. Repeatable three times. Pre: 301 or placement test; or consent.
JPN 401 Fourth-Year Japanese I (4) Continuation of 302 and 305 emphasizing all four skills. Transition to longer and more complex written and spoken Japanese. Meets 50 minutes, four times a week. Pre: 302, 305, 306, or placement test; or consent.
JPN 402 Fourth-Year Japanese II (4) Continuation of 401. Transition to longer and more complex written and spoken Japanese. Meets 50 minutes, four times a week. Pre: 401 or placement test; or consent.
JPN 403 Fourth-Year Japanese for Advanced Speakers I (3) Continuation of 308 for bilingual students. Pre: 308 or placement; or consent.
JPN 404 Fourth-Year Japanese for Advanced Speakers II (3) Continuation of 403 for bilingual students. Pre: 403 or placement; or consent.
JPN 405 Fourth-Year Japanese Reading: Accelerated (8) Content of 401 and 402 covered in one semester. Meets two hours, four times a week. Pre: 302, 305, 308, or placement test.
JPN 407 (Alpha) Readings in Original Texts (3) (A) Academic and journalistic texts; (B) Modern Literature. Pre: 402, 404, or 405; or consent.
JPN 415 Japanese Aural Comprehension (3) Training in comprehensive listening skills. Material presented in news broadcasts, documentary narration, formal lectures, etc. Pre: 402, 405; or consent. May be concurrent with 407.
JPN 420 Fourth-Year Spoken Japanese (3) Training in oral communication skills in varied social contexts. Pre: 402 or 405.
JPN 421 Japanese Composition (3) Writing skills refined through practice in various styles (essays, letters, etc.). Pre: 401, 404, or 405; or consent.
JPN 423 Advanced Listening and Speaking (3) Training in listening and speaking for bilingual and other advanced learners. Emphasis on formal Japanese such as academic lectures, news, exchanges in business settings, public speaking, etc. Pre: 421 or consent.
JPN 424 English to Japanese Translation (3) Training in techniques of translating English into Japanese. Pre: 407/D or 407/E, or consent. (Cross-listed as TI 424)
JPN 425 Japanese to English Translation (3) Training in techniques of translating Japanese into English. Pre: 407/D or 407/E, or consent. (Cross-listed as TI 425)
JPN 432 Introduction to Classical Japanese (3) Basic classical Japanese grammar to develop reading skills. Pre: 302 or consent.
JPN 442 Reading in Modern Japanese Literature (3) Advanced course to foster speed, accuracy and attention to the language of modern Japanese literature. Pre: 407/D and 407/E, or consent. DL
JPN 446 Advanced Readings in Modern Japanese Contemporary Topics (3) Advanced course to foster
speed, accuracy, and attention to content in reading modern discursive texts. Pre: 407D and 407E, or consent. DH


JPN 493 Project Work in Japanese (3) Enhances Japanese language skills through a field-based research project on a topic of the individual student’s choice. Interviews, surveys, observations, written materials and AV-assisted oral presentations. Repeatable one time. Pre: 402 or 405 or equivalent, or consent.

JPN 495 (Alpha) Internship Program (3) Analysis of intercultural communication processes under faculty supervision through participation in an organization serving native speakers of Japanese. Business, repeatable one time; (C) travel industry, internship. Repeatable one time. A-F only. Pre: 370 or consent for (C); 431 for (B).

JPN 499 Directed Fourth-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than that of standard courses. Primarily for graduate students from other departments. CR/NC only. Repeatable three times. Pre: consent.

JPN 601 Japanese Phonology and Morphology (3) Introduction to the phonology and morphology of modern college level Japanese. Pre: 451 or consent.

JPN 602 Japanese Syntax and Semantics (3) Introduction to theories of syntax, sentence structure, parts of speech, constituency, grammatical relations and case marking, passives, causatives, tense, aspect, and embeddings. Pre: 451 or consent.

JPN 604 Introduction to Japanese Language Pedagogy (3) Training in the identification and analysis of general problems in Japanese language learning, teaching and testing by examining theoretical issues and conducting classroom research. Pre: 407 or equivalent, and 451; or consent.

JPN 605 Research Methodology in Japanese Linguistics Teaching (5) Japanese-specific training in the formulation of testable hypotheses, in basic statistical and other evaluation techniques, and in the organization and presentation of ideas and data in paper, abstracts, etc. Pre: 407 or equivalent.

JPN 606 Japanese Sociolinguistics (3) Introduces theories of language use and provides training in the methodology and analysis of Japanese sociolinguistics. Pre: 407 and 475 or equivalent, or consent.

JPN 610 (Alpha) Japanese Poetry (3) Historical survey of major poetic types. Repeatable one time with consent. (B) classical; (C) medieval and Edo; (D) modern. Pre: 460 for consent for (B) and (C); 485 for consent for (D).

JPN 611 (Alpha) Modern Japanese Literature (3) Representative literary works, emphasis on fiction; (B) Meiji–Taishō period (1868–1926); (C) Showa–Heisei (1926–present). Each alpha repeatable one time. Pre: 485 or consent.

JPN 612 E all Japanese Literature (3) Critical reading and analysis; emphasis on prose. Repeatable one time with consent. Pre: 460 or equivalent.

JPN 613 Medieval Japanese Literature (3) Critical reading and analysis of Kamakura and Muromachi emphasis, on prose. Repeatable one time with consent. Pre: 460 or equivalent.

JPN 614 Classical Japanese Literature (3) Critical reading and analysis of Heian literature; emphasis on prose. Repeatable one time with consent. Pre: 460 or consent.

JPN 620 Practicum: Teaching Japanese Language (Alpha) (3) For graduate students who are planning to teach Japanese as a foreign language through lectures and discussions on language learning and teaching, and through observation and teaching of a Japanese language class, students will learn to make informed decisions about curriculum and instruction, and will develop instructional skills and practices for analyzing their teaching experiences. (B) beginning level Japanese instruction; (C) advanced level Japanese instruction. Each alpha may be taken one time. Pre: 604 or E ALL 601, or consent. (Once a year for (B) and (C)).

JPN 626 Introduction to Japanese Manuscripts and Xylographs (3) Introduction to Classical Japanese manuscripts and xylographs and manuscripts of the Heian and Kamakura periods; reading and analysis of the texts in original script. Repeatable one time. Pre: 461 or 466, or consent. (Act. years)

JPN 631 History of the Japanese Language (3) Survey, theories of origin; related topics in linguistic methodology. Pre: 461 and 601, or consent.

JPN 632 Teaching Japanese as a Second Language (3) Practical overview of major techniques; adult second language learning: communicative and linguistic competence: practical classroom techniques of teaching and testing. Pre: 604 or consent.

JPN 633 Advanced Japanese Sociolinguistics (3) Variations in language use and the role of social factors. Pre: 601 or 602 (or concurrent), and 606; or consent.

JPN 634 Advanced Japanese Syntax and Semantics (3) Theoretical problems in description of Japanese; contributions of Japanese linguistic study to syntactic theory. Pre: 602 or consent.

JPN 640 Topics in Japanese Literature (3) Intensive study of selected topics in Japanese literature, primarily of the modern period. English translations of original texts will be provided whenever available. Repeatable unlimited times with consent. Pre: consent. (Cross-listed as ASIAN 640)

JPN 641 Traditional Literary Theory (3) Reading and analysis of major works of literary theory and criticism from the classical, medieval, and Edo periods. A-F only. Pre: 466 or consent.

JPN 642 Kambun (3) Introduction to kambun [the nominal system of Japanese, or Japanese nouns], with critical reading of kambun by Japanese authors. A-F only. Pre: 461 or consent.

JPN 650 (Alpha) Topics in Japanese Linguistics (3) Japanese/English contrastive analysis; (C) structural (H) historical change; (K) historical development; (P) morphology; (S) sociolinguistics. Pre: 601 and 602 for (C); 634 for (H); 631 for (KP) and (K); 601 for (M); 632 for (P); 633 for (S).

JPN 699 Directed Research (V) Repeatable unlimited times. CR/NC only. Pre: consent of chair.

JPN 710 (Alpha) Research Seminar in Japanese Literature (3) Modern; Pre: 611 (P) pre-modern; (M) modern; Pre: 612, 613, or 614.

JPN 730 (Alpha) Research Seminar in Japanese Linguistics (3) Japanese/English contrastive analysis; (G) structure; (H) historical change; (K) history of Japanese; (Kokugo-gaku-shi); (M) morphophonemics; (P) pedagogy; (S) sociolinguistics. Pre: 451, or 601 and 602 for (C); 634 for (G); 631 for (H) and (K); 601 for (M); 632 for (P); and 633 for (S).

Key to symbols & abbreviations: the first page of this section.

JOUR 300 Visual Journalism (3) Fundamentals of video journalism using digital video cameras for writing, reporting, editing, and producing news stories. JOUR majors only, or consent. A-F only.

JOUR 365 Communication and Law (3) Role of communication in the legal process; impact of law on communication processes. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 465)

JOUR 385 Practicum (1) Working on campus student or quasi-professional publications under professional and faculty supervision. CR/NC only. Repeatable up to three credits. Pre: consent.

JOUR 390 (Alpha) Journalism/Communications Workshops (V) Short-term intensive workshops in journalism and mass communication skills and projects. (B) workshop in new media; (C) workshop in reporting; (D) workshop in editing; (E) workshop in broadcast journal; (F) workshop in public relations. Repeatable in different alphabets up to 6 credits. JOUR or COM majors only. Pre: consent. (Cross-listed as COM 390)

JOUR 407 Advanced Photojournalism (3) Computer experience in the creation, manipulation, and editing of color news, feature, sports, and documentary images. Study of the ethical and legal dimensions of electronic imaging. Pre: 307 or consent.

JOUR 425 Publication Layout and Design (3) Visual display concepts and procedures for newsletters, brochures, newspapers, magazines. Pre: upper division standing.

JOUR 459 Special Topics (3) Topics of interest to faculty and students; taught by regular and visiting faculty. Repeatable on different topics up to six credit hours. JOUR majors only. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 459)

JOUR 460 Media Ethics (3) Ethics and social responsibility for media professionals. Application of ethical theories and principles to case studies and research projects. Pre: any 100-level course, or consent. Pre: COM or JOUR and junior standing; or consent. (Cross-listed as COM 460)

JOUR 470 Broadcast Projects/Production (3) Applied, problem-based application of skills and knowledge of visual storytelling to the production of broadcast newscasts. JOUR majors only. Junior standing or higher. A-F only. Pre: 250, 300, 330; and ICS 101 or ICS 110 or ICS 111 or LTEC 112.

JOUR 471 Advanced Multimedia Journalism (3) Advanced fundamentals of multimedia storytelling, including and developing journalism story ideas, photojournalism, audio storytelling, design, and use of technology, with emphasis on writing. JOUR majors only, or consent. A-F only.

JOUR 477 Global Communication (3) Problems and opportunities of communication in an environment of international contexts. Focus on commerce, diplomacy, and mass communication. JOUR majors only. Pre: COM/JOUR major or consent. (Cross-
Kinesiology and Rehabilitation Science (KRS)
College of Education

Students registering for 101-187, 323, 331-339, 371, 385, and 470 will be requested to complete a medical history form and a liability disclaimer form on the first day of instruction. All students taking 451-494 must be immunized for hepatitis B virus prior to admission in the class.

The minimum required grade for prerequisites for undergraduate-level courses is a grade of C- or better, unless otherwise specified. The minimum required grade for prerequisites for graduate-level courses is a grade of B or better.

KRS 101 Physical Fitness (1) Conditioning exercises and activities to develop and maintain physical efficiency. Emphasis will be administered to measure status and progress. Repeatable unlimited times, but credit earned one time only.

KRS 102 Aerobic Fitness (1) Aerobic fitness improvement upon completion of course by regularly attending and practicing safe workout routines. Learn fitness components, names of muscles and exercises associated with each one. Repeatable unlimited times, but credit earned one time only.

KRS 103 Swimming: Beginning (1) Adjusting to and immersing in water, floating, sculling; correct arm stroke, leg kick, breathing techniques and their coordination. Provide own swimming attire approved by instructor.) Repeatable unlimited times, but credit earned one time only.

KRS 104 Swimming: Intermediate (1) Perfecting and integrating basic strokes with added emphasis for special skills. Student to provide own swimming attire approved by instructor.) Repeatable unlimited times, but credit earned one time only. Pre: 103.

KRS 105 Swimming: Advanced (1) Correct techniques used in competitive swimming, racing starts, correct turning techniques, long-distance swimming. (Student to provide own swimming attire approved by instructor.) Repeatable unlimited times, but credit earned one time only. Pre: 104 or consent.

KRS 106 SCUBA Diving: Beginning (1) Learning watermanship, equipment handling skills, and the knowledge to become safe divers. Additional costs for equipment, dress, manual, dive tables, and certification fee. Repeatable unlimited times, but credit earned one time only.

KRS 107 Aquatic Aerobics (1) Combined lecture-lab-physical activity with emphasis on aerobic fitness improvement through total body aquatic workouts with music, and development of individualized aquatics fitness program. Open to all students. Repeatable unlimited times, but credit earned one time only.

KRS 110 Golf: Beginning (1) Rules, etiquette, grip, stance, drive, normal iron shots, approach shots, putting. Repeatable unlimited times, but credit earned one time only.

KRS 111 Golf: Intermediate (1) Corrective work on basic swing mechanics and rhythm; adjustments for bunker play, uphill lies, downhill lies, short game around and on the green; handcapping and match play competition. Repeatable unlimited times, but credit earned one time only. Pre: 110 and consent.

KRS 112 Golf: Advanced (1) Improving drive, fairway wood and control of shots, trouble shots, putting, course management, competitive strategy, problems in rules. Greens fees paid by students for play on courses. Repeatable unlimited times, but credit earned one time only. Pre: 111 and consent.

KRS 113 Human Physiology and Anatomy (5) Introduction to human physiologic and anatomy designed to serve the needs of those interested in pursuing health-related careers. Structure and function of major systems examined; gross anatomy, microscopic anatomy, and physiology. (Spring only) DB

KRS 115 Bowling (1) Rules, etiquette, arm swing, approach, execution, scoring, spare pickups. Students pay charge for use of alley. Repeatable unlimited times, but credit earned one time only.

KRS 120 Badminton (1) Rules, etiquette, grip, forehand and backhand strokes, serving, smash, drive, net play, offensive and defensive strategy; singles and doubles play. Repeatable unlimited times, but credit earned one time only.

KRS 123 Folk and National Dances (1) Popular dances of various national groups, including square dances. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 124 Dances of Hawaii (1) Background and fundamentals of hula. Selected dances with and without instruments. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 125 Dances of Hawaii: Advanced (1) Advanced techniques in hula movements. Selected dances taught will be more complex, including work with instruments. Individual choreography will be emphasized. Repeatable unlimited times, but credit earned one time only. Pre: 124 or consent. DA

KRS 126 Social Dance: Ballroom (1) Social dances including fox trot, waltz, swing, and other popular dances. Basic steps, rhythm pattern, styling, and variations are taught. Social etiquette is stressed. Repeatable unlimited times, but credit earned one time only. DA

KRS 127 Social Dance: Latin (1) Social dances of a Latin flavor including rhumba, cha-cha, tango, samba, and others. Basic steps, rhythm pattern, styling, and variations are taught. Social etiquette is stressed. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 130 Tennis: Beginning (1) Rules, etiquette, grip, forehand and backhand strokes, serving, volleying, singles and doubles play. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 131 Tennis: Intermediate (1) Corrective work in three basic strokes and in net play; the lob, drop shot, overhead smash, and half-volley; applying spin in basic strokes; basic strategy in singles and doubles play. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 132 Tennis: Advanced (1) Improving upon the strokes introduced in 130 and 131; advanced competitive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 135 Volleyball: Beginning (1) Combined lecture-lab-physical activity with emphasis on beginner skills and knowledge relative to serving, passing, spiking, digging, blocking, and offensive and defensive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 136 Volleyball: Intermediate (1) Combined lecture-lab-physical activity with emphasis on improving skills and knowledge through practice and competitive activities relative to serving, passing, spiking, digging, blocking, and offensive and defensive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 137 Basketball (1) Rules, passing, shooting, dribbling, rebounding, individual defensive and offensive maneuvers; team offense and defense. Repeatable unlimited times, but credit earned one time only.

KRS 151 Adapted and Prescribed Exercises (1) Small group and individual guidance and instruction for students recommended by student health service. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 152 Weight Training (1) Kinesiology of lifting and weight training principles and exercises and methods of training with resistance. Repeatable unlimited times, but credit earned one time only.

KRS 153 Olympic Power and Lifting (1) Exercise techniques and prescription emphasis on anaerobic exercise. Explores advanced periodization models and their utilization, mastery of Olympic lifts, and plyometric programs. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 154 Tumbling and Rebound Tumbling (1) Single and combination stunts on tumbling mats and trampoline, balancing stunts; techniques of spotting; safety procedures. Repeatable unlimited times, but credit earned one time only.

KRS 156 Heavy Apparatus (1) Single and combination stunts on side horse, horizontal bar, parallel bars, still rings; techniques of spotting; safety procedures. Repeatable unlimited times, but credit earned one time only.

KRS 160 Judo (1) Rules, etiquette, method of falling and breaking the fall, simple throws and their counters, simple holds and breaking of such holds. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 161 Aikido (1) Rules, etiquette, basic rolls, simple holds and the breaking of such holds, specific physical conditioning exercises. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 163 T’ai Chi Ch’uan (1) Classic forms of t’ai chi chuan. Repeatable unlimited times, but credit earned one time only.

KRS 164 Karate: Beginning (1) Rules, etiquette, basic stances, blocks, thrusts, kicks, ippon kumite, and selected kata. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 165 Karate: Intermediate (1) Emphasis on improving the basic techniques (stances, punches, kicks, forms, and strappo); introduction to combination techniques. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only. Pre: 164.

KRS 167 Wrestling: Beginning (1) Rules: fundamental defensive and offensive maneuvers and competitive strategy; i.e., takedowns, reversals, escapes, and pinning combinations and techniques. Repeatable unlimited times, but credit earned one time only.

KRS 170 Yoga: Beginning (1) Experiencing yoga and its effects on body, mind and consciousness of individual. Encompasses exercise, breathing techniques, deep relaxation, meditation, practice in concentration, and yogic postures. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 171 Yoga: Intermediate (1) Corrective work and improvement of basic techniques. Exercise sets and combinations designed to develop endurance, flexibility, muscle and nerve strength, meditation, and deep relaxation techniques. Repeatable unlimited times, but credit earned one time only. Pre: Consent.

KRS 173 Water Polo (1) Fundamentals of basic water polo skills, namely, ball handling, passing, shooting, dribbling plus brief introduction into beginning techniques of individual offense and defense. Repeatable unlimited times, but credit earned one time only. Pre: 170 or consent.

KRS 181 Sport Psychology: Invasion (3) Knowledge, skill development, and strategy of various invasion type games and sports. Sports like basketball, soccer, ultimate frisbee and/or others are introduced within a tactical framework. Repeatable one time, but credit earned one time only. A-F only.

KRS 182 Sport Psychology II: Net, Field, and Target (3) Knowledge, skill development, position, and strategy of net, field and target sports. Sports like...
volleyball, tennis, softball, and golf are introduced within a tactical framework. Repeatable one time, but credit earned one time only. A-F only.

KRS 185 Floor Exercise Gymnastics (1) An entry-level course which develops students’ knowledge of men’s and women’s gymnastics floor exercise routines, including injury prevention, skill progression, spotting techniques, and routine choreography for KRS majors; others admitted on space-available basis. Repeatable unlimited times, but credit earned one time only.

KRS 186 Track and Field for Physical Education (1) Knowledge, skills, and rules of various track and field events. Open to track majors and other KRS majors; others admitted on space-available basis. Repeatable unlimited times, but credit earned one time only.

KRS 187 Introduction to Kinesiology (2) Study of physical activity with emphasis on basic skills, rules, etiquette, offensive and defensive strategies, position play, and game situations. Open to all students. Repeatable unlimited times, but credit earned one time only.

KRS 201 School Health Problems: Elementary (2) Responsibilities of elementary school teacher in recognizing and meeting pupils’ needs, emphasizing teacher’s role in health instruction, health services, school health policies. Repeatable one time.

KRS 202 School Health Problems: Secondary (2) Responsibilities of secondary school teacher in recognizing and meeting pupils’ needs, emphasizing health instruction, health services, healthful school living, school health policies. Repeatable one time.

KRS 203 Introduction to Kinesiology (3) Kinesiology as a professional field. Overview of history, philosophy, and current trends in kinesiology. Survey of sociocultural and sociological foundations of kinesiology, exercise, fitness and sport. KRS majors or approval. Repeatable one time. A-F only.

KRS 208 Recreation Services in Contemporary Society (3) Theories and philosophies in recreation: history, contemporary roles in modern society; relationship to health, physical education, and exercise science. A-F only.

KRS 210 Human Development (3) Developmental processes across the life span, with a special focus on psychological, social, and physical development. Human growth and development from conception to death with major theories and related research on maintaining healthy lifestyles. Repeatable one time.

KRS 232 Safety and Risk Management (2) Understanding the fundamental principles and techniques of safety and accident-prevention programming emphasizing school, home, public places, and recreational and motor vehicle situations. Repeatable one time.

KRS 238 Outdoor Recreation Management (3) Objectives and values of outdoor recreation; characteristics and techniques of programs; planning, organization, leadership, and facilities for recreational uses of natural environments. Repeatable one time. Pre: 208 or consent.

KRS 241 Health Education Curriculum (2) Objectives of school health program, emphasizing scope and sequence of health instruction; critical examination of health curriculum guides from various states. Repeatable one time. Pre: 201 or 202.

KRS 249 Program Planning and Leadership (3) Factors in planning and leading recreation programs; characteristics and responsibilities of leadership in relation to nature, scope, and resources of a program. Repeatable one time. A-F only. Pre: 208 or consent.

KRS 270 Introduction to Physical Education (4) Introduction to foundational knowledge for effective teaching. History, philosophy, and current practices in physical education. Provides the basis for later coursework in K-12 physical education. Required field experience. Repeatable one time. A-F only. Pre: consent. (Fall)

KRS 271 Evaluation in Health Education (2) Processes involved in assessing school health education program with emphasis on measurement criteria and instruments, interpretation of data and content, organization and conduct of evaluation program. Repeatable one time. Pre: 201 or 202.

KRS 302 School’s Role in Community Health (2) Functional interrelationships between school and other community health organizations in solving school-community health problems. Repeatable one time. Pre: consent.

KRS 306 Principles of Sports Medicine (3) Examines with some depth, principles of risk management and pathology of athletic injuries, major musculoskeletal structures, and concepts of evaluative skills used in the diagnosis and treatment of common athletic injuries. A-F only. Repeatable one time. DB


KRS 311 Coaching of Basketball (2) Theory and strategy of offensive and defensive basketball coaching. Emphasis on coaching philosophy, selecting and developing an offense and defense, organizing practices, special situations, scouting, and training and conditioning. Repeatable one time. Pre: consent.

KRS 312 Coaching of Baseball (2) Theory and strategy of offensive and defensive baseball coaching. Emphasis on coaching philosophy, selecting and developing an offense and defense, organizing practices, special situations, scouting, and training and conditioning. Repeatable one time. Pre: consent.

KRS 322 Music and Rhythm in Physical Education (3) Use of music in physical education program with emphasis on K-12, emphasizing selection of appropriate music for specific activities as expressive or creative movement, movement exploration, rhythmic gymnastics, and dancing. A variety of techniques and teaching strategies will be shared. A-F only. Pre: consent. (Spring only)

KRS 329 Managing Recreation Services (3) Administrative framework and procedures pertinent to the operation of agencies providing recreational services to the various publics. Repeatable one time. A-F only. Pre: 208 or consent.

KRS 331 Water Safety Training (3) Theory and methods of advanced lifesaving and water safety training. Pre: 451 or consent. (Fall only)

KRS 333 Movement I (3) A movement-based approach to teaching basic motor skills in preschool/elementary physical education. Students actively participate and learn about developmentally appropriate content and pedagogy for children in grades P–5/6. Peer bit teaching is included. A-F only.

KRS 334 Movement II (4) (3 Lec. 1 hr. Lab) Content and pedagogy for teaching Pre-K/5-physical education. Students will learn to plan and teach physical education lessons. Peer bit and field teaching included. Repeatable one time, but credit earned one time only. A-F only.

KRS 335 Coaching of Track and Field (2) Techniques and training of sprints, distance runs, relays, hurdles, long jump, high jump, pole vault, shot put, discus, and javelin throws; conduct of track and field meets; specific conditioning and training programs. Repeatable one time.


KRS 337 Fieldwork in Recreation I (5) Initial supervised leadership experience in recreational agencies. One hour per week in class discussion sessions. For recreation majors only. Repeatable one time. A-F only. Pre: consent of recreation advisor.

KRS 339 Special Recreation (3) Special recreation as a professional field. Overview of special recreation services. Emphasis on recreation services for special populations. Repeatable one time. Pre: 208 or consent. (Fall)

KRS 353 Structural Kinesiology (3) Gross human anatomy, emphasizing identification and description of parts of the musculoskeletal system; selected applications to motor activities for KRS majors, but open to others with consent. A-F only. Pre: 113 or BIOL 171/171L or PHYL 103 or PHYL 141/141L or PHYL 301/301L. DB

KRS 354 Exercise and Sport Physiology (3) Applied physiology and physical training as related to strength, muscular endurance, cardio-respiratory endurance. Primarily for KRS majors, but open to others with consent. Kinesiology and Rehabilitation Science, Health Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 113 or BIOL 354/354L or PHYL 142/142L (or concurrent), or BIOL 171/171L (or concurrent); or consent. Co-requisite: 354L. DB

KRS 354L Exercise and Sport Physiology Lab (2) Laboratory section to accompany KRS 354. Emphasis will be hands-on data collection and analysis of the physiological responses to exercise and physical training. Lab report development and scientific writing will also be emphasized. Kinesiology and Rehabilitation Science, Health Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 113 or BIOL 354/354L or PHYL 142/142L (or concurrent), or BIOL 171/171L (or concurrent); or consent. Co-requisite: 354L. DB

KRS 371 Teaching Techniques I: Elementary (3) Teaching techniques and methods of elementary physical education. Content to include basic skills and games in a school-based experience. Repeatable up to 6 credits. Primarily for KRS majors. A-F only.


KRS 384 Drugs and Society (3) Introduction to psychoactive drugs and their effects; drug regulations; education and rehabilitation programs; psycho-social variables related to the decisions to use/abuse drugs. Pre: consent.

KRS 385 Physical Fitness for Physical Education Teachers (1) Diagnosis and prescription for basic health and fitness problems, scientific principles of training, guidelines for exercise; essentials of scientifically based individualized physical fitness program. Repeatable one time.

KRS 388 Field Work in Strength and Conditioning I (1) Supervised practicum in strength training and conditioning. Students will be exposed to the theory and practice of designing and implementing both strength/power, and general conditioning programs. Repeatable one time. Pre: 152, 354 (or concurrent); or consent.

KRS 395 Personal Health and Wellness (3) Scientifically based information will be presented to help the student make decisions and take responsibility for his/her own health and health-related behaviors. The student will develop an exercise/activity/exercise program, in which he/she will participate and be monitored. Repeatable one time.

DB

KRS 399 Directed Reading (1) Individual problems. Limited to senior majors in health education, physical education, athletic training, or recreation with a minimum GPA of 2.75 in major field. Repeatable unlimited times.

KRS 401 Current Trends in Health (3) Identification and analysis of the most important health issues for individuals, families, schools, and communities. Focus on cultural and local considerations in health promotion and education. Repeatable one time. A-F only.

KRS 402 (Alpha) Teaching Practicum in Physical Education (3) Field experience in teaching physical education activities in schools. K-12; techniques

Key to symbols & abbreviations: see the first page of this section.
in leadership; selection of activities and program evaluation for K-12 licensure. (E) elementary; (S) secondary. KRS majors only. Junior standing or higher. A-F only. Pre: admissite to licensure track; pass criminal background check. Offered by the Hawai‘i Teacher Standards Board (www.htsb.org) or bachelor’s degree from an accredited institution.

KRS 403 Guidance and Classroom Management (3) Qualities and skills needed for classroom management for teachers. Pr: consent. Repeatable one time. A-F only.

KRS 404 K-12 Teaching Methods in Physical Education (3) Methods and materials in teaching physical education activities; techniques; leadership; selection of appropriate activities and program evaluation for licensure. Repeatable one time, but credit earned one time only. A-F only. KRS majors only. Co-requisite: 402E.

KRS 405 (Alpha) Teaching Residency (9) Full-time supervised experience in elementary and secondary school level. School level corresponds to level of licensure desired. (E) elementary; (S) secondary. Each alpha can be taken one time. Kinesiology & Rehabilitation Science, Physical Education, and Secondary Education-Physical Education majors only. A-F only. Pre: 402E (with a minimum grade of B-), 402S (with a minimum grade of B-), and 404 (with a minimum grade of B-). Prerequisite: consent to licensure track pass Praxis II Core Academic Skills tests. Co-requisite: 406.

KRS 406 Seminar in Teaching Residency (3) Analysis and resolutions of issues in teaching residency; teaching methods; content; curriculum; classroom management for teachers. Pr: consent. Repeatable one time. A-F only. Pre: 402E, 402S, and 404 or consent; admittance to licensure track, pass Praxis II Core Academic Skills tests.

KRS 407 Psychosocial Aspects of Sport (3) Examination and application of sociological and psychological theories to sport including the influence of race, ethnicity, gender, and social class on behaviors, sport development, social class, disabilities, and sexual orientation on the sport experience. A-F only. Pr: consent. DB

KRS 415 Prevent/Care of Athletic Injuries (3) An examination of the most recent practices and procedures in the prevention and care of athletic and sports injuries. Observational field experiences in athletic training will be required. A-F only. Pre: 113, or PHYL 105, or PHYL 141/141L, and PHYL 142/142L, or BIOL 171/171L. DB

KRS 416 Fundamentals of Ergonomics (3) Introduction to ergonomics principles and their application in understanding and prevention of Muscular Skeletal Disorders encountered in the working environment including introduction to legal aspects of ergonomics. Post-Master’s Certificate in Nursing majors only. A-F only.

KRS 419 Administration in Athletic Training, Exercise Science, Allied Health (3) An examination of organization and administration in Athletic Training, Allied Health, Exercise Science. Content includes leadership and motivation models, legal liability, ethical considerations and management strategies for all aspects of Health Care Administration. KRS majors only. A-F only.

KRS 420 Measurement and Assessment (3) An examination of the pathology of injuries to the lower extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. Kinesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 353, 415; or consent.

KRS 421 Upper Extremity Assessment (3) An examination of the pathology of injuries to the upper extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. Kinesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 353, 415; or consent.

KRS 422 Curriculum and Supervision (3) Effective program development, planning, and supervision; including issues in legal liability and administration of all athletic training programs and entry-level programs in grades K-12. Repeatable one time. A-F only. Pre: 270 or consent. Majors only.

KRS 428 Current Issues in Leisure Services (3) Philosophical foundations and current emerging issues in leisure services management and programming. Coverage of leisure research and its implications to practice. Repeatable one time. Pre: 278, 249, as listed as FSHN 428.

KRS 429 Evaluating and Marketing Leisure Services (3) Basic methods in marketing, planning, evaluating programs and problem-solving methods, survey research techniques, data analysis, and report generation for park, recreation, and tourism systems. A-F only. Pre: 329 (or concurrent), or consent.

KRS 432 Emergency Care for the Professional Rescuer (3) Course is designed to prepare the emergency care for injuries and illnesses and includes certifications for CPR/First Aid/AED. Class size of approximately 20 students. Open to all majors. Repeatable one time. A-F only. Pr: consent.

KRS 434 Coaching Athletics (3) Combined lecture-lab with emphasis on scientific principles, theory and practice, and professional qualities of the coach. A-F only. Pre: 400.

KRS 437 Camp Resources and Planning (2) (1 Lec, 1-3 hr Lab) Combined lecture-lab for camp counselors and camp leadership. Plan and evaluate camp experiences for children and youth, including program design and evaluation. Includes field trips. Pre: 333 and 332, or consent.

KRS 438 Practicum in Camping (V) Supervised leadership at a camp setting with children and youth, including those with disabilities. Day or residential camps. One week of 40 credit hours. Maximum of four credit hours. Pre: 437 (or concurrent) or consent.

KRS 443 Disability and Diversity in Physical Activity (3) (3 Lec, 1-1 hr Lab) Participants will explore activities of socio-cultural, sexual orientation, religion, and individuals with exceptionalities, and how these affect a student’s learning and behavior in the physical education setting. Includes field experience. Repeatable one time. A-F only. (Cross-listed as SPIE 443)

KRS 463 Sport Biomechanics (3) Concepts and scientific principles essential to efficient human movement; proper application of biomechanical principles to fundamental movements and selected complex motor skills. Repeatable one time, but credit earned one time only. A-F only. Pre: 353, and either PHYS 100, PHYS 151, or PHYS 175; or consent. DB

KRS 470 Fitness for Life (3) Physical education teachers will gain knowledge, skills, and experience necessary to plan, implement, and evaluate Fitness for Life curriculum. Information is guided by national and state standards. Includes lecture, lab, and teaching experiences. Repeatable one time. A-F only. (Once a year)

KRS 471 K-12 Teaching Methods in Health (3) Experiences in developing standards-based, interactive learning opportunities to teach personal and social skills for health in schools. Focus on National and Hawai‘i Health Content Standards, priority risk/ protective factors, and responsibilities and competencies. A-F only.

KRS 472 Learning Communities (3) Theory, basic research, interactive process, and methodology of the cooperative learning process known as Tribes. Will develop participants’ abilities to foster and facilitate learning communities in a variety of settings. Repeatable one time. A-F only.

KRS 473 Ethnic Groups and Education in Hawai‘i (3) Identity and learning within and among Hawai‘i’s ethnic groups; study of prejudice and inter-ethnic hostilities as these impact education and teaching. College of Education majors only. A-F only. Pr: consent. (Cross-listed as EDEF 470) DB

KRS 474 Introduction to Statistics in Kinesiology (3) Basic elements for: descriptive statistics, probability, inference, regression, and correlation analysis. A-F only.

KRS 476 Motor Learning and Performance (3) Basic consideration is kinesthesia, motor ability, fatigue, developmental factors, practice, motivation in relation to motor learning and human performance. Repeatable one time. Pr: EDEF 311 or consent.

KRS 477 Motor Development and Learning (4) (3 Lec, 1-1 hr Lab) Motor development through the lifespan with emphasis on foundational principles and practical implications. Factors affecting motor performance as a function of memory, practice, knowledge of performance, and motivation are incorporated. Required for ed el idee experience. Repeatable one time. A-F only.

KRS 478 Adapted Physical Activity in Early Childhood (3) Concepts of developmentally appropriate practice, importance of movement in overall development, and design of physical activity sessions and environments for young children with and without disabilities. A-F only. Pr: consent.

KRS 480 Nutrition in Exercise and Sport (3) Effects of physiologic demands of exercise on nutrition. Emphasis on physiologic and biochemical basis for nutrition recommendations to enhance exercise participation and optimize athletic performance. Pre: FSHN 185, and PHYL 103 or 141 or 301. (Cross-listed as FSHN 480) DB

KRS 481 Introduction to Research in KRS (3) Research methods in the study of physical activity, types of research, statistical concepts and techniques, and reporting research results. Repeatable one time.

KRS 482 Commercial Recreation and Tourism (3) Examination of leisure services and trends in commercial, private and employee recreation, and resort and recreational tourism. The social, economic, and environmental significance is examined. Pre: 428 or consent.

KRS 483 Recreation and Leisure Education (3) Examination of social, economic, and environmental factors of recreation and tourism development. Emphasis on methods, processes, citizen participation, development, and regulation. Repeatable one time. A-F only. Pre: 238 and 329; or consent.

KRS 484 Promoting a Drug-Free Lifestyle (3) Standards-based planning, teaching, and assessment to prevent a tobacco-, alcohol-, and drug-free lifestyle, K-12. Research-based strategies to promote personal and social responsibility for health. Repeatable one time. A-F only.


KRS 487 Exercise Assessment and Conditioning Lab (4) Designed to provide knowledge of laboratory techniques and procedures for aerobic and anaerobic fitness assessment, interpretation of aerobic and anaerobic testing results and individual exercise program/precription. A-F only. Pre: 480 and EDEF 429, or consent. (Fall only)

KRS 488 Practicum in Health and Exercise Science (4) Cumulating 160 hours of supervised practicum experience in health, wellness, fitness assessment, lifestyle management, and/or exercise leadership. Qualifying hours are contingent upon instructor’s approval in the registered semester. Health and Exercise Science majors only. Pr: consent, current CPR and First Aid Certification, 152, 332, 353, 354, and 463; or consent.

KRS 489 Program Design in Strength Training and Conditioning (3) Designed to provide theoretical and practical experience in supervision of a strength training center. Content includes program design, exercise techniques, organization, testing, evaluation, methods of strength development, facelift design and special populations. Kinesiology & Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 152, 153, 353, 354, 354L, and 463; or consent.

KRS 490 Introduction to Athletic Training Clinic (3) Introduces to the Professional Athletic Training Education Program and the Clinical Education Plan. Students are required to complete all components and demonstrate proficiency in basic clinical skills. Repeatable one time. A-F only. ATEP Program students only. (Once a year).

KRS 491 AT Practicum I (3) Introductory-level supervised experiences within the profession of athletic training. This practicum is required for the KRS entry-level Graduate Athletic Training Education Program.

Key to symbols & abbreviations: see the first page of this section.
A practical field experience in athletic training is required. Athletic Training majors only. A-F only. Pre: 611 or consent. (Spring only)

KRS 613 Athletic Training Clinical Practicum (V) (2 Lec. 4-hr Practicum) Advanced clinical practicum in which the BOC certified or certification-eligible graduate student experiences an advancement of athletic training knowledge and refinement of athletic training skills. Repeatable up to 10 credits A-F only. Pre: consent.

KRS 614 Athletic Training Research Practicum (V) (1 Sem, 5 4-hr Practicum) Advanced research practicum in which the BOC certified or certification-eligible graduate student is required. The candidate gains advanced understanding and enhancements their critical thinking abilities in order to contribute to the advancement of the discipline and the athletic training profession. Repeatable five times, up to 12 credits. KRS majors only. A-F only. Pre: consent.

KRS 615 (Alpha) Clinical Examination of Pathology (3) (2 Lec. 1.5-hr Lab) Examination, recognition, and treatment of musculoskeletal, neurological, and neuromuscular conditions and pathology. (B) lower extremities; (H) head, neck, and spine; (U) upper extremity. EL-GATEP major only for (B). (Athletic Training; Fall only) (Cross-listed as 602)

KRS 616 Advanced Orthopedic Assessment (3) (2 Lec. 1.5-hr Lab) Recognition and application of diagnostic and therapeutic modalities in the assessment and treatment of sport-related injuries, (e.g., epidemiology, legal, ethical concerns, sports psychology, public health issues) Pre: ANAT 604 or consent.

KRS 617 Therapeutic Interventions: Modalities (3) (3 Lec. 1.5-hr Lab) Physiology principles and operational procedures of contemporary therapeutic modalities as they are used to treat athletic injuries. Athletic Training majors only. Fall only) (Cross-listed as ANAT 605)

KRS 618 Therapeutic Interventions: Rehabilitative Exercise (3) (3 Lec. 3-hr Lab) Concepts and principles of comprehensive rehabilitation programs (therapeutic goals and objectives, exercise selection, methods of evaluation and recording progress, progression and return to competition criteria, and physiological effects of tissue trauma and inactivity) Pre: consent.

KRS 619 General Medical Conditions in Sports Medicine (3) (3 Lec. 1.5-hr Lab) Examination of some general medical conditions associated with sports medicine including pathology, care and treatment. Pre: PHYL 301, PHYL 302 or consent. Major restriction: KRS Athletic Training

KRS 620 Seminar in Athletic Training (1) Designed to provide the student with analytical skills and practical experience relative to research as it applies to sport-related injuries. Repeatable unlimited times. Pre: consent.

KRS 621 Advanced Therapeutic Exercise (3) Advanced concepts and evidence-based principles of rehabilitation programs. Enhancement of previously learned therapeutic exercise techniques and principles. Repeatable up to 4 times. KRS majors only. A-F only. Pre: 617 and 618 or basic therapeutic exercise course(s). Pre: consent.

KRS 622 Athletic Training Capstone Experience (3) Capstone culminating experience preparing the student for the comprehensive BOC Exam and for a career in athletic training. Follows the students’ didactic and clinical preparation in the 12 competency areas of athletic training. Repeatable one time. KRS majors only. A-F only. Pre: consent. Co-requisite: 612. (Spring only)

KRS 623 Administration in Kinesiology (3) Current problems, trends, and strategies in the administration of physical education, recreation, sport and fitness programs in school and non-school settings. Repeatable one time. Pre: consent. (Cross-listed as EDEA 623)

KRS 625 Introduction to Community Counseling (3) Philosophy, organization, and function of community service agencies, programs, and institutions as related to professional work in counseling. Pre: consent.

KRS 626 Introduction to Practicum (3) Pre-practicum training for supervised experiences in the discipline of counseling. Focus on the counseling relationship, interview techniques, and specialty observation-participation field experience.

KRS 627 Career Development and Vocational Counseling (3) Theory and practice in career development and vocational counseling with individuals and groups utilizing career-related, educational, vocational, and social resources in career counseling. Pre: consent.

KRS 628 Research and Evaluation in Rehabilitation (3) Understanding basic statistics, methodology, and evaluation of research in rehabilitation and related fields. Students will analyze research, conceptualize research, and apply research to practice. Pre: consent.

KRS 629 Counseling Group Theory and Practice (3) Theories and techniques of group counseling and guidance as preparation for practicum and internship. Application in school, college, rehabilitation, and community settings. Pre: 626 or 683, and 606, and consent.

KRS 630 Tests and Inventories in Guidance (3) Tests and inventories for the assessment of aptitudes, achievement, and interests. Applications to educational, instructional, and career guidance. Pre: consent.

KRS 631 Problems of School Adjustment (3) Principles of behavior affecting interpersonal relationships in school and emphasis on application to actual situations. Pre: consent.

KRS 632 Theory and Assessment of Intelligence (3) Theory and supervised experience in individual intelligence testing, psychological report writing, psychometric and statistical issues in intelligence testing. Pre: 630 and consent.


KRS 634 Inclusive Physical Activity (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and exceptionalities, and how these influence instruction, engagement, and behavior in physical activity settings across the lifespan. A-F only. Pre: consent. (Cross-listed as SPED 631)

KRS 635 Elementary Physical Education (3) Content and pedagogy for teaching preschool/elementary physical education. Students will learn appropriate content and practice for learners in elementary school. Themes to teaching and field experiences are included. A-F only. Pre: consent. (One a year)

KRS 636 Theory and Assessment of Personality (3) Personality testing; practice in administration and use of personality assessment; examination of psychometric and social issues. Pre: 630 and consent.

KRS 637 Cross-Cultural Counseling (3) Significance of cultural factors in counseling relationships, delivery of counseling services in multicultural settings with attention to Hawai‘i. Emphasis on process of cultural learning and implications for counselor roles and functions. Pre: consent.

KRS 640 Seminar in Physical Activity (3) Trends, research, and problems related to physical activity across the lifespan. A variety of topics and contexts will be addressed. Enrolled in KRS graduate program only. A-F only. Pre: consent. (Fall only)

KRS 641 Seminar: Health/Exercise Science (V) Review of selected current literature in exercise/sport science and leisure studies. Practice of presentation in group setting. Repeatable up to 3 credits. Pre: 673 (or concurrent) or EDCS 632 (or concurrent).

KRS 643 Secondary Physical Education (3) Detailed examination of effective physical education curriculum and instruction in middle and high schools. Repeatable one time. A-F only. Pre: consent.

KRS 646 American College Student (Study
of psychosocial characteristics of American college students and college environment, from viewpoint of student personnel work. Pre: consent.

KRS 660 Marriage, Family, and Child Counseling (3) Theories, family, and child counseling, including major model in clinical practice; supervised counseling project by each student. Liability insurance required. Pre: 629 or consent.

KRS 663 Biomechanics of Human Motion (3) Principles used to sport and physical rehabilitation. Introduction to the technology used in the analysis of motion. Pre: consent.

KRS 664 Physiology of Exercise (3) Physiological bases of exercise training methods and sports science. Repeatable one time. Pre: consent.

KRS 665 Metabolic Analysis (3) Theory and practice of metabolic analysis of human performance examining each of the power systems used in energy production during exercise and how to use this information to prescribe exercise programs. Pre: consent.

KRS 666 Advanced Fitness Assessment and Exercise Prescription (3) Provides knowledge of field and laboratory techniques and procedures for aerobic and anaerobic fitness assessment, interpretation of testing results and individual exercise program/precription technique competency. Repeatable once. Pre: consent.


KRS 670 Consultation: Theory and Practice (3) Consultation in educational, business, health, community, and human services agencies. Pre: consent.

KRS 673 Research Methods in KRS (3) The use of experimental designs/models in physical education research with emphasis on understanding the concepts, applications, and interpretations of statistical analysis. Pre: consent.

KRS 674 Assessment in Physical Activity (3) Overview of assessment purposes, types, practices and procedures used in physical education for those with disabilities. Frequently-used self-assessments and practices in collection of data will be specifically addressed. A-F only. Pre: consent. (Spring only)

KRS 675 Transdisciplinary Approach to Teaching the Motor Domain (3) Highlights a transdisciplinary approach to teaching students with disabilities in the motor domain. Important characteristics and components of this approach will be shared. Strategies for its implementation will also be addressed. A-F only. Pre: consent.

KRS 680 Principles and Practice of Rehabilitation Counseling (3) Principles, practices of rehabilitation counseling; review of history and influence of legislation on vocational rehabilitation; current issues, developments, with emphasis on local situation. Pre: consent.

KRS 681 Medical and Psychosocial Aspects of Disability (5) Functional implications of chronic illnesses and disabilities on psychological, social and vocational areas of an individuals life. Case studies and presentations will stimulate discussion and help students to apply theoretical information into practical everyday counseling and consent.

KRS 683 Case Management in Rehabilitation (3) Knowledge and skills required in case and case-load management in public as well as private sector rehabilitation sites. Emphasis on professional/client relationship, interpreting process, decision-making, goal-setting, recording/documentation, time management, and other tasks. Pre: 680 and consent.


KRS 685 Ethical Issues for the Helping Profession (3) Developing ethical reasoning capabilities for resolution of ethical dilemmas likely to be encountered in counseling, psychology, and specialty practices (e.g., community, rehabilitation, school, mental health, addiction counseling, and the like). A-F only. Pre: 606 and consent.

KRS 686 Vocational Evaluation and Assessment in Rehabilitation (3) Theory, process, and techniques of vocational evaluation and assessment. Assessment methods and processes as they relate to vocational choice and adjustment of special groups. Pre: 681 and consent.

KRS 687 Assistive Technology in Rehabilitation Counseling (3) Study of application of assistive technologies to enhance the lives of people with disabilities. Case studies provide the vehicle in guiding students toward integration of available information into reality of actual situations. Special emphasis on the importance of using a consumer-centered approach in providing assistive technology services. A-F only. Pre: 681 and consent.


KRS 695 Promoting Physical Activity (3) Overview of the theoretical and applied study of physical activity epidemiology. Physical activity content includes benefits, factors that influence, levels, valid instruments to assess, and programs to promote physical activity. (Fall only) (Cross-listed as PH 695)

KRS 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable unlimited times. Pre: consent of instructor and department chair.


KRS 703 (Alpha) Practicum (V) Supervised clinical experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times pre: 626 or 685, and consent.


KRS 733 (Alpha) Internship I (V) Supervised pre-practicum experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times Pre: 703 and consent.

KRS 734 (Alpha) Internship II (V) Supervised post-internship I experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times. A-F only. Pre: 733 and consent.

KRS 741 Seminar in School Counseling (3) In-depth study of professional concerns in school counseling. A-F only. Pre: 703 (E or H) and consent.

KRS 751 Seminar in Community Counseling (3) In-depth study of professional concerns in community counseling. A-F only. Pre: 703C and consent.

KRS 761 Seminar in College Counseling (3) In-depth study of professional concerns in college counseling. A-F only. Pre: 703UC and consent.

KRS 775 Doctoral Seminar and Research I in Kinesiology (3) Will expose the PhD student to the basic nature of behavioral and somatic science research. Three times enrollment will consist of journal review, laboratory/field techniques, and subject or data collector exposures as directed by faculty mentors. Repeatable one time. KRS majors only. CR/NC only. Pre: consent.

KRS 776 Doctoral Seminar and Research II in Kinesiology (3) Provide the PhD student the opportunity to be involved in research, under the direction of the faculty mentor, as the assistant project director and as the project director for pilot studies. Key to symbols & abbreviations: see the first page of this section.

Student will gain experience in these roles with close supervision by the faculty mentor. Repeatable one time. KRS majors only. CR/NC only. Pre: 775 or consent.

KRS 777 Doctoral Seminar and Research III in Kinesiology (3) Provide the PhD student the opportunity to assume the role of director of a research project under the supervision of the faculty mentor. The research project will entail the planning of the ongoing line of research of the faculty mentor. Responsibilities will be comparable of a project director of research funded by a research grant. Repeatable three times or unlimited times. KRS majors only. CR/NC only. Pre: 776 or consent.

KRS 778 Doctoral Seminar IV in Kinesiology (3) Designed to enable PhD students to gain a perspective of the discipline, both historically and philosophically, preparing them for the complexities of the real world, particularly higher education and help them initiate their dissertation. CR/NC only. KRS majors only. Pre: consent.

KRS 781 Seminar in Rehabilitation Counseling (V) In-depth study of professional concerns in rehabilitation counseling. A-F only. Pre: 703R and consent.

Korean (KOR) College of Languages, Linguistics and Literature

All students taking language courses in this program for the first time must take a regularly scheduled placement test within the department. For each level of proficiency, please consult the Department of East Asian Languages and Literatures for a brief interview. A grade of C or better in the prerequisite course is required.

KOR 101 Elementary Korean (4) Listening, speaking, reading, writing, grammar. Meets one hour, four times a week, plus lab work. Pre: consent. HSL

KOR 102 Elementary Korean (4) Continuation of 101. Pre: 101 or consent. HSL

KOR 105 Accelerated Elementary Korean (8) Content of KOR 101 and 102 covered in one intensive course. Four 2-hour sessions per week, Monday–Thursday, plus daily lab work. Pre: placement test or consent. (Fall only) HSL

KOR 111 Elementary Conversational Korean I (3) Development of basic skills (listening, speaking and grammar) of spoken Korean, with application to some familiar everyday topics. Pre: consent. HSL

KOR 112 Elementary Conversational Korean II (3) Continuation of 111. Pre: 111 or, consent. HSL

KOR 201 Intermediate Korean (4) Continuation of 101 and 102. Meets one hour, four times a week, plus lab work. Pre: 102 or placement test; or consent. HSL

KOR 202 Intermediate Korean (4) Continuation of 201. Pre: 201 or placement test; or consent. (Fall only) HSL

KOR 205 Accelerated Intermediate Korean (8) Content of KOR 201 and 202 covered in one intensive course. Four 2-hour sessions per week, Monday–Thursday, plus daily lab work. Pre: 102, 105, 112, placement test; or consent. (Spring only) HSL

KOR 211 Intermediate Conversational Korean I (3) Further development of listening and speaking skills. The student is expected to be able to comprehend and produce speech at the paragraph level. Pre: 102 or 112, or consent. HSL

KOR 212 Intermediate Conversational Korean II (3) Continuation of 211. Pre: 201 or 211, or consent. HSL

KOR 301 Third-Level Korean (4) Continuation of 201 and 202. Major emphasis on comprehension of modern written Korean. Chinese characters. Pre: 202 or consent. (Fall only)

KOR 302 Third-Level Korean (4) Continuation of 301. Pre: 301 or consent. (Spring only)

KOR 305 Accelerated Third-Level Korean (6) Content of 301 and 302 covered in one intensive summer course. Five 3-hour sessions per week, Monday–Friday. Pre: 202, 205, placement test, or consent. (Summer only)

KOR 307 Readings in Chinese Characters I (3) Training intermediate and advanced learners of Korean to master the reading, writing and usage of some 250 basic Chinese characters as they are used
in a wide variety of Korean reading texts. Pre: 202 or consent.

KOR 308 Readings in Chinese Characters II (3) Continuation of 307, covering a additional 250 basic Chinese characters. Pre: 307. (Fall only)

KOR 380 Korean Proficiency Through TV Drama (3) Increasing Korean proficiency to advanced level through TV drama, which provides culturally and situationally rich contexts. Includes an emphasis on instruction in writing. Pre: 302 or consent.

KOR 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. Offered if staff available. CR/NC only. Repeatable three times. Pre: consent.

KOR 401 Fourth-Level Korean (3) Continuation of 302. Pre: 302 or consent. (Fall only)

KOR 402 Fourth-Level Korean (3) Continuation of 401. Pre: 401 or consent. (Spring only)

KOR 403 High-Advanced Korean I (3) Continuation of 402. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture, using authentic materials. Pre: 402 or consent. (Fall only)

KOR 404 High-Advanced Korean II (3) Continuation of 403. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture using authentic materials. Pre: 402 or consent. (Spring only)

KOR 411 Advanced Oral Communication in Korean (3) Fourth-year advanced Korean course to increase learners' oral fluency and accuracy; with an emphasis on pronunciation and intonation. Covers linguistic proficiency as well as social and cultural proficiencies. Pre: 402 or consent.

KOR 420 Korean Composition (3) Training in modern structural and stylistic techniques; writing on designated themes. Repeatable one time. Pre: 402 or consent.

KOR 421 Media Analysis in Korean I (3) Focus on analyzing, comparing, and evaluating current media materials in South Korea to develop professional language skills and to deepen knowledge and understanding of contemporary Korean society. A-F only. Pre: 402 or consent. (Once a year)

KOR 422 Media Analysis in Korean II (3) Focus on analyzing, comparing, and evaluating current media materials in South Korea to develop professional language skills and to deepen knowledge and understanding of contemporary North Korea. A-F only. Pre: 402 or consent.

KOR 425 Selected Readings in Korean (3) Selected readings in various disciplines. Includes an emphasis on instruction in writing. Repeatable one time with consent. Pre: 402 or consent.

KOR 451 Structure of Korean (3) Introduction to phonology, morphology, and history. Pre: 302 or consent.

KOR 452 Structure of Korean (3) Introduction to syntax and semantics. Pre: 302 or consent.

KOR 470 Language and Culture of Korea (3) Relation of Korean language to literature, history, philosophy, social structure, values, and interpersonal relationships; social and regional variations. Pre: 402 or consent. DH

KOR 480 Korean Oral Proficiency Through Film (3) Study of Korean culture through films to elevate students' Korean proficiency level and improve their knowledge of Korean. Emphasis is on writing instruction. Requires a minimum of 16 pages of graded writing. Pre: 402 or consent.

KOR 485 (Alpha) Korean for Career Professionals (V) Combined lecture-conference on functional command of selected leveled texts in Korean in domain of (B) economics; (C) political science; (D) computer science; (E) engineering; (F) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health; and (K) others. K includes an emphasis on instruction in writing. Repeatable one time. Pre: 402 or diagnostic assessment procedures or consent.

KOR 486 (Alpha) Korean for Academic Purposes (V) Content taught in Korean by professional school Korean faculty and flagship instructor in domain of (B) economics; (C) political science; (D) computer science; (E) engineering; (F) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: 402 or consent.

KOR 493 Introduction to Traditional Korean Literature (3) Critical readings from earliest times and presentations that emphasize genre, style, and context. Pre: 402 or consent. DL

KOR 494 Introduction to Modern Korean Literature (3) Selective readings of 20th-century materials and presentations that emphasize context and the development of style. Pre: 402 or consent. DL

KOR 495 Internship Program (V) Supervised internships at external hosts in South Korea. Students will also attend an on-campus preparatory and follow-up language class. A-F only. Pre: 486, diagnostic assessment procedures; or consent.

KOR 496 Korean Academic (V) Supervised internship with Korean professional schools. Students will also undergo a one-week training module designed to prepare them to maximize the benefits of the overseas internship. Repeatable up to 3 times. CR/NC only. Pre: 495, diagnostic assessment procedures; or consent.

KOR 499 Directed Fourth-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. Primarily for graduate students from other departments. CR/NC only. Repeatable three times. Pre: consent of department chair.

KOR 613 (Alpha) Korean Verse (3) Intensive and analytical reading of selected works of Korean lyric and didactic verse (e.g., byongye, changye, hanbi, sijo, kata, free form): (M) modern; (T) traditional. Pre: 494 or consent for T. (Fall only)

KOR 614 (Alpha) Korean Narrative (3) Intensive and analytical reading of selected works of Korean narrative (e.g., myth, pansori, shaman song, essay, biography, fiction): (M) modern; (T) traditional. Pre: 494 or consent for T. Pre: 493 or consent for M. (Fall only)

KOR 615 (Alpha) Korean Drama (3) Intensive and analytical reading of selected materials in Korean performing arts (e.g., spectacle, farce play, mask dance, staged narratives, theatrical drama): (M) modern; (T) traditional. Pre: 494 or consent for M, 493 or consent for T. (Fall only)

KOR 621 Media Research in Korean (3) Focuses on searching, analyzing, and evaluating media data for research in areas of student specialties. Students are required to write short analysis papers and a final research paper. Pre: diagnostic assessment (equivalent to IRL Level 2) or consent.

KOR 622 Comparative Studies of Contemporary South and North Korean Language (3) Comparing and analyzing language data to investigate language heterogeneity problems, its causes, and importance of comparative studies. Differences; differences in language policy, grammar, and vocabulary, pronunciation, and discourse style. Pre: 621 or consent. (Once a year)

KOR 623 Interdisciplinary Research in Korean (3) Combined lecture-discussion on preparing students to be able to conduct interdisciplinary research in Korean. Require advanced-level Korean proficiency. Pre: diagnostic assessment (equivalent to IRL Level 2) or consent. Pre: 493 or consent for T. (Once a year)

KOR 624 (Alpha) Analysis of Korean Academic Discourse (3) Co-taught by Korean faculty of professional schools and Korean instruction in domain of (B) economics; (C) political science; (D) computer science; (E) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: Diagnostic assessment (equivalent to IRL Level 2) or consent. (Once a year)

KOR 631 History and Dialects of Korean Language (3) Survey of various hypotheses on the genetic relationship of Korean; evolution of Korean from 3 B.C. to the present; Korean dialects; Pre: 451 and 452, or consent.


KOR 633 Korean Syntax and Semantics (3) Review of theoretical problems in Korean syntax and semantics; different approaches; and contributions of Korean linguistic study to syntactic and semantic theory. Pre: 452 or consent.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLEA 151</td>
<td>World Myth to 1500 C.E.</td>
<td>(3) Reading and analyzing myths from around the globe, from before the dawn of writing to 1500 C.E. Students will learn to interpret traditional stories from several theoretical and cross-cultural perspectives. A-F only. FGA.</td>
</tr>
<tr>
<td>LLEA 301</td>
<td>Biblical Hebrew I (3)</td>
<td>Orthography and structure of Biblical Hebrew, history and development of Hebrew as the sacred language of Judaism, overview of religious and historical development of the Hebrew Bible, reading and writing. (Fall only) (Cross-listed as CLAS 301 and REL 301).</td>
</tr>
<tr>
<td>LLEA 302</td>
<td>Biblical Hebrew II (3) Reading of selected prose passages from the Hebrew Bible; analysis of literary form, paying special attention to stories which have played an important role in the development of the Abrahamic religions. Minimum C- grade required for prerequisites. Pre: 301/REL 301. (Spring only) (Cross-listed as CLAS 302 and REL 302).</td>
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</tr>
<tr>
<td>LLEA 305</td>
<td>Ancient Egyptian Hieroglyphics I (3)</td>
<td>Decipherment of hieroglyphs and reading of Middle Egyptian literary texts. (Fall only) (Cross-listed as CLAS 305).</td>
</tr>
<tr>
<td>LLEA 306</td>
<td>Ancient Egyptian Hieroglyphics II (3)</td>
<td>Decipherment of hieroglyphs and reading of Middle Egyptian literary texts, including Tale of Sinuhe. Pre: 305 or permission of instructor. (Spring only) (Cross-listed as CLAS 306).</td>
</tr>
<tr>
<td>LLEA 321</td>
<td>History of the Written Word (3)</td>
<td>A hands-on history of writing beginning in Ancient Greece and Rome. Content includes the development of the alphabet, scripts, books, libraries, and writing in ancient cultures. Sophomore standing or consent. (Cross-listed as CLAS 321).</td>
</tr>
<tr>
<td>LLEA 323</td>
<td>Greek and Roman Drama (3) Survey of Greek and Roman drama, both tragedies and comedies, tracing the history of a genre that contains some of the most arresting and agonizing moments in ancient literature. Pre: sophomore standing or higher. (Cross-listed as CLAS 323).</td>
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<tr>
<td>LLEA 325</td>
<td>Greek and Roman War Literature (3) Survey of war-related literature from Greece and Rome, its major themes, and how it reflects the wide range of social, political, intellectual, and literary perspectives on war in the ancient world. Pre: sophomore standing or higher, or consent. (Cross-listed as CLAS 325).</td>
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<tr>
<td>LLEA 326</td>
<td>The Greek and Roman Novel (3) Survey of Greek and Roman literature, a collection of highly entertaining texts that offer windows into various aspects of life in the ancient world. Pre: sophomore standing or higher. (Cross-listed as CLAS 326).</td>
<td></td>
</tr>
<tr>
<td>LLEA 327</td>
<td>Ancient Greek Literature in Translation (3) Major writers: emphasis on Homer, drama, and philosophy. Pre: sophomore standing or higher, or consent. (Cross-listed as CLAS 327).</td>
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<tr>
<td>LLEA 328</td>
<td>Ancient Roman Literature in Translation (3) Major writers: emphasis on Vergil, satire, and novel. Pre: sophomore standing or higher, or consent. (Cross-listed as CLAS 328).</td>
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<tr>
<td>LLEA 329</td>
<td>Greek and Roman Epic (3) A survey of Greek and Roman epic literature, beginning with Homer’s Iliad and Odyssey and proceeding through the Hellenistic Greek and Roman periods. Pre: sophomore standing or consent. (Cross-listed as CLAS 329).</td>
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</tr>
<tr>
<td>LLEA 362</td>
<td>Gender and Sexuality in the Classical World (3) Critical examination of the construction of gender identity and sexuality in ancient Greece and Rome. Junior standing or higher. (Once a year) (Cross-listed as HIST 362).</td>
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<tr>
<td>LLEA 237</td>
<td>French Film (3) Study of French film history and technique. A-F only. Pre: freshman standing. DH</td>
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<tr>
<td>LLEA 264</td>
<td>French Culture for Americans (3) Study of the shared cultural and historical foundations of France and the U.S. both past and present. A-F only. DH</td>
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<tr>
<td>LLEA 335</td>
<td>French Literature Since 1800 (3) Rapid reading and comprehension; lectures, discussions, reports. Pre: junior standing or one course in French language or literature.</td>
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<tr>
<td>LLEA 336</td>
<td>African Literature (3) Black African literature in French in 20th century. Major themes of negritude, national political unity, colonialism, traditional culture. Pre: junior standing or one course in French language or literature.</td>
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<tr>
<td>LLEA 339</td>
<td>French Literature as Film (3) Exploration of the distinction between literature and film as artistic genres as well as study of major works of literature in respect to the present, from the Middle Ages through the 20th century. Pre: sophomore standing or consent.</td>
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<tr>
<td>LLEA 364</td>
<td>Survey of French Civilizations (3) A historical survey of the development of French and Francophone cultures. The course is interdisciplinary, dealing with politics, music, art, other forms of cultural expression, and daily life. DH</td>
<td></td>
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<tr>
<td>LLEA 320</td>
<td>German Cinema (3) Study of German film history, film theory, film analysis, and film style. Repeatable one time or take GER 320 one time for different topics. Pre: sophomore standing or higher. (Cross-listed as CLAS 320).</td>
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<tr>
<td>LLEA 340</td>
<td>Classical German Literature (3) Readings in translation from dramatic works of Lessing, Goethe, Schiller. Philosophic and aesthetic views of leading writers of the Enlightenment, Storm and Stress, and classical periods. DH</td>
<td></td>
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<tr>
<td>LLEA 341</td>
<td>German Opera and Literature (3) Introduction to German opera, its history, and analysis. Developing critical skills through analysis of German opera music and literature. Sophomore standing or higher, or consent. DH</td>
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<tr>
<td>LLEA 342</td>
<td>German Fascism and Propaganda (3) Lecture/discussion. Study of German Fascism and propaganda in German literature and film. Sophomore standing or higher. A-F only. DH</td>
<td></td>
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<tr>
<td>LLEA 416</td>
<td>German Literature, Culture and Film: 1890 to Present (3) Study of German literature, culture and film since 1890. Credit cannot be earned for both 416 and GER 416. Sophomore standing or higher. DH</td>
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<tr>
<td>LLEA 346</td>
<td>Italian Opera and Literature (3) Introduction to Italian opera, its history, and analysis. Pre: sophomore standing or consent. DH</td>
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<tr>
<td>LLEA 347</td>
<td>Italian Film (3) Study of Italian literature and film history and technique. Pre: sophomore standing or higher. DH</td>
<td></td>
</tr>
<tr>
<td>LLEA 326</td>
<td>Italian Literature as Film (3) Study of Italian film literature and technique. Pre: sophomore standing or higher. DH</td>
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<tr>
<td>LLEA 340</td>
<td>Classical German Literature (3) Readings in translation from dramatic works of Lessing, Goethe, Schiller. Philosophic and aesthetic views of leading writers of the Enlightenment, Storm and Stress, and classical periods. DH</td>
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<td>German Opera and Literature (3) Introduction to German opera, its history, and analysis. Developing critical skills through analysis of German opera music and literature. Sophomore standing or higher, or consent. DH</td>
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<tr>
<td>LLEA 342</td>
<td>German Fascism and Propaganda (3) Lecture/discussion. Study of German Fascism and propaganda in German literature and film. Sophomore standing or higher. A-F only. DH</td>
<td></td>
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<tr>
<td>LLEA 416</td>
<td>German Literature, Culture and Film: 1890 to Present (3) Study of German literature, culture and film since 1890. Credit cannot be earned for both 416 and GER 416. Sophomore standing or higher. DH</td>
<td></td>
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<tr>
<td>LLEA 351</td>
<td>19th-Century Russian Literature (3) Themes, styles, and major authors. Pre: sophomore standing or consent. DH</td>
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<tr>
<td>LLEA 352</td>
<td>Russian Short Story (3) Study of Russian short stories. Pre: sophomore standing or higher. DH</td>
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<tr>
<td>LLEA 371</td>
<td>Europeans in the Pacific (3) Survey of war-related literature from Greece and Rome, its major themes, and how it reflects the wide range of social, political, intellectual, and literary perspectives on war in the ancient world. Pre: sophomore standing or higher, or consent. (Cross-listed as CLAS 371).</td>
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<tr>
<td>LLEA 376</td>
<td>Alpha History of World Cinema (3) Film as a reflection of the 20th century's social, cultural and political upheavals: (B) World Cinema (1890s to 1950s); (C) World Cinema (1950s to present). Pre: sophomore standing or consent. DH</td>
<td></td>
</tr>
<tr>
<td>LLEA 390</td>
<td>Teaching Practicum in Large Lecture Courses (1) Supervised undergraduate teaching practicum in large-lecture LLEA courses. Repeatable twice. CR/NC only. Pre: completion of course in which practicum will be done and consent of instructor, no waiver.</td>
<td></td>
</tr>
<tr>
<td>LLEA 470</td>
<td>Freaks and Monsters 2: The Ethics of Otherness (3) An interdisciplinary examination of corporeal Otherness. Unusual real and fictional bodies from fairground history, art, anatomy, literature, natural history and ethnology. Discussion of the moral, medical, philosophical and aesthetic dilemmas of several different topics. Repeatable one time in different alphas. Pre: 270 or consent. DH</td>
<td></td>
</tr>
<tr>
<td>LLEA 500</td>
<td>Master's Plan B/C Studies (1) Enrollment for degree completion. Pre: master's Plan B or C candidate and consent.</td>
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</tr>
<tr>
<td>LLEA 630</td>
<td>Seminar in Research Methods (3) Study of basic research methods and tools, including technology. Print and electronic source materials. Information literacy. A-F only. Pre: graduate standing or consent.</td>
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<tr>
<td>LLEA 671</td>
<td>Western Literature and Cultures in the Pacific (3) Impact of and reaction to western writings and cultural influences in the Pacific as represented in texts from the 16th century to the present. Pre: graduate standing or consent.</td>
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<tr>
<td>LLEA 680</td>
<td>Alpha Topics in Literature (3) Study in English of a topic, period, or genre; aesthetic considerations common to European literatures: (B) the modern novel; (C) European literature as a path to self-knowledge; (D) Medieval literature and fantasy; (E) the fantastic, the strange and science fiction. Repeatable one time in different alphas. Pre: 270 or consent. DH</td>
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<tr>
<td>LLEA 681</td>
<td>Alpha Topics in Language (3) Study in English of topics, periods, etc., in the languages taught in the department: (B) comparison of Romance languages; (C) interpersonal communication; (D) social perspectives. Repeatable two times for different alphas (up to 9 credits). Pre: graduate standing or consent.</td>
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<tr>
<td>LLEA 682</td>
<td>Masterpieces of Medieval Welsh Literature (3) Key prose and poetry underlying the Arthurian tradition in Europe. Language instruction leading to reading knowledge of medieval Welsh. Pre: consent.</td>
<td></td>
</tr>
<tr>
<td>LLEA 699</td>
<td>Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.</td>
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<tr>
<td>LLEA 700</td>
<td>Thesis Research (V) Repeatable unlimited times. Pre: consent of department chair.</td>
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</tbody>
</table>

Key to symbols & abbreviations: see the first page of this section.
Languages, Linguistics, and Literature (LLL)

College of Languages, Linguistics and Literature

LLL 150 Literature and Social Change (3) Study of works produced in Africa, the Americas, Asia, Europe, and Oceania from prehistory to the present, showing how the spoken and the written word reflect and effect social change. A-F only.

LLL 455 Second Language Learning and Teaching Methodology (3) Hybrid technology intensive course for pre- or in-service teachers of world languages. Topics: online learning, curriculum and lesson planning, assessment, language teaching approaches, technology for learning world languages.

Latin (LATN)

College of Languages, Linguistics and Literature

A grade of C- or better in the prerequisite course is required for continuation.

LATN 101 Elementary Latin (3) Grammar and vocabulary, with reading of simple Latin. HSL

LATN 102 Elementary Latin (3) Continuation of 101. Pre: 101. HSL

LATN 201 Intermediate Latin (3) Development of reading and translating skills. Emphasis on prose. Pre: 202 or equivalent. HSL

LATN 202 Intermediate Latin (3) Continuation of 201: emphasis on poetry. Pre: 201. HSL

LATN 303 Roman Historians (3) Selections from Caesar, Sallust, and others. Pre: 201 and 202, or consent. DL

LATN 304 Roman Epic (3) Selections from Virgil, Ovid, and others. Pre: 201 and 202, or consent. DL

LATN 325 Roman Philosophy (3) Selections from Lucretius, Cicero, and Seneca. Pre: 201 and 202, or consent. DL

LATN 332 Roman Drama (3) Selections from Plautus, Terence, and Seneca. Pre: 201 and 202, or consent. DL

LATN 333 Roman Lyric (3) Selections from Catullus, Horace, and others. Pre: 201 and 202, or consent. DL

LATN 338 Roman Novel (3) Selections from Petronius and Apuleius. Pre: 201 and 202, or consent. DL

LATN 345 Roman Satire (3) Selections from Juvenal, Terence, and others. Pre: 201 and 202, or consent. DL

LATN 490 Seminar in Roman Studies (3) Combined lecture-discussion on selected topics. (Once a year)

Latin American and Iberian Studies (LAIS)

College of Languages, Linguistics and Literature

LAIS 360 (Alpha) Studies in Culture (3) Politics of culture and representation. Will consider issues, traditions, movements, anti-subordination theories of justice and their connections with Africa, Asia, the U.S., and Hawai'i. Pre: sophomore standing or consent. DH

LAIS 368 (Alpha) Latin America and the Caribbean (3) Study of cross-cultural patterns in household and community level organizations in Latin America and elsewhere. Topics may include gender relations, kinship structures, political economy, impacts of colonialism, modernization, and globalization on households. Sophomore standing or higher. (Cross-listed as ANTH 368) DS

LAIS 372 Indigenous Peoples of Latin America (3) Study of the history and culture of the indigenous peoples of Latin America through a study of their literature, texts, and practices. (B) Mesoamerica; (C) Andean South America. Repeatable one time for different alphas. Pre: sophomore standing or consent. (Cross-listed as ANTH 372) Alpha) DH

LAIS 380 Studies in Culture: Portugal and Brazil (3) Surveys the cultures of the Portuguese-speaking world from pre-Lusitanian times, including connections with Africa, Asia, the U.S., and Hawai'i. Pre: sophomore standing or consent. DH

LAIS 468 Colonial Latin American History (3) Pre-Colombian civilizations: Spanish and Portuguese colonization; post-colonial period: contemporary issues. Pre: 201 and 202, or consent. DL

LAIS 478 New World Rituals and Ideologies (3) Study of ritual and cultural elements in contemporary Latin American society. May include syncretic religions (voodoo, candomble), Andean Christian beliefs, conceptions of death, etc. Sophomore standing or higher. Minimum C- required grade for prerequisites. Pre: 360, or consent. (Fall only) (Cross-listed as ANTH 478 and REL 478)

LAIS 495 Topics in Latin American and Iberian Studies (3) Combined lecture-discussion on selected topics. Pre: consent. One time for different alphas. Pre: 360, or consent. (Once a year)

LAIS 683 (Alpha) Hispanic Cultural Studies (3) critical overview of contemporary theories on Hispanic culture. Issues of identity such as mestizaje, hybridity, and pluralism will be discussed from a hemispheric perspective. Pre: consent.

Law (LAW)

School of Law

LAW 099 Exchange Student Program (V) Designed for students accepting an exchange program while enrolled at William & Mary School of Law. Must obtain prior approval for the transfer credits. LAW majors only, CR/NC only.

LAW 501 Organizing for Social Change (V) Examines conditions that lead people to become active, self-governing agents. Covered are strategies and tactics of organizers, history of social change movements, anti-subordination theories of justice and organizing case studies. Repeatable up to four credits. (Once a year)

LAW 503 Historic Preservation Law (V) Introduction to the protection of cultural, archaeological, and historic property. Emphasis on federal and state laws. (Once a year)

LAW 504 Lawyering Fundamentals I (V) Comprehensive program that teaches students the analytical and presentational skills necessary for excellent legal writing. Students study legal problem solving and writing through the types of documents lawyers prepare in practice.

LAW 505 Lawyering Fundamentals II (V) A comprehensive program that teaches students the analytical and presentational skills necessary for excellent legal writing. Introduces skills and strategies for preparing written legal arguments and oral advocacy. Pre: 504 or consent.


LAW 508 Negotiation and Alternative Dispute Resolution (V) Lawyers negotiate settlements in almost all their cases. This class presents a "hands-on," skill-building approach to the newest ideas, as well as centuries-old techniques, about the skill lawyers will use most often in their private practice- negotiation. The class also examines the rapidly developing field of alternative dispute resolution (ADR), including mediation, facilitation, arbitration, and court-annexed ADR. (Cross-listed as CEE 614)

LAW 509 Contracts I (V) Law of private agreements. Explores the订立 and interpretation of common law doctrines, and, where applicable, relevant provisions of the Uniform Commercial Code. Examines the bases of promissory liability, contract formation, mutual assent, defenses to enforcement, excuses, remedies and damages, and the rights and interests of third parties. Attention will be paid throughout the course to the role of contracts in the market place and the resulting interests of certainty, freedom of contract and fairness.

LAW 510 Contracts II (V) Continuation of 509. Pre: 509.

LAW 511 Professional Responsibility (V) Introductory consideration of selected topics relating to functions, structure, and responsibilities of the legal profession and its future role in society. CR/NC only.

LAW 512 Reparations and Reconciliation (V) Seminar addresses a legally and socially important topic: reparations—legal matters for redressing past-present-day wrongs of historic injustice. Considers how to repair the continuing social damage of injustice. (Once a year)

LAW 513 Criminal Law (V) Examination of substantive rules, enforcement procedures, and ramifications of criminal laws in the U.S.

LAW 514 Children, Parents and the Law (V) Exploration of fundamental concepts of law relating to children, ethical issues, and the role of lawyers in assisting children, and protecting a child’s rights and obligations are balanced with those of parents and state. (Once a year)

LAW 515 Business Reorganization in Bankruptcy (V) Examination of the rights and remedies available to the failing business and its creditors when the business seeks to reorganize its business and financial affairs under chapter 11 of the federal bankruptcy code. The course is structured as a "practicum," which tracks a single business through restructuring and emphasizes the practical and strategic aspects of lawyering. Recommended: 562.

LAW 516 Civil Procedure I (V) Study of pre-trial, trial, and appellate procedures in the federal and Hawaii’s courts.

LAW 517 Civil Procedure II (V) Continuation of 516. Pre: 516.

LAW 518 Real Property I (V) Basic course in property ownership, development, regulation. Emphasis on theory.

LAW 519 Real Property II (V) Contract of sale, equitable conversion, deed. Pre: 518.

LAW 520 Advanced Legal Studies (V) Faculty members or visiting scholars present selected topics focusing upon subject areas in their area of specialty or expertise. (B) business law; (D) Constitutional law; (D) criminal law; (E) critical legal; (F) education law; (G) health law; (H) intellectual property law; (I) practice of law; (J) public interest law; (K) topic 10; (M) topic 11; (N) topic 12; (O) topic 13; (P) topic 14; (Q) topic 15; (R) topic 16; (S) topic 17; (T) topic 18; (V) topic 19; (W) topic 20. Alphas B-Q repeatable three times, up to 12 credits; alphas R-W repeatable three times, up to 16 credits.

LAW 521 Law, Aging and Medicine (V) Introduction to basic legal issues at the intersection of law and aging. Examines the role of law, aging and medicine. (Once a year)

LAW 522 Torts (V) Contracts, torts, and the law of agency. Topics include negligence, causation, defenses, damages, strict liability, intentional torts, and tort policy and reform, with emphasis on national and international law. Pre: 504 or consent.
LAW 524 Advanced Torts and Insurance Law (V) Advanced study of several areas of tort law and an introduction to insurance law and policy. This course is of considerable importance to students interested in civil litigation, personal injury law. Recent important developments in Hawai‘i tort and insurance law will be included.

LAW 525 Legislation and Statutory Interpretation (V) The role of the legislature and judicial branches of government is explored through a review of Federal and Hawai‘i law-making processes, direct democracy, legislative drafting, and theories of the legislative and statutory interpretation.

LAW 526 Group Directed Study (V) Designed for maximum flexibility, this course allows a professor to work with a small number of students on a reading/discussion project of mutual interest. Repeatable up to 15 credits. Pre: consent of professor.

LAW 527 Federal Indian Law (V) Examines Federal Indian Law, including fundamental concepts and the historical evolution of legal doctrines. Considers the implications of Native Hawai‘i sovereignty within the framework of Federal Indian Law. (Once a year)

LAW 529 Peacemaking (V) Introduction for lawyers to peace studies and analysis of contemporary armed conflict, pacifism, just war doctrine, historical causes by war, the simulation of war and peace for lasting peace. (Once a year)

LAW 530 Second-Year Seminar (V) Seminar required for spring semester of all second-year law students. Substantial paper required. Topics announced in previous fall semester. Placement by lottery.

LAW 531 Business Associations (V) After a brief survey of agency, partnerships, and other forms of business organization, the course will cover the fundamentals of corporations, and securities regulation, including disregarding the corporate entity, management and control of closely held corporations, mergers, federal securities laws, takeovers, public registration, exemptions, and derivative suits.

LAW 532 Health Law (V) Introduction to medical jurisprudence, medical malpractice, informed consent, health care delivery, medical ethics, the health care industry, managed care, financing health care, and the role of government in health care.

LAW 533 Constitutional Law I (V) Introduction to judicial function in constitutional cases, jurisdiction of the U.S. Supreme Court, and discretionary barriers to judicial review.

LAW 534 Constitutional Law II (V) Advanced course with special emphasis on rights secured by the First, Fifth, and Fourteenth Amendments to the Constitution of the U.S. Pre: 533.

LAW 535 Intellectual Property (V) A study of the law relating to property rights resulting from intellectual efforts of inventors, authors, artists, performers, and the like in creativity and non-excludability and examined together with end user license agreements and the structure and negotiation of upstream licensing mechanisms. Repeatable up to three credits. Pre: 535 or departmental approval. (Once a year)

LAW 546 (Alphabetical) Term (V) January term provides students the opportunity to explore contemporary legal topics with national and international experts. (B) alternative dispute resolution; (C) rule of law; (D) law practice; (E) diversity; (F) access to justice; (G) public law; (H) legal theory; (I) legal practice; (J) rights. Repeatable five times. (Once a year)

LAW 547 Gender, Law and Conflicts (V) Examines how international and domestic legal systems address and resolve conflicts regarding women’s rights, gender roles, and gender identity. Takes a comparative approach with emphasis on the Asia-Pacific region. (Cross-listed as PACE 637 and WS 647)

LAW 548 Immigration Law (V) Introduction to U.S. Immigration and Nationality Law: a brief overview of historical development of immigration law; analysis of exclusion and deportation grounds and remedies; the study of both immigrant and nonimmigrant visa applications and petitions. Current law on asylum and refugee applications and U.S. citizenship and naturalization requirements.

LAW 549 Admiralty Law (V) Introduction to U.S. maritime law and admiralty jurisdiction emphasizing development of rules of maritime law and rights of seamen and maritime workers.

LAW 550 Corporate and Partnership Taxation (V) Examines tax aspects of formation, operation, reorganization, and liquidation of partnerships and corporations.

LAW 552 Trusts and Estates (V) Deals primarily with the disposition of family wealth including: the making of wills; the creation, enforcement, administration, and termination of trusts; and intestate succession, including probate.

LAW 555 (Alphabetical) Secured Transactions, Payment Systems and Credit Instruments (V) A study of the Uniform Commercial Code provisions that deal with commercial paper (Article 3), bank collections and letters of credit (Article 4A) and letters of credit (Article 5), as well as material on alternative payment systems, including credit cards, electronic fund transfers and related federal law.

LAW 558 Corporate Finance (V) Provides an understanding of the basic financial concepts and tools for lawyers with transactional practices, preferred stock, common stock and convertible securities. Pre: 531 (or concurrent) or consent.

LAW 559 Labor Law I (V) Regulation of union-management relations under state and federal laws.

LAW 560 High Growth Entrepreneurship (V) An interdisciplinary (JD-MBA) course examining legal, business, and technology issues related to building high growth companies. Student teams develop a company focused on the need to adapt, grow, and build new markets. Recommended: 531. Law students only. (Once a year) (Cross-listed as ME 680)

LAW 561 Administrative Law (V) Procedure and remedies for resolving controversies between citizens and government officials exercising administrative power.

LAW 562 Debtors’ and Creditors’ Rights (V) Bankruptcy laws and rules, laws of liens, receiverships.

LAW 563 Trial Practice (V) Examination of sequential stages of pre-trial and trial practice in a problem setting. Topics include investigation, pleadings, motions, discovery, voir dire examination, opening statements, direct and cross examination, closing argument, selected evidentiary problems, post-trial motions, and appellate practice. Students engage in simulated exercises, and their work is critiqued. CR/NC only. Pre: 543 or consent.

LAW 564 Pre-Trial Litigation (V) Theory and practice of civil pre-trial litigation with focus on pleading, discovery, and pre-trial motions. CR/NC only.

LAW 565 Securities Regulation (V) An introduction to American securities regulation and focuses on the registration and reporting process required of public companies as well as securities litigation. Repeatable three times. Recommended: 531.

LAW 566 Non-Profit Organizations (V) Examines the meaning, scope, and role of non-profit organizations in contemporary society, and focuses on selecting, structuring, and managing non-profit organizations. Recommended: 531 and 567. (Once a year)

LAW 567 Federal Income Taxation (V) Surveys the entire federal income tax system, with emphasis on those areas of greatest importance to non-tax lawyers. Students are expected to develop proficiency in the use of the Internal Revenue Code and Treasury Regulations.

LAW 568 Family Law (V) Legal forms of–and responses to–formation, maintenance, and dissolution of the family. Marriage, annulment, divorce, alimony, separation agreements, child custody and adoption, paternity.

LAW 569 Sales (V) In-depth study of Uniform Commercial Code, Article 2–domestic sales of goods, including warranties, manner, time and place of delivery, and government officials exercising administrative power.

LAW 570 Literature, Law, Race, and Culture (V) Law and literature both inhabit the realm of interpretation, rhetoric, ethics, and epistemology. Will read and analyze literary texts to explore, law, race, and power.

LAW 571 Federal Courts (V) An examination of the jurisdiction and law-making powers of the federal courts, standing issues, appellate jurisdiction of the Supreme Court, federal judge’s role in the diversity-of-citizenship jurisdiction of the federal district courts, immunities from suit in the federal courts possessed by governmental entities and officers, intervention by federal courts in state proceedings, and choice of law in the federal courts. Particular emphasis on relevant Federal Rules of Civil Procedure. Pre: 533 (or concurrent) or departmental approval.

LAW 572 International Protection of Human Rights (V) The growing body of international human rights laws, including procedural law and role of non-governmental organizations.

LAW 573 Jurisprudence (V) Relationships between the concepts of law and morality with views of legal and moral philosophers.

LAW 574 State and Local Government Law and Finance (V) City, town, county, district governments: administrative organization; regulatory powers; police
power; local governmental taxation; relationship between local, state, and federal government.

LAW 576 Directed Study and Research (V)
Individual research and writing under the direction of faculty.

LAW 580 Land Use Management and Control (V)
Survey course of public land use management. (Cross-listed as PLAN 680)

LAW 583 Real Estate Development and Financing (V)
Federal and state laws in the practice of real estate development and financing. Condominium, securities, subdivision, consumer protection, and mortgage areas.

LAW 584 Civil Rights (V)
Focuses on the civil rights of Americans and introduces alternative remedies and procedures for securing these rights.

LAW 586 Hawai'i Legislative Process and Drafting Workshop (V)
Workshop to learn policy development, procedure, legislative drafting, and legislative research skills applicable to Hawai'i State legislative process.

LAW 589 Labor and Employment Law (V)
Employment law, statutory rights affecting the employment relationship, and alternative contract provisions to secure the parties' intentions. Focus on the practical application of labor and employment law. Materials relating to the unionized employment relationship, labor arbitration process and possibly, to issues regarding internal union affairs.

LAW 590 (Alpha) Workshops and Clinics (V)
Proseassion Clinic; (C) Defense Clinic; (D) Elder Law Clinic; (E) Environmental Law Clinic; (G) Estate Planning Workshop; (H) Legal Aid Clinic; (I) Native Hawaiian Rights Clinic; (J) Family Law Clinic; (K) Entrepreneurship and Small Business Clinic; (M) Mediation Clinic; (N) Lawyering Skills Workshop; (P) Mediation Workshop; (Q) Immigration Clinic; (R) Child Welfare Clinic; (S) Hawaii Innocence Project I; (T) Hawaii Innocence Project II; (U) Medical Legal Partnership; (W) Advanced Elder Law Clinic (3). Repeatable one time for (K), (I), and (J); repeatable two times for (W); repeatable three times for (D) and (E); repeatable four times for (H), LAW majors only for (R), (S), (T), (U), and (W). CR/NC only for (N) and (W). Prec: 543 for (C); 561 or LWE 582 for (E); 568 or consent for (J); 548 for (Q); 590D for (W). (Once a year for (K). Alt. years for (U))

LAW 591 Government Contracts Law (V)
a primer on statutory, regulatory, and decisional laws that shape the government procurement process; covers contracts between private parties; government and its agencies; employment, union affairs.

LAW 593 Integrity and Ethics in the Real World (I)
Interactive course addressing important topical ethical issues in areas including the corporate, entertainment, medical, legal, political, education, and sports worlds. Renowned knowledgeable guests will discuss critical issues in their respective fields through panel conversations. LAW majors only. (Summer only)

LAW 595 Internet Law and Policy (V)
Explores the development and use of new technologies in the global cyberculture, copyright law, cyberspace, e-commerce, privacy, scarcity, trademarks, domain names, tort liability, criminal activity, speech, and social and ethical issues.

LAW 599 (Alpha) Independent Study (V)
Designed for law students to conduct an international exchange program, visiting student program, or independent study while enrolled at UH Mānoa. Student must obtain departmental approval prior to registering. CR/NC only.

Law-Doctor of Juridical Science (LSJD)
School of Law

LSJD 500 JD Dissertation (V)
Research and writing of JD dissertation under supervision of dissertation advisor. Repeatable four times, up to 60 credits. LAW students only. Satisfactory/ Unsatisfactory only.

LSJD 501 SJJD Directed Reading (V)
Individual reading and research for SJJD dissertation under supervision of faculty instructor. Repeatable two times, up to 36 credits. LAW students only. CR/NC only.

LSJD 590 SJJD Legal Scholarship (V)
Provides SJJD students with an overview of legal scholarship in a series of related fields. Students will be introduced to different research approaches and areas of legal analysis through presentations by instructor and other faculty. Repeatable two times, up to 12 credits. LAW students only.

LSJD 591 SJJD Legal Writing Seminar (V)
Provides SJJD students with an overview of fundamentals for academic writing skills and opportunity to improve their writing of dissertations. Repeatable two times, up to 12 credits. LAW students only.

Law-Environmental Law (LWEV)
School of Law

LWEV 503 Wildlife and Natural Resources Law (V)
Seminar covering federal and Hawaii's laws that govern the management of wildlife resources, with a particular focus on wildlife conflicts arising in Hawaii.

LWEV 504 Conservation Transactions (V)
Real estate transactions are an important and growing conservation strategy, even land transactions within the environment of conservation. (Once a year)

LWEV 512 Environmental Compliance and Regulated Industries (V)
In depth study of the federal and state environmental laws governing modern businesses and industries, and exploration of the compliance issues that arise under the statutes, regulations, and case law.

LWEV 527 (Alpha) Topics in Environmental Law (V)
Study of contemporary topics in environmental law to change periodically as to issues and topics. (B) advanced environmental law; (C) regulatory; (D) legislature; (E) policy; (F) judicial. Repeatable six times.

LWEV 528 International Environmental Law (V)
Study of the international regulation of activities and processes used to prevent environmental degradation and to preserve resources of environmental value.

LWEV 529 Environmental Litigation Seminar (V)
Seminar on the techniques, law, and strategy involved in federal and state court environmental litigation.

LWEV 530 Climate Change Law and Policy (V)
Climate change is a global challenge that will influence law and policy well into the future. Students will study climate change science, litigation, law and policy at state, national, and international levels. (Once a year)

LWEV 540 Hazardous Waste Law (V)
Examination of federal and state case law, and Hawaii's counterparts. Policies behind hazardous waste laws and their impact on individuals, community, and businesses.

LWEV 582 Environmental Law (V)
Basic statutory law and policy questions and problems concerning the environment. Focus on federal Hawaii's issues.

LWEV 588 Legal Aspects of Water Resources and Control (V)
Legal aspects of water and water rights with focus on Hawaii.

LWEV 592 Domestic Ocean and Coastal Law (V)
Examination of U.S. and Hawaii's ocean and coastal law covers modern issues concerning the protection and use of the native environment including challenges in Hawaii.

LWE 593 International Ocean Law (V)
Examination of the history of international ocean law, including comprehensive coverage of modern problems and issues concerning the laws of the sea.

Law-Journal and Team Credits (LWJT)
School of Law

LWJT 536 (Alpha) Moot Court Team (V)
An honors program for those who prepare for and compete in national advocacy. Travel/registration fees required. (B) Black Law Students Association; (C) client counseling; (D) Hispanic Bar Association; (E) environmental law; (H) Native American; (J) Jessup international; (K) international environmental law; (M) intellectual property; (N) labor; (O) other; (S) space law; (T) trial team. Repeatable one time; up to four credits for (S) and (T). CR/NC only. Pre: Selection by competition.

LWJT 545 Law Review (V)
Students selected for the Law Review editorial board have responsibility for editorial research, writing, and production of the Law Review published by the School of Law. Repeatable four times. CR/NC only.

LWJT 546 Asian-Pacific Law Journal (V)
Students selected for the Asian-Pacific Law and Policy Journal editorial board have writing, editorial, and production responsibility for publication of the journal. Repeatable five times. CR/NC only.

Law-Law Research (LWLR)
School of Law

LWLR 501 Legal Research (V)
Provides a theoretical understanding of the process of law making and of developing and implementing a research plan. LAW majors only.

LWLR 505 Scholarly Research Methods (V)
Learn to plan the prewriting process for such scholarly assignments as Second Year Seminar (SYS), writing for law review, moot court competitions, and in any course involving a scholarly approach to research and writing. LAW majors only.

LWLR 510 (Alpha) Advanced Legal Research (V)
Designed to meet the needs of students who require an advanced course on research in a specific area of law. Students receive two credits in legal research; (H) Hawai'i law research; (I) international and foreign law research; (P) prepare to practice; (Q) topic 5; (R) topic 6; (S) topic 7; (T) topic 8; (U) topic 9; (V) topic 10. Each alpha repeatable four times, up to 15 credits. LAW students only.

Law-Legal Writing (LWLLW)
School of Law

LWLLW 530 Law Thesis (V)
Intensive writing that satisfies the law school's upper division writing requirement and results in advanced law paper of publishable quality, extending over two consecutive semesters of study. Repeatable one time, up to 4 credits. LAW majors only. A-F only.

LWLLW 537 Law Teaching Seminar I (V)
Interdisciplinary seminar used LP 1 assignments and additional readings to discover and deliver the theoretical and practical underpinnings of substantive law assignments and the methodology used to teach them. Instructor approval required. Repeatable up to eight credits.

LWLLW 538 Law Teaching Seminar II (V)
Interdisciplinary seminar uses LP II assignments and additional readings to discover and deliver the theoretical and practical underpinnings of appellate advocacy and negotiation the methodologies used to teach them. Instructor approval required. Repeatable one time. (Spring only)

LWLLW 539 Legal Composition Seminar I (V)
Study of principles and practices of teaching legal discourse one-to-one, transferring materials from composition theory and linguistics into practical papers and methods to assist students to research and write legal documents. Instructor approval required. Repeatable one time. (Fall only)

LWLLW 540 Legal Composition Seminar II (V)
Study of principles and practices of teaching scholarly legal discourse and appellate advocacy one-to-one, transferring composition theory and linguistics into individualized methods make the legal writing process efficient and the product effective. Instructor approval required. Repeatable one time. (Spring only)

Law-LLM Master of Law (LWLM)
School of Law

LWLM 570 Introduction to American Law (V)
General introduction to the fundamental principles and distinctive aspects of the American legal system and its institutions.

LWLM 580 U.S. Legal Research and Writing (V)
Introduction to the basic principles of American legal research and writing. Students review techniques.
of case and statutory analysis and learn to write a professional legal memorandum and client opinion letters. LLM, students only.

Law-Pacific and Asian Law (LWPA)
School of Law
LWPA 553 Asian Pacific Insolvency Law (V) Comparison of corporate insolvency law of selected Asian and Pacific island countries, with a focus on recently enacted laws and pending proposals that have followed the 1997 Asian Financial Crisis. Law students only. Recommended: LAW 515, LAW 554, LAW 562. (Alt. years)
LWPA 564 International Criminal Law (3) Designed to ground students in international criminal law. Will review all aspects of international criminal law from substantive international crimes to criminal liability and sentencing by domestic and international courts only.
LWPA 565 Law and Society in Korea (3) Provides students with an understanding of the law, society, and legal systems in Korea. Areas of law including constitutional, civil, criminal, and business are discussed. Emphasis on South Korea. Law majors only.
LWPA 575 (Alpha) Topics in International Legal Studies (V) Selected topics presented by faculty members or visiting scholars, focusing upon subjects in the Pacific and Asian law (B) business; (C) China; (G) global; (H) Philippines; (I) India; (J) Japan; (K) Korea; (P) Pacific; (S) Southeast Asia; (T) Topic 10; (U) Topic 11; (V) Topic 12; (W) Topic 13; (X) Topic 14. LAW majors only for (B) and (H). Repeatable six times for (C), (I), (J), (K), (P), (S), (T), (U), (V), (W), (X); repeatable five times, up to 18 credits for (B), (H); not repeatable for (G).
LWPA 577 Japanese Business Law (V) Focus on the legal environment facing foreign businesses operating in Japan. Includes consideration of the business environment and culture, issues relating to governmental oversight, contract consciousness, corporate law, and dispute resolution. Uses the example of an actual joint venture between an American and a Japanese company as a tool for studying the relevant issues from a practical perspective.
LWPA 578 Chinese Business Law (V) Introduction to business and commercial law in the People's Republic of China. After a brief overview of China's political system, the course will examine basic areas of domestic business legislation, including torts, property, and contract law, the regulation of private business, the reform of state enterprises, the development of legal institutions and legal systems, and the regulation of land-use and other property rights. More specialized topics, such as arbitration and dispute resolution, the Chinese approach to intellectual property, etc., will be included. May consist of reading, research, and evaluation. Interactive delivery via distance learning and discussion course. Repeatable one time. Pre: consent.
LWPA 579 International Business Transactions (V) An examination of the law, rules, and practices relating to transborder commercial transactions. Students will focus on international sales transactions, the remaining portion focuses on domestic and multinational governance of the international business arena.
LWPA 581 Native Hawaiian Rights (V) Status and evolution of rights of Native Hawaiians to the land and its usufucts. Potential of utilizing native rights based on statute, custom, and use to develop new and expanded rights.
LWPA 582 (Alpha) Topics-Native Hawaiian Law (V) Specific topic areas depend on current developments and issues in Native Hawaiian and Indigenous peoples in the United States and internationally, and expertise of faculty and visiting faculty. (B) policy and governance; (C) business and economic development; (D) law and culture; (E) Indigenous peoples, (F) Indigenous environments and sustainability. Repeatable up to 9 credits. LAW students only.
LWPA 583 Legal History of Hawai‘i (V) Designed to acquaint the student with the unique legal history of Hawai‘i, emphasizing particular legal controversies that have shaped the law of our island society. LAW majors only.
LWPA 584 Emerging Hawai‘i Water Issues (V) Introduction to the legal frameworks for water resource management in Hawai‘i; case studies illuminate the litigation process and evolution of the public trust, precautionary principle, and other legal, scientific, and policy areas.
LWPA 585 International Law (V) Evolving process of formulating rules to govern nations and peoples of the world in their attempts to solve problems recognized as requiring global solutions.
LWPA 586 Latin America (V) Overview of the historical foundations of Chinese law and introduction to the present legal system in the People's Republic of China. Repeatable one time. (Cross-listed as ASAN 686)
LWPA 587 Comparative Law (V) Introduction to the civil law tradition, particularly as exemplified by the legal systems of East and Southeast Asia. After a brief review of comparative law study and the historical development of the civil law, the course will examine the structure and role of the courts, judicial process, the legal profession and constitutional law and administrative law in Western Europe and in the Asian civil law countries.
LWPA 588 International Human Rights Advocacy (V) Applying international human rights law and legal skills to promote and protect human rights by way of United Nations Charter-based human rights mechanisms, treaty-based mechanisms, or other international human rights institutions.
LWPA 589 International Law, Transitional Justice, and War Crimes Tribunals (V) Discusses central problems of responsibility for mass atrocity crimes such as genocide, and with the role of providing accountability through criminal accountability or other means such as truth commissions in post-conflict societies.
LWPA 590 International Economic Law (V) Problem-based course teaches theory and practice of international trade and public law, as well as cross-border transactions and disputes resolution in world law, international investment law, and international financial law.
LWPA 594 Pacific Islands Legal Systems (V) Study of substantive rules of one or more Pacific Islands jurisdictions, development of legal systems, relationship of legal systems to culture and tradition.
LWPA 596 International Intellectual Property (C) Primer on the World Intellectual Property Organization and its registrations. Will explore the various international legislative and judicial developments in intellectual property as well as analyze international standards and national and international law to protect rights in trademarks, patents, and copyrights. Students will be exposed to issues of territoriality and jurisdiction, international antitrust issues, and international dispute resolution, and human rights implications of international intellectual property rights protections. Pre: LAW 535.
LWUL 502 American Legal Systems II (V) Introduces conceptual and historical foundations of systems of public and private ordering in the U.S. and its territories. Subjects include federalism, constitutional democracy, legal institutions, and the common law. Repeatable one time. CR/NC only.

Learning Design and Technology (LTEC)
College of Education
LTEC 112 Technologies for Academic Success (3) Virtual and hands-on analysis of technology resources and utilization in learning.
LTEC 113 Technologies for Academic Success–Business (1) Virtual and hands-on analysis of technology resources and utilization in learning with an emphasis on business education. A-F only.
LTEC 414 Educational Media Technology (3) Introduction to educational technology theory and practice with an emphasis on meaningful integration of technology and media into a variety of face-to-face and online learning environments for diverse populations. A-F only. Pre: upper division standing.
LTEC 415 Technology for Teachers (3) Introduction to the application of educational technology in teaching and learning using strategies in design, selection, development, integration, and evaluation. Interactive delivery via distance education technologies. A-F only. Pre: basic teaching certification.
LTEC 430 Video Technology (3) Overview of video uses in educational contexts. Includes video planning, production, and simple editing procedures, as well as selection, evaluation, and integration into learning plans. Pre: upper division standing.
LTEC 442 Technology in Education (3) Planning and implementation of computer systems and applications for effective integration into classroom settings. Emphasis is on methods and strategies for using digital technologies to enhance standards-based learning by K-12 students. Pre: upper division standing.
LTEC 448 Social Media: Links to Lifelong Learning (3) Exploration of social media and effects on individuals, communities, and world. Analyze and evaluate impacts of social media and ethical implications. Service learning component and research project link social media to personal fields of study. Pre: upper division standing (junior or higher).
LTEC 499 Directed Activity (V) Individual work, supervised by instructor, that is consistent with teaching research, and/or projects. Repeatable two times, up to six credits. Pre: consent.
LTEC 501 Professional Development in Educational Technology: Technology Skills for Educators (I) Exploring technology resources needed for practice with an emphasis on meaningful integration and classroom integration. Repeatable two times.
LTEC 502 PDET: Technology Skills for Educators (2) Exploring technology resources needed for integration into classroom instruction. Repeatable one time. CR/NC only.
LTEC 511 Professional Development Education Technology I (3) Specialized topics reflecting interests and needs of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.
LTEC 512 Professional Development Education Technology II (3) Specialized topics reflecting interests and needs of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.
LTEC 513 Professional Development Education Technology III (3) Specialized topics reflecting interests and needs of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.
LTEC 514 Professional Development Education Technology IV (3) Specialized topics reflecting interests and needs of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.
LTEC 600 Theory and Practice in Educational Technology (3) The profession of educational technology and the role of instructional designers. Theoretical and philosophical foundations underlying practice in educational technology, instructional systems theory, needs assessment, change theory, and relevant learning models. Practical applications of these theories to solve instructional problems in real-life settings. A-F only. Pre: LTEC major or consent.

LTEC 602 Innovations in Educational Technology (3) Innovative technological advances and new media in the field of educational technology and their application in A-F only. Pre: LTEC major or consent.

LTEC 611 Educational Technology Research and Evaluation (3) Review of existing research in media/ed technology, with activities leading to the preparation of a final study or project proposal. Repeatable one time. LTEC majors only or consent. A-F only.

LTEC 612 Introduction to E-learning (3) Introduction to principles of learning and their application in formal and informal instructional settings. LTEC majors only or consent. A-F only.

LTEC 613 Instructional Design and Development (3) Basic concepts and techniques of instructional design and development, for application to solving instructional problems in real-life situations. A-F only. Pre: LTEC major or consent.

LTEC 620 Visual Design (3) Theory and practice involved in planning educational/instructional graphic and photographic material for print and computer-based media. LTEC majors only or consent. A-F only.


LTEC 624 Developing E-learning Environments (3) Planning, design, and development of e-learning instruction for educational and training settings. Implementation of new course components such as student interaction, course management, testing, and content delivery using a learning management environments and open courseware. Repeatable one time. LTEC majors or consent. A-F only. Pre: LTEC 672 or consent.

LTEC 641 Emerging Technologies for K-12 Teaching (5) Exploration and impact of emerging technologies on teaching and learning and ramifications of these technologies on administrative structure of schools. A-F only. LTEC majors only or consent.

LTEC 642 Facilitating E-learning Communities (5) Exploration of tools and design considerations for effective online communication and development of learning communities. Pre: LTEC major or consent.

LTEC 643 Educational Technology in Informal Learning Environments (3) Exploring the nature, application, and impact of the use of educational technology in informal learning environments, such as museums, cultural institutions, tourist attractions, and visitor information centers. Focusing on the analysis, selection, and development of various media choices. A-F only. Pre: LTEC major or consent.

LTEC 647 (Alpha) Learning with Emerging Technologies (3) Exploration and evaluation of new tools and strategies for teaching and learning. (B) mobile learning software; (D) educational games and simulations; (E) critical trends. Repeatable one time per alpha. A-F only. Pre: LTEC major or consent. (Fall only for (B) and (D)) (Spring only for (C) and (E)).

LTEC 651 Interactive Multimedia Production (3) The utilization and application of advanced authoring tools, combining video, animation, graphics, and sound to create working multimedia learning. Primarily for advanced LTEC majors. LTEC majors only or consent.

LTEC 652 (Alpha) Authoring E-learning Environments (3) Conceptualization of instructional design and its application to the development for e-learning environments: (B) assisted instruction (CAI); (C) managed instruction; (D) virtual reality; (E) animation. Repeatable two times. LTEC majors only or consent.

LTEC 654 Programming for Games and Simulations (3) Project-based exploration of the breadth of programming in the context of educational games and simulations. A-F only. Pre: LTEC major or consent.

LTEC 656 Assessment and Evaluation in Educational Technology (3) Evaluation and assessment processes, sources, and instruments applicable to utilizing technology. Repeatable one time. A-F only. Pre: LTEC major or consent.

LTEC 665 Research Design: Multiple Methods and Traditions (3) Explores research methods used in educational technology with a focus on developing a design for dissertation research. Emphasis is on the use of digital technologies in data collection and analysis. LTEC PhD majors only. A-F only. Graduate students only.

LTEC 667 Qualitative Research in Educational Technology (3) Introduction to qualitative research traditions and designs. Emphasis will be on the use of digital technologies in data collection and analysis. LTEC PhD majors only. A-F only. Pre: LTEC major or consent. (Once a year)

LTEC 668 Quantitative Research in Educational Technology (3) Application of methodological and statistical concepts in a projects-based classroom framework. Formative and summative evaluation, measurements, descriptive, and inferential statistics. LTEC PhD majors only. EDUC PhD majors only with consent. A-F only.

LTEC 671 Distance Education Technology (3) Technical and instructional considerations for delivering, managing, and evaluating distance education including voice, video, print, hypertext and data transmissions. Pre: LTEC major or consent.

LTEC 673 Planning for Technology and Resources (3) Planning, needs assessment, and change theory applied to the development and evaluation of long-range plans and the communication of a vision for technology in education. LTEC majors only or consent.

LTEC 674 (Alpha) Technical Issues in Educational Technology (3) Exploration of instructional technology support services and delivery systems, (B) management; (C) systems; (D) networks. A-F only. Pre: LTEC major or consent.

LTEC 676 Social and Ethical Issues in Educational Technology (3) Ethical and social issues as they relate to technology in instructional settings. Focus on social justice and societal impact. A-F only. Pre: LTEC major or consent.

LTEC 680 Information Literacy and Learning Resources (3) Process approach to teaching information retrieval, analysis, and use. Emphasizes concepts, practices ineffective instructional design, selection of resources that meets learning needs. Required for Librarian HDOE licensure. A-F only. Pre: LTEC majors or consent. (Cross-listed as EDCS 680 and LIS 686)

LTEC 687 Instructional Design and Technology Practicum (3) Practicum in instructional design, development, and evaluation of academic and non-academic settings, under close supervision, plus regular class meetings in seminar format. Repeatable three times. LTEC majors only or consent. A-F only.

LTEC 689 LTEC Training and Evaluation Practicum (3) Practicum in technology training and evaluation in formal and informal settings, under close supervision, plus class meetings in hybrid format. Repeatable unlimited times. LTEC majors only or consent. A-F only. Pre: instructor consent.

LTEC 690 Seminar in Technology Leadership (3) Supervised activity in application of technology to teaching/training experiences. Repeatable three times. LTEC majors only and consent. A-F only.

LTEC 692 Practicum in E-learning (3) Practicum in e-learning in academic or non-academic settings, under close supervision, plus regular class meetings. Repeatable three times. LTEC majors only or consent. A-F only.

LTEC 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable for 3 credit hours maximum each time. Pre: LTEC major or consent.


LTEC 701 Instructional Design Studio (3) Covers multiple instructional design models within the context of theory and research. Studio approach to focusing on facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. LTEC PhD majors only. Graduate students only. A-F only.

LTEC 705 Special Topics in Educational Technology (3) Issues of topical interest in educational technology. Concentrates on a topic of current interest, including the new technologies for learning and teaching, and innovative strategies for design and delivery of instruction. Repeatable unlimited times. LTEC majors only. A-F only.

LTEC 750 (Alpha) Seminar in Educational Technology Issues (3) Study and discussion of significant topics and problems. (B) instructional development; (C) online communities; (D) the future; (E) research. Repeatable unlimited times. LTEC PhD majors only. A-F only. Pre: consent. (Once a year)

LTEC 780 Mixed Methods Research Design (3) Mixed methods research is designed for PhD and masters students in educational and social sciences considering combining qualitative and quantitative research. Covers philosophical and practical implications culminating in a mixed methods dissertation/thesis proposal. Repeatable one time. (Cross-listed as EDCS 780 and DIS 780)

LTEC 791 Technology in Qualitative Analysis (3) Advanced research methods focused on management and analysis of qualitative data using technology. Reviews of different qualitative data types, analytical methods, and software. Includes independent research project. Repeatable one time. LTEC PhD majors only. A-F only. Pre: 667 or graduate level qualitative research course. (Summer only)


Library and Information Science (LIS)

College of Natural Sciences

All LIS courses numbered 600 or higher may be taken only by graduate students admitted to the LIS Program or with approval from the LIS Program Chair.

A grade of B- or better in the prerequisite courses is required for continuation.

LIS 500 Master’s Plan B/C Studies (1)

LIS 591 Library and Information Studies Workshop (V) Designed for in-service librarians and other information specialists needing to update their professional skills, focus on a particular topic, or learn new approaches and concepts. Repeatable for credit.

LIS 601 Professional Seminar (3) Advanced seminar in LIS courses cannot be applied for graduate degrees.

LIS 601 Introduction to Reference and Information Services (3) Philosophy, principles, and practice of reference services in libraries, information centers and information literacy. Bibliographic control, reference research, reference interview, online searching, evaluation of bibliographic and Weblogographic material. Field component. MLSx degree required course.

LIS 602 Resource Discovery (3) Techniques and strategies for discovery of information resources from

Key to symbols & abbreviations: see the first page of this section.
background or knowledge. Repeatable unlimited times if course content is different.

LIS 694 Special Topics in Information Technology (3) Includes issues of topical interest in information technology. Concentrates on one major topic of current interest, such as digital archives, content management systems and informatics. Some topics may require prior background or knowledge. Repeatable unlimited times if course content is different.

LIS 696 Practicum School Librarianship (V) Skill development and application of academic study through observation and practice in a fieldwork program with a cooperating librarian. Required for school library certification in Hawai‘i. Repeatable one time, up to six credits. LIS majors only. CR/NC only. Pre: 12 credits in LIS degree program and consent of practicum coordinator required.

LIS 699 Directed Reading and/or Research (V) Individualized program of directed reading and/or research outside the scope of regularly titled courses. Enrollment requires approval before end of previous semester, with specification of goals, work requirements, number of credits, rationale. Repeatable unlimited times, credit earned up to six credits.

LIS 700 Thesis Research (V) Research for master’s thesis. Repeatable six times if course content is different. CR/NC only.

LING 631 Language Data Processing (3) Use of computer in the study of language. Pre: 421 and 422, or consent. DS

LING 635 Linguistics of Sign Languages (3) Universals and uniqueness in the phonological, morphological, and syntactic structures of sign languages, taught inductively with emphasis on hands-on analysis and comparison. Opportunities exist for sign development in American or Ho Chi Minh City sign languages. Graduate students only. Pre: 320 or consent.

LING 636 Hawai‘i Sign Language Linguistics: Documentation, Conservation, and Revitalization of HSL (3) Descriptive information on the phonological, morphological, and syntactic structures and lexicon of Hawai‘i Sign Language (HSL); language skills development in HSL; and guided research related to the production, conservation, and revitalization of HSL. Graduate students only. Pre: 320 or consent.

LING 640 (Alpha) Topical Studies in Linguistics (3) History of the discipline, school of thought, current issues, etc. Repeatable unlimited times. (E) English linguistics; (F) phonology and phonetics; (G) general; (H) history of the discipline; (S) sociolinguistics; (X) syntax; (Y) psycholinguistics. Pre: 422 or consent.

LING 645 The Comparative Method (3) Introduction to historical-comparative linguistics; attention to both Indo-European and languages with few or no written records. Pre: 421 and 422, or
course in entrepreneurship designed around the development of an original business concept and the completion of a comprehensive business plan for a new venture. Intended as final course for students completing entrepreneurship minor. Pr: 320 or consent.

MGT 348 History of American Business (3) The evolution of business enterprise from colonial times to the present, emphasizing the impact on entrepreneurship, technological change, labor-management relations, government-business relations, and economic thought. Case studies of industrial development. (Cross-listed as HIST 378). Pr: consent.

MGT 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor. Repeatable up to six credits.

MGT 450 Family Business (3) The exploration of business, personal, and interpersonal issues associated with a family-owned and managed company. Topics include: family psychology and organizational structure, life cycle of international business, strategic family and business planning, succession planning, family business conflict resolution, estate planning, the role of professional managers, and others. This is not a course about how to start or manage a business. It is most appropriate for those students who are part of a family that owns and manages a business. Pr: BUS 315 or graduate status, or consent.

MGT 460 Asia Pacific Business Systems (3) Business systems in Asia Pacific countries including Japan, Korea, China, Taiwan, Singapore, and Hong Kong in terms of particular organization strategies and how they relate to the international trade policies. Pr: BBA core excluding BUS 345, or consent.

MGT 461 Corporate Entrepreneurship (3) Exploration of the nature and role of entrepreneurship behavior inside larger, established organizations, including examination of obstacles to entrepreneurial activity and approaches to creating work environments that foster entrepreneurship. Pr: 320 or consent.

MGT 643 (Alpha) Advanced Organizational Behavior (3) (B) experiential learning (EL); (C) organization development (OD) and major concepts in organizational behavior. MBA or MAcc students only.

MGT 644 Comparative Management (3) Cross-cultural analysis of the values and environmental constraints that shape management patterns and policies. Emphasis on Pacific area nations. MBA or MAcc students only.

MGT 645 New Venture Management (3) Technical aspects of entrepreneurship, components and requirements for developing a business plan.

MGT 648 International Business: Environment and Enterprise (3) Survey of the environment of international business with theory and policy focusing on strategic planning, international management and operational issues confronting the multinational corporations in the global environment. MBA or MAcc students only.

MGT 650 Management Topics (3) In-depth analysis of selected current practices and trends in administration. May be repeated with change in topic. Pr: consent.

MGT 345 Entrepreneurial Ventures (3) Integrative

Key to symbols & abbreviations: see the first page of this section.

and Industrial Relations (3) Selected topics in international management and industrial relations: (B) Chinese management systems; (C) Japanese management systems; (D) management of multinational corporations; (F) contemporary issues in international business; (G) cross-cultural communication in international business; (H) interactive strategies in Asian culture; (I) international human resources; (J) international joint ventures; (K) international management of technology; (M) Korean management systems; (N) multinational corporation and environmental issues; (O) strategies of the multinational corporation; (P) international transfer of technology. Repeatable four times per alpha. MBA or MAcc students only (except for (D)). Pr: consent.

MGT 671 International Business Management (3) Analysis of the strategic management of firms engaged in multinational business including specific content on Asia. Permits students to focus on specific countries such as China and Japan. A-F only. (Spring only)

MGT 680 Entrepreneurship for Science and Technology (3) Recognizing and screening technology opportunities, the commercialization process, intellectual property acquisition, business model related to high technology strategies needed for growth in high tech firms. A-F only. Pr: 645 or consent. (Once a year)

MGT 681 Asian/Pacific Entrepreneurship (3) Innovative ventures, issues related to noticing opportunities, conceptualizing and developing a business model, starting and growing a new venture with specific emphasis on Pacific region. A-F only. Pr: consent. (Once a year)

MGT 688 Health Policy, Systems, and the Legal Environment (3) Covers health care policy topics including: analyzing health service needs, access, use, disparities; health professional supply; policy issues for health organizations; health care financing policy; health law/ethical issues. A-F only. Pr: BUS 622 and BUS 627. (Alt. years)

MGT 701 Cross-Cultural Management (3) Provides tools to compare and contrast management practices across nations and to examine the role of culture in shaping those practices. A-F only. Pr: PhD student status in international management or consent.

MGT 704 PhD Seminar–Corporate Strategy and International Business (3) Objectives include: explore research topics in corporate strategy and international business, examine conceptual and empirical literature on management of the multinational corporation, and prepare students for comprehensive examination. A-F only. Pr: PhD student status in international management or consent.

MGT 799 Directed Reading and Research (V) Reading and research in an area of management under the direction of faculty member(s). Repeatable unlimited times for PhD students. A-F only. Pr: PhD student status in international management or consent.

Maoi (MAO)

College of Languages, Linguistics and Literature

MAO 101 Beginning Maori I (3) Listening, speaking, reading, writing, grammar. Meets three hours weekly. HSL

MAO 102 Beginning Maori II (3) Continuation of 101. Meets three hours weekly. Pr: 101. HSL

MAO 201 Intermediate Maori I (3) Continuation of 102. Meets three hours weekly. Pr: 102. HSL

MAO 202 Intermediate Maori II (3) Continuation of 201. Meets three hours weekly. Pr: 201. HSL

MAO 261 Maori Literature and Culture (3) Survey of literature concerning Maori language and song as well as contemporary literature (in English) relating to the Treaty of Waitangi, Maori prophetic sayings. Students who have previously taken this course as PACS 492 may not take this course. Pr: DL

MAO 301 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Pr: 202, no waiver. (Fall only)

MAO 302 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Pr: 301.
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(MBIO 699 Directe  Research (V) students only.

(MBIO 361 Modern Maori Literature and Culture (3) Survey of modern Maori and Hawaiian literature and culture from the mid-twentieth and early twenty-first centuries. Pre: 102 or HAW 202, or consent.

(MBIO 384 Te Reo Waata: Maori Language in Song (3) Survey and analysis of Maori song poetry texts, traditional and contemporary, and their development and performance over time. Pre: 102 or HAW 202, or consent.

(MBIO 401 Fourth-Level Maori I (3) Continuation of 302. Conducted in Maori. Advanced reading, writing, and conversation. Cultural contemporary and historical topics. Pre: 302 or consent.

(MBIO 402 Fourth-Level Maori II (3) Continuation of 401. Conducted in Maori. Advanced reading, writing, and conversation. Cultural contemporary and historical topics. Pre: 401 or consent.

Marine Biology (MBIO)

(College of Natural Sciences/School of Ocean and Earth Science and Technology

MBIO 601 Marine Biology-Environments and Organisms (4) (3 hr Lec, 3 hr Lab) Introduction to the diversity of marine organisms and the many specialized coastal, reef, and oceanic habitats in which they live. Lab and field research exercises will complement lecture subjects. Graduate standing in Marine Biology graduate degree program only. A-F only. Pre: consent. (Fall only) (Cross-listed as OCN 601)

MBIO 602 Marine Biology-Processes and Impacts (4) (3 hr Lec, 3 hr Lab) Investigation of biological phenomena and processes related to productivity and food webs, community structure and ecology, adaptations to physical, and impacts of human activities and fisheries. Graduate standing in Marine Biology graduate degree program only. A-F only. Pre: 601. Minimum prerequisite grade of B. (Spring only) (Cross-listed as OCN 602)

MBIO 603 Career Skills for Marine Biologists (1) Introduction to key professional skills including, but not limited to: grant writing, CV preparation, research logistics, data management, reproducible science, peer review, research ethics, publishing, career options, teaching, and professional presentations. MBIO majors only. A-F only. (Fall only)

MBIO 604 Current Research in Marine Biology (1) Discussions with marine biology graduate faculty on current primary literature in marine biology. MBIO majors only. Graduate students only. A-F only. (Spring only)

MBIO 611 Introduction to Quantitative Methods in Fisheries Science (4) (2 Lec, 1 3 hr Lab) Fisheries and population models including growth, stock-recovery, surplus production, age-structured and size-based, parameter estimation, uncertainty characterization, resampling methods, and scientific computing. Graduate students only. A-F only. Pre: MATH 215 or 216, or MATH 241 or 242, or consent. (Alt. Arts)

MBIO 691 (Alpha) Seminar in Marine Biology (1) Marine biology topics, literature, and concepts of current interest within one of several active fields considered in detail: (B) general marine biology: (C) marine fisheries and natural resource management; (D) marine conservation biology: (E) marine education, outreach and policy: (F) marine physiology, behavior and organismal biology: (G) marine population biology and ecology: (H) marine community and ecosystem ecology: (I) professional development for marine biologists: (J) seminar at HIMB. Repeatable unlimited times. Graduate students only.

MBIO 699 Directed Research (V) Directed research and reading in various fields of marine biology. Repeatable unlimited times. Graduate students only.

MBIO 700 Thesis Research (V) Research for master’s thesis. (F) 1 credit. Repeatable unlimited times. Graduate students only. Satisfactory/Unsatisfactory only.

MBIO 710 Topics in Marine Fisheries and Natural Resource Management (V) Lecture, discussion, and/or projects on selected topics related to marine fisheries and natural resource management. Repeatable unlimited times. Graduate students only.

MBIO 715 Topics in Marine Conservation Biology (V) Lecture, discussion, and/or projects on selected topics related to marine conservation biology. Repeatable unlimited times. Graduate students only.

MBIO 720 Topics in Marine Education, Outreach, and Policy (V) Lecture, discussion, and/or projects on selected topics related to education, outreach, and policy of the marine environment. Repeatable unlimited times. Graduate students only.

MBIO 725 Topics in Marine Physiology, Behavior, and Organismal Biology (V) Lecture, discussion, and/or projects on selected topics related to the physiology, behavior, and biology of marine organisms. Repeatable unlimited times. Graduate students only.

MBIO 740 Advanced Topics in Quantitative Biology (V) Reflections faculty expertise and needs for graduate training. Courses include: biology, including statistical, computational, and analytic approaches. Format (lecture/lab/discussion) will vary by topic. Repeatable unlimited times. Graduate students only. Satisfactory/Unsatisfactory only.

MBIO 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times. Graduate students only. Satisfactory/Unsatisfactory only.

Marketing (MKT)

Shidler College of Business

MKT 311 Consumer Behavior (3) Analysis of consumer behavior and motivation: principles of learning, personality and group influence with emphasis upon mass communication effects. Pre: BUS 312 or consent. (Cross-listed as PSY 385) DS

MKT 321 Marketing Research and Data Analytics (3) Use of marketing research and marketing management and data analytics to support marketing management. Topics include: the research process: survey design; sampling; measurement; primary data analysis; customer data analytics; and digital media analytics. Pre: BUS 312 or consent. DS

MKT 331 Marketing Communications (3) In-depth coverage of the major communication tools used in marketing such as advertising, sales promotion, public relations and the internet. Emphasis on integrated marketing communications. Pre: BUS 312 or consent.

MKT 332 Integrated Communication Campaigns (3) Management of integrated marketing communications campaigns. Includes: conducting target market and competitor research, developing creative content and media strategies, production of communication materials and completion of major real world project. Pre: 331 and BUS 312.

MKT 341 Retailing Management (3) Principles, functions, and activities related to the management of retailing: location and layout; merchandise planning; buying and selling; organizational forms and design; expense analysis and control; coordination of store activities. Pre: BUS 312 or consent.

MKT 351 Professional Selling (3) Emphasis on selling technique, social-psychological principles of persuasion, and interpersonal communication. Lecture, discussion, and application of relevant principles and techniques. A-F only. Pre: BUS 312 or consent.

MKT 352 Sales and Sales Management (3) Delves into selling and the sales process. Through a variety of activities, students experience applying selling techniques, sales planning, recruiting and training salespeople, methods of motivating and compensating, territory management and sales team communications. Pre: BUS 312 or consent.

MKT 361 Seminar in Marketing (3) Study and discussion of significant topics and problems in the field of marketing. May be repeated four times with change in topic. Pre: consent and usually senior standing.

MKT 362 Digital Marketing (3) Provides comprehensive understanding of digital marketing’s growing role in new product development; providing marketing research; direct sales; and marketing communications. Students learn multiple digital tools for analysis of customer behavior. Real-world projects provide opportunities for application. Pre: BUS 311 and BUS 312, or consent.

MKT 363 Customer Relationship Management (3) Focuses on the evolving field of customer relationship management. Students learn how to manage marketing information and decision-making systems that maximize customer retention and build long-term relationships. A-F only. Pre: BUS 311, or consent.

MKT 372 Marketing for New Ventures (3) Examines role of marketing in the start-up and launch of entrepreneurial ventures within and outside of ongoing businesses. Emphasis on new product development and low cost, high impact marketing approaches. Pre: BUS 312 or consent.

MKT 381 International Marketing (3) Principles and topics related to international marketing, with emphasis on strategic planning and applications. Pre: BUS 312 or consent.

MKT 391 Marketing Strategies (3) Decision-making by the marketing executive; integration of all elements of the marketing program based on actual business situations. Pre: 311, 321; or consent.

MKT 399 Directed Reading and Research (V) Reading and research in a special area of major under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how work will be approved and evaluated. Must be approved in advance by the department chair and the faculty advisor. Repeatable unlimited times.

MKT 410 Software Tools in Marketing (3) Focuses on computer software tools to help managers make more informed marketing decisions. Through hands-on experience, students learn software skills useful in marketing management, marketing research, sales and advertising. A-F only. Pre: BUS 310 and BUS 312; or consent.

MKT 411B Imagination, Entrepreneurship and Business Problem-Solving (3) Application of creative process to problems encountered in venture creation and growth. Student problem-solving styles are characterized and implications drawn for generation of breakthrough ideas. Tools for facilitating creative solutions to marketing problems are investigated. Pre: junior standing and BUS 312; or consent.

MKT 651 Advanced Marketing Management (3) A case course in the application of advanced marketing methods. Pre: BUS 623 or consent.

MKT 652 Japanese Marketing Systems (3) Specialized study of Japanese marketing systems, considers both global and domestic marketing activities in the context of the Japanese economy. Pre: BUS 623 or consent.


MKT 654 Strategic Brand Management and Marketing Communications (3) The study of brands and strategic brand management with emphasis on developing integrated advertising, sales promotion, public relations, and internet communication strategies that build brand equity. Includes relevant theory and real world applications. Pre: BUS 623 or consent.

MKT 655 Marketing Research Management (3) Examines use of marketing research/data analytics to support marketing management. Topics include: research process; survey design; sampling; measurement; primary data analytics; customer data analytics; digital media analytics. Pre: BUS 312 or consent.

MKT 656 Creativity in Marketing (3) Thought processes that relate to creativity. Through a series of exercises, students experience enriched creativity and enhanced communication skills. Pre: BUS 623 or consent.

MKT 657 Services Marketing (3) Conceptual understanding of distinctive aspects of services, services management, and services research. Pre: BUS 623 or consent.

MKT 658 Digital Marketing Management (3) Examines digital marketing’s role in new product
development; direct sales; marketing communications via the internet, social media, and mobile devices; and digital tools such as online tracking and analysis. Real activities provide opportunities for application. A-F only. Pre: BUS 242 or BUS 252.

MKT 690 Advanced Seminar in Marketing (3) Significance of opinion leadership in marketing. Repeatable unlimited times. Pre: BUS 623 or consent.

MKT 701 Seminar in Marketing Theory (3) Focuses on the building blocks of theory, their use, and evolution within the marketing context. Explores marketing theories, theory construction, and the creation of marketing knowledge. A-F only. Pre: PhD student status in business administration or consent.

MKT 702 Seminar in Consumer Behavior (3) Focuses on consumer behavior theory. Provides in-depth review of important published work in traditional and cross-cultural consumer behavior fields. A-F only. Pre: PhD student status in business administration or consent.

MKT 704 Seminar in Selected Marketing Topics (3) Selected topics in any aspect of international marketing to increase exposure to the range of issues researchers commonly confront. A-F only. Pre: PhD student status in business administration or consent.

MKT 799 Directed Research (V) Reading and research under the direction of faculty member(s). A-F only. Pre: PhD student status in international management or consent.

Mathematics (MATH)

College of Natural Sciences

The minimum required grade for prerequisites is a grade of C (not C-) or better, unless noted otherwise. Credit allowed for (at most) one of 203, 215, 241, 251A.

MATH 100 Survey of Mathematics (3) Selected topics designed for non-specialists with examples of mathematical reasoning. May not be taken for credit after 215 or higher. FS FQ

MATH 111 Math for Elementary Teachers I (3) Understanding, communicating, and representing mathematical ideas; problem solving; reasoning and proof; and using symbolism. Patterns and algebra thinking as an introduction to decimals, geometry, and mathematical modeling. Pre: 111. FS FQ

MATH 134 Precalculus: Elementary Functions (2) Algebra review, functions with special attention to polynomial and exponential and logarithmic functions, composition, and inverse functions, techniques of graphing. Credit not allowed for 134 and 140, or 134 and 161. Pre: two years of high school algebra, one year of plane geometry.

MATH 140 Precalculus and Trigonometry and Analytic Geometry (3) Studies trigonometric functions, analytic geometry, polar coordinates, vectors, and related topics. This course is the second part of the Precalculus sequence. Credit allowed for one of 134, 135, or 140. Pre: 134, 135, or 161 or assessment exam. FS FQ

MATH 161 Precalculus and Elements of Calculus for Economics and the Social Sciences (3) Algebra review, functions with special attention to polynomial, rational, exponential, and logarithmic functions, algebra of functions, techniques of graphing, differentiation and integration of algebraic functions, applications in economics and social sciences. Credit allowed for only one of 134, 135, or 161. A-F only.

FS FQ

MATH 190 Introduction to Programming (2) (3 hr) Introduction to numerical algorithms and structured programming, MATLAB, or other appropriate language. Pre: one semester of calculus (203, 215, 241, 242, 243, 244, 251A, 252A, or 253A) (or concurrent), or consent.

MATH 205 Concepts and Social Sciences (3) Basic concepts; differentiation and integration applications to management, finance, economics, and the social sciences. Credit allowed for at most one of 205, 215, 241, 251A. Pre: 134, 135, or 161, or assessment exam. FS FQ

MATH 215 Applied Calculus I (4) Basic concepts; differentiation and integration applications directed primarily to the sciences. Credit allowed for at most one of 203, 215, 241, 251A. Pre: 140 or assessment exam. FS FQ

MATH 216 Applied Calculus II (3) Differential calculus for functions in several variables and curves, systems of ordinary differential equations, series approximation of functions, continuous probability, exposure to use of calculus in the literature. Pre: 215 or consent.

MATH 241 Calculus I (4) Basic concepts; differentiation with applications; integration. Credit allowed for at most one of 203, 215, 241, 251A. Pre: 140 or 215 or assessment exam. FS FQ

MATH 242 Calculus II (4) Integration techniques and applications including separable equations, first-order linear equations, series, differential equations. Pre: 241 or 251A or a grade of B or better in 215; or consent.

MATH 243 Calculus III (3) Vector algebra, vector-valued functions, differentiation in several variables, and optimization. Pre: 242 or 252A, or consent.

MATH 244 Calculus IV (3) Multiple integrals; line integrals and Green’s Theorem; surface integrals, Stoke’s and Gauss’ Theorems. Pre: 243 or consent.

MATH 251A Accelerated Calculus I (4) Basic concepts; differentiation; applications of differentiation. Compared to 241, topics are discussed in greater depth. Credit allowed for at most one of 203, 215, 241, 251A. Pre: assessment and consent, or a grade of A in 140 and consent.

MATH 252A Accelerated Calculus II (4) Integration techniques and applications, series and approximations, differential equations, introduction to vectors. Pre: 251A, or a grade of B or better in 241 and consent.

MATH 253A Accelerated Calculus III (4) Vector calculus; maxima and minima in several variables; multiple integrals; line integrals, surface integrals and their applications.

MATH 257 History of Mathematics (3) The historical development of mathematical thought. Pre: 216 or 242 or 252A.

MATH 301 Introduction to Discrete Mathematics (3) Symbolic logic, sets and relations, algorithms, trees and other graphs. Additional topics chosen from algebraic systems, networks, automata. Pre: one semester of calculus from mathematics department or consent.

MATH 302 Introduction to Differential Equations I (3) First order ordinary differential equations, constant coefficient linear equations, oscillations, applications to physics. Functions: Fourier, Laplace. Pre: 216 or 243 (or concurrent) or 253A (or concurrent), or consent.

MATH 303 Introduction to Differential Equations II (3) Constant coefficient linear systems, variable coefficient linear systems, qualitative behavior of solutions, special functions, Fourier series, partial differential equations. Pre: 302, 311 (or concurrent) or consent.

MATH 304 Mathematical Modeling: Deterministic Models (3) Deterministic mathematical modeling emphasizing models and tools used in the biological sciences. Topics include stochastic and Poisson processes, Markov models, estimation, and Monte Carlo simulation. A computer lab may be taken concurrently. Pre: 216 or 242 or 252A, or consent.

MATH 304L Mathematical Modeling: Deterministic Models Lab (1) Optional laboratory for 304. Pre: 304 (or concurrent).

MATH 305 Mathematical Modeling: Probabilistic Models (3) Probabilistic mathematical modeling emphasizing models and tools used in the biological sciences. Topics include stochastic and Poisson processes, Markov models, estimation, and Monte Carlo simulation. A computer lab may be taken concurrently. Pre: 216 or 252A, or consent.

MATH 305L Mathematical Modeling: Probabilistic Models Lab (1) Optional laboratory for 305. Pre: 305 (or concurrent).

MATH 307 Linear Algebra and Differential Equations (3) Introduction to linear algebra, solution of equations, interpolation, least-squares approximation, matrix theory, matrix eigenvalues, and linear spaces and transformations. Emphasis on concepts and abstraction and instruction of careful writing. Students may receive credit for only one of 307 or 311. Pre: 242 or 252A, or consent.

MATH 321 Introduction to Advanced Mathematics (3) Formal introduction to the concepts of logic, finite and infinite sets, functions, methods of proof and axiomatic systems. Learning and applying mathematical expressions in writing is an integral part of the course. Pre: 243 (or concurrent) or 253A (or concurrent), or consent.

MATH 331 Introduction to Real Analysis (3) Axioms of the real number system, limits, continuity, differentiation, integration. Pre: 242 or 252A, and 321; or consent.

MATH 351 Foundations of Euclidean Geometry (3) Axiomatic Euclidean geometry and introduction to the axiomatic method. Pre: 243 or 253A, and 321 (or concurrent); or consent.

MATH 352 Non-Euclidean Geometries (3) Hyperbolic, other non-Euclidean geometries. Pre: 351 or consent.

MATH 371 Elementary Probability Theory (3) Sets, discrete sample spaces, problems in combinatorial probability, random variables, mathematical expectations, classical distributions, applications. Pre: 216, 242, or 252A; or consent.

MATH 372 Elementary Probability and Statistics (3) Problem-oriented introduction to the basic concepts of probability and statistics. Learning and applying mathematical expressions in writing is an integral part of the course. Pre: 243 or 252A or 253A. Pre: 371 or consent.

MATH 375 Elementary Statistics (3) Estimation, tests of significance, the concept of power. Pre: 371 or consent.


MATH 403 Partial Differential Equations II (3) Laplace’s equation, Fourier transform methods for PDEs, higher dimensional PDEs, spherical harmonics, Laplace’s equation, special functions and applications. Pre: 402 or consent.

MATH 405 Ordinary Differential Equations (3) Systems of linear ordinary differential equations, autonomous systems, and linearization. Applications. Optional topics include series solutions, Sturm theory, numerical methods. Pre: 302 and 311, or consent.

MATH 407 Numerical Analysis (3) Numerical solution of equations, interpolation, least-squares approximation, quadrature, eigenvalue problems, numerical solution of ordinary and partial differential equations. (These topics are covered in the year sequence 407--408.) Pre: 243 or 253A, and 307 or 311 and one semester programming or consent.

MATH 408 Numerical Analysis (3) Continuation of 407. This is the second course of a year sequence and should be taken in the same academic year as 407. Pre: 407 or consent.

MATH 411 Linear Algebra (3) Vector spaces over arbitrary fields, minimal polynomials, invariant subspaces, canonical forms of matrices; unitary and Hermitian matrices, quadratic forms. Pre: 307 or 311,
and 321; or consent.

MATH 412 Introduction to Abstract Algebra (3) Introduction to basic algebraic structures. Groups, finite groups, abelian groups, rings, integral domains, fields, factorization, field extensions, quotient fields. Emphasis on writing instruction. (These topics are covered in the year sequence 412–413.) Pre: 311 and 321; or consent.

MATH 413 Introduction to Abstract Algebra (3) Continuation of 412. This is the second course of a year sequence and should be taken in the same academic year as 412. Emphasis on writing instruction. Pre: 412 or consent.

MATH 414 Linear Programming (3) Techniques of mathematical programming. Topics may include linear programming, integer programming, network analysis, dynamic programming, and game theory. Pre: 307 or 311.

MATH 420 Introduction to the Theory of Numbers (3) Congruences, quadratic residues, arithmetic functions, distribution of primes. Emphasis is on teaching theory and writing, not on computation. Pre: 321 or consent.

MATH 421 Topology (3) General topology, including compactness and connectedness; the Jordan Curve Theorem and the classification of surfaces; first homotopy group. Pre: 321 or consent.

MATH 431 Principles of Analysis I (3) Topology of R^n, metric spaces, continuous functions, Rieman integration, sequences and series, uniform convergence, implicit function theorems, differentials and Jacobians, and an introduction to teaching mathematical writing. (These topics are covered in the year sequence 431–432.) Pre: 311, 321, and 331; or consent.

MATH 432 Principles of Analysis II (3) Continuation of 431. This is the second course of a year sequence and should be taken in the same academic year as 431. Emphasis on writing instruction continues. Pre: 431 or consent.

MATH 442 Vector Analysis (3) Vector operations, wedge product, and smooth mappings. Theorems of Green, Stokes, and Gauss, both classically and in terms of forms. Applications to electromagnetism and mechanics. Pre: 244 or 253A, and 307 or 311, or consent.

MATH 443 Differential Geometry (3) Properties and fundamental geometric invariants of curves and surfaces in space; applications to the physical sciences. Pre: 244 or 253A, and 311; or consent.

MATH 444 Real Analysis (3) Analytic functions, complex integration, introduction to conformal mapping. Pre: 244 or 253A; recommended 331; or consent.

MATH 445 Topics in Undergraduate Mathematics (3) Advanced topics from various areas: algebra, number theory, analysis, and geometry. Repeatable unlimited times. Pre: consent.

MATH 454 Axiomatic Set Theory (3) Sets, relations, ordinal arithmetic, cardinal arithmetic, axiomatic set theory, axiom of choice and the continuum hypothesis. Pre: 321 or graduate standing in a related field or consent.

MATH 455 Mathematical Logic (3) A system of first order logic: formal notions of well-formed formula, proof, and derivability. Semantic notions of model, truth, and validity. Completeness theorem. Pre: 321 or graduate standing in a related field or consent. Recommended: 305 or 371 or 372; or consent.

MATH 471 Probability (3) Probability spaces, random variables, distributions, expectations, moment-generating and characteristic functions, limit theorems, and probability emphasized. Pre: 244 (or concurrent) or 253A (or concurrent), or consent. Recommended: 305 or 371 or 372; or consent.

MATH 472 Statistical Inference (3) Sampling and parameter estimation, testing hypotheses, correlation, regression, analysis of variance, sequential analysis, rank order statistics. Pre: 471 or consent.

MATH 475 Combinatorial Mathematics (3) Finite combinatorics. This may include counting methods, generating functions, graph theory, map coloring, block design, network flows, analysis of discrete algorithms. Pre: 311 or consent.

MATH 480 Senior Seminar (2) Seminar for senior mathematics majors, including an introduction to methods of research. Significant portion of class time is dedicated to the instruction and critique of oral presentations. All students must give the equivalent of three presentations. CR/NC only. Pre: one 400-level mathematics course or consent.

MATH 490 Mathematical Biology Seminar (1) Reports on research in mathematical biology, reviews of literature, and research presentations. Required for Certificate in Mathematical Biology. Repeatable one time. Pre: junior standing or higher and consent. (Cross-listed as BIOL 490)

MATH 499 Directed Reading (V) Limited to advanced students. Must be arranged with an instructor before enrolling. Repeatable one time, up to six credits.

MATH 500 Master’s Plan B/C Studies (1) Enrollment for completion. Pre: master’s Plan B or C candidate and consent.

MATH 511 Problem Solving for Teachers (1) Practicing teachers develop and improve their problem-solving skills by working on challenging mathematical tasks. Students improve their mathematics content knowledge by working on problems and learning to design challenge problems for their own classes. Practicing teachers in grades K-12. Repeatable unlimited times. CR/NC only. All 600-course prerequisites graduate standing or consent.

MATH 601 Applied Dynamical Systems (3) Continuous and discrete dynamical systems; bifurcation theory; advanced topics from PDEs and linear algebra. Graduate students only.

MATH 602 Ordinary and Partial Differential Equations (3) Classical existence and uniqueness theory for ODEs, and advanced topics in analysis, classification, boundary value and initial value problems, fundamental solutions, other topics. Pre: 601 or consent.

MATH 603 Ordinary and Partial Differential Equations (3) Continuation of 602. This is the second course of a year sequence and should be taken in the same academic year as 602.

MATH 607 Numerical Analysis (3) Numerical linear algebra including iterative methods, SVD, and other matrix factorizations, locating eigenvalues, discrete approximation to partial differential equations. Recommended: 407, 411, or consent.

MATH 611 Modern Algebra (3) Modules, homomorphisms, factor theorem, unique factorization domains, Galois theory, algebraic closures, transcendence bases. (These topics are covered in the year sequence 611–612.)

MATH 612 Modern Algebra (3) Continuation of 611. This is the second course of a year sequence and should be taken in the same academic year as 611.

MATH 613 Group Theory (3) Sylow theorems, solvable groups, nilpotent groups, extension theory, representation theory, additional topics.

MATH 615 Ring Theory (3) Ideal theory in Noetherian rings, localization, Dedekind domains, the Jacobson radical, the Weil divisor-Artin theorem, additional topics.

MATH 616 Topology (3) Introduction with applications to general algebra. Partially ordered sets, decomposition theory, representations of lattices, varieties and free lattices, coordinatization of modular lattices.

MATH 619 Universal Algebra (3) Introduction to basic techniques, including subalgebras, congruences, automorphisms and endomorphisms, varieties of algebras. Malcev conditions.

MATH 621 Topology (3) Properties of topological spaces: separation axioms, compactness, connectedness; metrizability; convergence and continuity. Additional topics from general and algebraic topology. (These topics are covered in the year sequence 621–622.)

MATH 622 Topology (3) Continuation of 621. This is the second course of a year sequence and should be taken in the same academic year as 621.

MATH 623 Geometric Topology (3) Geometric, topological, and dynamical methods in the study of finitely generated infinite groups. Graduate students only. Pre: 621 (with a minimum grade of B-).

MATH 625 Differentiable Manifolds I (3) Differentiable structures on manifolds, tensor fields, Frobenius theorem, exterior algebra, integration of forms, Poincare Lemma, Stoke’s theorem.

MATH 631 Theory of Functions of a Real Variable (3) Lebesgue measure and integral, convergence of integrals, functions of bounded variation, Lebesgue-Stieltjes integral and more general theory of measure and integration. (These topics are covered in the year sequence 631–632.)

MATH 632 Theory of Functions of a Real Variable (3) Continuation of 631. This is the second course of a year sequence and should be taken in the same academic year as 631.


MATH 637 Calculus of Variations (3) Simple variational problems, first and second variation formulas. Euler-Lagrange equation, direct methods, optimal control.

MATH 644 Analytic Function Theory (3) Conformal mapping, residue theory, series and product developments, analytic continuation, special functions. (These topics are covered in the year sequence 644–645.)

MATH 645 Analytic Function Theory (3) Continuation of 644. This is the second course of a year sequence and should be taken in the same academic year as 644.

MATH 649 (Alpha) Topics in Mathematics (3) (B) logic; (D) analysis; (F) function theory; (G) geometry; (H) operator theory; (I) probability; (J) algebra; (K) special; (M) lattice theory and universal algebra; (N) number theory and combinatorics; (O) differential manifolds II. Repeatable up to nine credits for (U); unlimited times for the other alphabas.

MATH 654 Introduction to Logic (3) Model theory, computability theory, set theory. In particular syntax and semantics of first order logic; incompleteness, completeness, and compactness theorems; Loewenheim-Skolem theorems; computable and computably enumerable sets; axioms of set theory; ordinals and cardinals. Graduate students only.

MATH 655 Set Theory (3) Axiomatic development, ordinal and cardinal numbers, recursion theorems, axiom of choice, continuum hypothesis, consistency and independence results.

MATH 657 Recursive Functions and Complexity (3) Recursive, r.e., Ptime, and Logspace classes. Nondeterminism, parallelism, alternation, and Boolean circuits. Reducibility and completeness.

MATH 661 Introduction to Algebraic Number Theory (3) Number fields and rings of integers; primes, factorization, and ramification theory; finiteness of the class group; Dirichlet’s Unit Theorem; valuations, completions, and local fields. Further topics. Graduate students only. Pre: 661 (with a minimum grade of B-).

MATH 671 Advanced Probability (3) Independence and conditioning, martingales, ergodic theory, Markov chains, central limit theorem. Pre: 671 (with a minimum grade of B) or consent. (Alt. years)

MATH 672 Stochastic Processes (3) Stationary, Gaussian, and Markov processes. A-F only. Pre: 671 (with a minimum grade of B) or consent. (Alt. years)


MATH 695 Directed Reading and Research for Plan B Masters Students (V) Maximum of 3 credit hours. Repeatable two times. Graduate standing in MATH. A-F only.

MATH 699 Directed Reading and Research (V) Maximum of 3 credit hours. Repeatable unlimited times.

MATH 700 Thesis Research (V) Research for students only.
ME 372 Component Design (3) Design, analysis, and selection of machine components: shafts, screws, fasteners, welds, rolling contact bearings, journal bearings, gears, clutches, brakes, belts, and roller bearings. Pre: 210 (or CEE 370). DP

ME 374 Kinematics/Dynamics (3) Velocity and acceleration analysis of planar mechanisms; kinematic synthesis of linkages, cams, and gears; and gear tractions. Techniques and design mechanisms; balancing of machinery. Pre: CEE 271 or M TH 271 (C or better), MATH 244 (or MATH 253A) and either MATH 302 or MATH 307. DP

ME 375 Dynamics of Machines and Systems (3) (4 Lec, 1 2-hr Lab) Lumpd parameters modeling of dynamic systems. Methods of analysis, including transform techniques. Time and frequency response, Feedback control. Engineering instrumentation. Dynamic measurements. Design and testing. Pre: grade of C or better in all of CEE 271 (or M TH 271) and MATH 302 (or MATH 307). DP

ME 402 Dynamics Systems Laboratory (2) (1 Lec, 1 2-hr Lab) Analysis, design, fabrication, testing and characterization of engineering instrumentation. Computer-based data acquisition methods. Various techniques and methods with carrying out dynamic measurements within the constraints of cost, time and accuracy. Pre: one of 360, MATH 407, or PHYS 305 (or concurrent for any); and 375 (or concurrent). DP

ME 403 Advanced Mathematics for Engineers (3) Applications of ordinary differential equations, Laplace transform, vector field theory, matrices, line integrals. Pre: MATH 244 (or MATH 253A), and MATH 302 (or MATH 307). DP

ME 404 Computational Fluid Dynamics (3) Basic computational fluid dynamics; four important partial differential equations; introduction to finite element method. Interpolation and Galerkin method; finite element method for incompressible fluids; some algorithms for parallel computing. A-F only. Pre: 422 (or concurrent); and either 360, MATH 407 or PHYS 305; or concurrent. DP

ME 411 Applied Thermodynamics (3) Gas mixtures, generalized thermodynamic relationships, combustion and thermochmistry, chemical equilibrium, power and refrigeration cycles. Pre: grade of C or better in 311. DP

ME 417 Applied Thermal Engineering (3) Principles, design and analysis of practical thermal systems. Engineering applications, Valve, compressor, and heat exchanger design; heat transfer and fluid mechanics; steam and gas turbine cycles, and refrigeration and air conditioning. Pre: grade of C or better in all of CHEM 162 (or CHEM 171 or CHEM 181A), PHYS 170 and MATH 244 (or MATH 253A). DP

ME 422 Heat Transfer and Propulsion (3) Principles, performance, and design of gas turbine power plants and propulsion systems (rocket, ramjet, pulse, and ramjet propulsion). Pre: 411 (or concurrent). DP

ME 419 Astronautics (3) The space environment (vacuum, neutral, radiation, and plasma); motion in gravitational fields; orbit transfers; Earth-satellite operations; rocketry; propulsion analysis and performance; entrance dynamics; interplanetary trajectories; attitude dynamics and stabilization. A-F only. Pre: consent.

ME 422 Heat Transfer and Propulsion (3) (3 Lec, 1 2-hr Lab) Convection, conduction, radiation, and heat transfer. Measurement techniques in heat transfer. Hands-on experience with instrumentation. Open-ended design of thermofluid systems. Pre: 322. DP

ME 423 Mass Transfer (3) Elementary mass diffusion; diffusion in a stationary medium; diffusion in a moving medium; low and high mass transfer theories; simultaneous heat and mass transfer; condensers and evaporators, nuclear and thermal systems; precipitation cooling; specialty layers; engineering and design of heat and mass exchangers; current refrigerants and environmental regulations. A-F only. Pre: 422 or consent.

ME 424 Introduction to Gas Dynamics (3) One-dimensional compressible flow involving change of area, friction, heat transfer, Normal and oblique shocks. Prandtl-Meyer Flow. Application to nozzles, ducts, diffusers, airfoils, and shock waves. Pre: 422 or consent.

ME 425 Thermal Management of Electronic Systems (3) To introduce concepts in the thermal management of electronics, and to develop sound technical tools to approach modern electronic packaging and cooling applications. A-F only. Pre: 422 or consent.

ME 426 Scaling Methods in Engineering (3) Scaling methods and optimization under global constraints; multi-scale optimal design of mechanical, thermal, and natural systems; effectiveness of hierarchy and conversion. Design optimization of manmade and natural power systems; analysis of time dependent structures. A-F only. Pre: 371 and 422, or consent.

ME 433 Failures in Materials (3) Analysis of component failures due to insufficient performance, brittle fracture, wear, corrosion, bending, impact, and overload. Fracture mechanics. Case studies. Pre: 331 or consent. DP

ME 434 Materials Selection for Design (3) Methodology for the selection of materials for mechanical applications to prevent mechanical failure and environmental degradation. Design considerations associated with the use of metals, ceramics, polymers, and composites. Pre: 341 and 371 (or CHEM 370). DP

ME 435 Experimental Methods in Materials Research (3) (1 Lec, 2 2-hr Lab) Common experimental techniques in materials testing and research: x-ray diffraction, optical microscopy, thermal and mechanical properties, electrochemical methods—theory and hands-on experience. Pre: 341 and consent. DP

ME 436 Corrosion Engineering (3) Basics of corrosion processes and materials for corrosion control. Thermodynamics and kinetics of corrosion, metal alloys and their behavior, corrosion control techniques (cathodic protection, anodic protection, coatings, and inhibitors). Pre: 341. DP

ME 446 Advanced Materials Manufacturing (3) (2 Lec, 1 2-hr Lab) Introduction to anisotropic materials, advanced manufacturing techniques for composite and ceramic materials, tribology, thin film technology, nano-coating, nano-optics, nano-electronics and nano-technology. A-F only. Pre: senior standing or consent.

ME 447 Introduction to Nanotechnology (3) (3 Lec) Tools and techniques of micro- and nano-technology in design, modeling, simulations; analysis, fabrication, testing and characterization; nano-materials, nano-structures, nano-composites, nano-coating, nano-optics, nano-electronics and nano-technology. A-F only. Pre: senior standing or consent.

ME 451 Feedback-Control Systems (3) Analysis/ design of feedback systems. Compensator design via root locus and Bode analysis. Root/ Nyquist stability. State space analysis and design (via MATLAB or MIMO formulation. Controllability/observability. Application to physical dynamic systems such as industrial robots. Pre: 375 or EE 315 or consent. DP

ME 452 Robotics (3) Principles and design methods for autonomous systems. Pre: senior standing. DP

ME 453 Energy Conversion Systems (3) Energy conversion and its impact on the environment. Conventional, hydroelectric, nuclear fission and fusion, solar, wind, ocean, and biomass energy sources; energy storage, transmission and conservation. Pre: 322, 411, and 422 (or concurrent); or consent. DP

ME 455 Nuclear Power Engineering (3) Nuclear reactor principles. Reactor heat transfer, heat generation and removal. Design and analysis of reactor power systems and plants. Pre: 411 (or consent) and 422. DP

ME 471 Experimental Stress Analysis (3) (1-3 hr Lab) Techniques of experimental stress analysis: strain and deflection measurement of beams and shafts, strain to stress conversion, principal and maximum stresses, failures, strain gages, strain gauges, stress concentrations, residual stresses, buckle, creep, electrical resistance strain gages, brittle coatings, photoelastic methods, transducers. A-F only. Pre: 371 and 422, or consent.

ME 473 Mechanical Vibrations (3) Response of machines and systems to transient and periodic excitation. Vibration isolation and transmissibility.
**472 Courses 2018-2019**


**ME 481 Design Project I (4) (2 1-hr Lec, 2 2-hr Lab)** Engineering ethics, engineering design methodology, design project, project planning, decision making, materials analysis, quality control, finite element analysis, initiation of an open-ended design project. A-F only. Pre: 322, 341, 372, and 375; or consent.

**ME 482 Design Project II (3) (1 Lec, 2 2-hr Lab)** Continuation of design project initiated in ME 481. Extension of conceptual design to final design and a prototype. Analysis, materials and part selection, synthesis of working systems. Computer-aided design and finite element modeling. Manufacturing specifications, shop drawings, and a final report are required. A-F only. Pre: 481.

**ME 491 Special Topics in Mechanical Engineering (3)** Specialized topics in thermosciences, mechanics, heat transfer, materials, systems, or design. Pre: consent.

**ME 492 Special Topics in Mechanical Engineering (3)** Specialized topics in thermosciences, mechanics, systems, or design. Pre: consent.

**ME 499 Project (V)** Investigation of advanced problems in mechanical engineering design or development. Student must find faculty sponsor before registering. A-F only. Pre: senior standing.

**ME 500 Master’s Plan B/C Studies (1)**


**ME 611 Advanced Thermodynamics (3)** Introduction to general principles of classical thermodynamics. Main topics include equilibrium conditions, thermodynamic relations, Legendre transformations, Maxwell relations, stability of thermodynamic systems, phase transitions, and critical phenomena. Graduate students only. A-F only. Pre: 311 or consent.

**ME 615 Advanced Aerodynamics (3)** Advanced topics in aerodynamics, two- and three-dimensional wing theory, slender-body theory, lifting surface methods, vortex and wave drag, analytical and numerical methods, for computing unsteady aerodynamic behavior and introduction to flight dynamics. A-F only. Pre: 322 and 626, or consent.

**ME 618 Boiling and Two-Phase Flow (3)** Two-phase flow pattern and flow pattern maps; two-phase flow models (homogeneous, separate, drift flux, annular); laminar and turbulent flow condensation; boiling incineration; pool boiling heat transfer; flow boiling heat transfer; critical heat flux (CHF). A-F only. Pre: 422 (or equivalent) or consent.


**ME 622 Convection Heat Transfer (3)** Heat transfer in laminar and turbulent boundary layers. Analogy between heat, momentum, mass transfer. Pre: 422 and 626.


**ME 626 Viscous Flows (3)** Formulation and properties of the Navier-Stokes equations; exact solutions; creeping flows; lubrication theory; laminar boundary layers; laminar stability, and transition to turbulence; turbulent boundary layers. Pre: 322.


**ME 636 Fundamentals of Electrochemistry (3)** Thermodynamic, kinetic, electron kinetic, ionic kinetic, mass transfer by migration and diffusion, microelectrode techniques, forced convection, impedance, double-layer structure, and absorbed intermediates in electrochemical systems. Pre: consent.

**ME 645 Clinically Driven Design and Development (3)** Exploration of simple, cost-effective alternatives in medicine through different stages of concept generation, design analysis, and prototype evaluation and testing. Development potential. Graduate students only. Pre: 341 or consent.

**ME 646 Mechanics and Design Composites (3)** Introduction to composites; anisotropic elasticity and laminate theory; hygrothermal effects; composite beam and plate elements; composite energy method; failure theories; joining of composites, computer-aided design in composites. Pre: 371 or consent.

**ME 647 Nanoscience and Nanotechnology (3)** Science and applications of nanotechnology. Synthesis of nanomaterials; nanoscale structure characterization by electron microscopy and Raman spectroscopy; electrical, magnetic, optical, and mechanical properties. Pre: 322 or consent.

**ME 650 Surface Phenomena (3)** Fundamental and modern concepts of colloidal and surface science. Main topics include surface thermodynamics, capillarity and wetting phenomena, surface forces, surfactants, and particles. Pre: 311 or consent.

**ME 651 Automatic Control (3)** Linear optimal feedback control, discrete time optimal control, fundamentals of adaptive control, application to motion and force control of robot arms and manipulators. Pre: consent.

**ME 660 Introduction to Fuel Cell Technology (3)** Working principles of all major fuel cell types: fundamentals of proton exchange membrane (PEM) fuel cells; state-of-the-art theoretical models and diagnostic techniques for PEM fuel cells. A-F only. Pre: 422 (or equivalent) or consent.

**ME 671 Continuum Mechanics (3)** Cartesian tensors in mechanics, coordinate transformations, analysis of stress and strain, principal values, invariants, equilibrium and compatibility equations, constitutive relations, field equations. Problems in elasticity. A-F only. Recommended: 371 or CEE 370, or consent. (Cross-listed as ECE 671).

**ME 672 Finite Element Analysis (3)** Introduction to finite element analysis and design in mechanical engineering. Applications to machine design, vibrations, elasticity, heat transfer. Pre: 360, 371; or consent.

**ME 678 Advanced Dynamics (3)** Lecture on rigid-body dynamics. Topics include: dynamical systems; motion representation and constraints; Newtonian mechanics Lagrange-Hamilton’s principle; stability analysis; introduction to multibody dynamics. Pre: 375 or equivalent, or consent.

**ME 680 High Growth Entrepreneurship (V)** An interdisciplinary (JD-MBA) course examining legal, financial, and business topics related to building high growth companies. Student teams develop company feasibility reports and skills necessary to advise high growth businesses. Recommended: 531. Law students only. (Once a year) (Cross-listed as LAW 560)

**ME 691 Seminar (1)** Current problems in all branches of mechanical engineering. All graduate students are required to attend; registrants are expected to present talks. Pre: graduate standing.

**ME 700 Advanced Topics in Manufacturing and Engineering (V)** Highly specialized topics in thermosciences, mechanics, materials, system, or design. Pre: consent.

**ME 709 Directed Reading or Research (V)** Directed study on subject of mutual interest to student and a staff member. Student must find faculty sponsor before registering. Repeatable unlimited times. Pre: graduate standing.


**ME 799 Directed Instruction (V)** Student assists in undergraduate classroom and/or project instruction under the direction and close supervision of faculty member. CR/NC only. Pre: admission to PhD candidacy or consent.

**ME 800 Dissertation Research (V)** Research for doctoral dissertation. Repeatable unlimited times. Pre: candidacy for PhD in mechanical engineering.

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**Medical Education (MDED)**

**School of Medicine**

**MDED 502 Evidence-Based Medicine (1)** Critical appraisal track designed to improve the student’s ability to seek and evaluate new medical knowledge. MD majors only. CR/NC only. (Spring only)

**MDED 528 Unit 8 Block Electives (V)** Through lectures, self-assessment, and application of knowledge and skills, first and second-year medical students will consolidate their knowledge of the application of the biological sciences to patient care. CR/NC only. Pre: 557.

**MDED 541 Clinical Skills Assessment (1)** Required comprehensive multidisciplinary assessment program for fourth-year medical students. CR/NC only. Pre: FMCH, MD, OB/GYN, PED, PSTY, SURG 551 or 532. (Spring only)

**MDED 545 (Alpha) Senior Interdisciplinary Electives (V)** Fourth-year elective in which students study selected interdisciplinary topics. CR/NC only. (B) medical education elective; (C) complementary and alternative medicine; (D) leadership in underserved care; (E) Junior PBL course director. MD majors only for (D). CR/NC only for (D) and (E). Pre: FMCH, MD, OB/GYN, PED, PSTY, SURG 551 or 532. (Spring only)

**MDED 551 MD 1 Health and Illness (5)** Introduction to concepts of health and disease through lectures, laboratories, and colloquia intended to broaden the learning from MD 1 health problems in tutorials. MD majors only. CR/NC only. Pre: consent. Co-requisite: 551L. (Fall only)

**MDED 551L MD 1 Health and Illness Tutorials (3)** Introductory series of problem-based learning tutorials for first-year medical students focusing on concepts of health and disease through lectures, laboratories, and colloquia intended to broaden the learning from MD 1 health problems in tutorials. MD majors only. CR/NC only. Co-requisite: 551L. (Fall only)

**MDED 552 MD 2 CV/Pulmonary (7)** Concepts focusing on cardiovascular and pulmonary systems through integrated basic science lectures, laboratories, and colloquia intended to broaden the learning from MD 2 health care problem in tutorials. CR/NC only. Pre: 551 and 551L. Co-requisite: 552L. (Fall only)

**MDED 552L MD 2 CV/Pulmonary Tutorials (4)** Advanced series of problem-based learning tutorials for first-year medical students focusing on concepts of health and disease through lectures, laboratories, and colloquia intended to broaden the learning from MD 2 health care problems in tutorials. MD majors only. CR/NC only. Co-requisite: 552L. (Fall only)

**MDED 553 MD 3 Renal/Hematology (7)** Concepts focusing on renal and hematologic systems through integrated basic science lectures, laboratories, and colloquia intended to broaden the learning from MD 3 health care problems in tutorials. CR/NC only. Pre: 552 and 552L. Co-requisites: 553L. (Spring only)

**MDED 553L MD 3 Renal/Hematology Tutorials (4)** Advanced series of problem-based learning tutorials for first-year medical students focusing on renal and hematologic health care problems. CR/NC only.
only. Pr: 552 and 552L. Co-requisite: 553. (Spring only)
MDED 554 MD 4 GI/Endocrine (7) Concepts
focusing on gastrointestinal and endocrine systems
through integrated basic science lectures, laboratories,
and colloquia intended to broaden the learning from MD 4 health care problems in tutorials. CR/NC only. Pr: 553 and 553L. Co-requisite: 554. (Spring only)
MDED 554L MD 4 GI/Endocrine Tutorials (4) Advanced
series of problem-based learning tutorials for
first-year medical students focusing on gastrointestinal
and endocrine health care problems. CR/NC only. Pr: 553 and 553L. Co-requisite: 554L. (Fall only)
MDED 556 MD 6 Locomotor System, Nervous System, and Behavioral Problems (6) Advanced
series of problem-based learning tutorials for second-year
medical students focusing on the locomotor system, neural system, and behavioral health care problems. CR/NC only. Pr: 554 and 554L. Co-requisite: 556L. (Fall only)
MDED 557 MD 7 The Life Cycle (7) Concepts
focusing on the life cycle through integrated basic science lectures, laboratories, and colloquia intended to broaden the learning from MD 7 health care problems in tutorials. CR/NC only. Pr: 556 and 556L. Co-requisite: 557L. (Spring only)
MDED 557L MD 7 The Life Cycle Tutorials (4) Advanced
series of problem-based learning tutorials for second-year medical students focusing on the life cycle health care problems. CR/NC only. Pr: 556 and 556L. Co-requisite: 557L. (Spring only)
MDED 563 Third Year Colloquia (2) A series of
lecture-discussion sessions intended to broaden the
perspectives of the Unit VI experiences and health care problems. Repeatable one time. CR/NC only. Pr: 551 and 557L.
MDED 564 Senior Seminars (V) Review of topics
and issues that will prepare senior students for the end of their undergraduate training and the start of their internship. Repeatable two times, up to four credits. CR/NC only.
MDED 571 Introduction to Clinical Skills (2) Introductory lectures and laboratories on history taking and physical exam skills. Repeatable one time. MD majors only. CR/NC only. Pr: consent. Co-requisite: 551. (Fall only)
MDED 572 Unit 2 Clinical Skills (2) History and physical exam skills pertinent to the health care problems in Unit 2. MD majors only. CR/NC only. Pr: 571 or consent. (Fall only)
MDED 573 Unit 3 Clinical Skills (2) History and physical exam skills pertinent to the health care problems in Unit 3. MD majors only. CR/NC only. Pr: 572 or consent. (Spring only)
MDED 574 Unit 4 Clinical Skills (2) History and physical exam skills pertinent to the health care problems in Unit 4. MD majors only. CR/NC only. Pr: 573 or consent. (Spring only)
MDED 576 Unit 6 Clinical Skills (3) History and physical exam skills pertinent to the health care problems in Unit 6. MD majors only. CR/NC only. Pr: 574 or consent. (Fall only)
MDED 577 Unit 7 Clinical Skills (2) History and physical exam skills pertinent to the health care problems in Unit 7. MD majors only. CR/NC only. Pr: 576 or consent. (Spring only)
MDED 581 Unit 1 Community Health (2) Field
experience placing students in community settings to
work with health care professionals as they provide services to patients. Repeatable two times. MD majors only. CR/NC only. Pr: 581 or consent. (Fall only)
MDED 582 Unit 2 Community Health (2) Field
experience placing students in community settings to
work with health care professionals as they provide services to patients. Repeatable two times. MD majors only. CR/NC only. Pr: 581 or consent. (Fall only)
MDED 583 Unit 3 Community Health (2) Field
experience placing student in community settings to
work with health care professionals as they provide services to patients. MD majors only. CR/NC only. Pr: 582 or consent. (Spring only)
MDED 584 Unit 4 Community Health (2) Field
experience placing student in community settings to
work with health care professionals as they provide services to patients. MD majors only. CR/NC only. Pr: 583 or consent. (Spring only)
MDED 590 (Alpha) Preclinical Electives (V) Elective
for first and second year medical students. 
B) projects in medical education; (C) healer’s art; 
(D) introduction to student research; (E) health and wellness; (F) quality improvement; (G) introduction to ultrasound. Repeatable one time, up to two credits. MD majors only for (G). CR/NC only. Pr: 551. (Spring only)
MDED 595 (Alpha) Topics in Medical Education (V) Selective seminars in medical education for second-year medical students. (B) rural health preceptorship; (C) health issues of the Pacific Basin; (D) project in medical education; (E) mankind
simulations; (F) learning resources; (G) cardiovascular case maps; (H) pulmonary case maps; (I) clinical skills preceptors; (J) global health perspectives. Repeatable up to four credits. MD majors only. CR/NC only. Pr: 554. (Fall only)
MDED 599 Research in Medical Education (V) An elective for medical students to work on research projects related to improving medical education, studying wellness, and their health until under the direction of a faculty member in the Office of Medical Education. Repeatable nine times.

Medical History (MDHX)
MDHX 699 Directed Research (V) Repeatable
unlimited times.

Medical Technology (MEDT)
School of Medicine
MEDT 151 Introduction to Medical Technology (2) Designed to acquaint students to the field of medical technology (clinical laboratory science). Repeatable one time.
MEDT 251 Introduction to Medical Technology II (2) Basic principles of lab skills in medical technology (medical lab science). Required for second bachelor’s degree students (not MLT credentialed) wishing to major in medical technology. Second bachelor’s degree only. A-F only. Pr: 151L, CHEM 161L/161L, BIOL 171L/171L or concurrent.
MEDT 301 The Clinical Laboratory (3) (2 Lec, 1 3-hr Lab) Theory and clinical application of medical laboratory methodology including professional relationships. MDT majors only. Repeatable one time. Pr: consent.
MEDT 302 The Clinical Laboratory II (3) Theory and clinical application of medical technology methods and healthcare professional relationships. Companion course to MEDT 301; and required, for second bachelor’s degree students who were admitted to MEDT major only. Second bachelor’s degree standing or higher. A-F only. Pr: 251L or consent.
MEDT 331 Clinical Lab Management (3) Student
will become familiar with fundamental administration of a clinical laboratory to include technical, personnel, and financial management areas. Repeatable one time. MDT majors only. CR/NC only. Pr: consent.
MEDT 431 Clinical Parasitology (2) (1 Lec, 1 3-hr Lab) Modern diagnostic practice in parasitology. Repeatable one time. Pr: MICR 351 or consent.
MEDT 451 Hematology (1) (1 3-hr Lab) Fundamental study of blood in normal and pathological states: formation, development, and classification of blood cells. MDT majors only. Pr: major or consent.
MEDT 451L Hematology Lab (2) (1 Lec, 1 3-hr Lab) Laboratory to accompany MEDT 451L. MDT majors only. Pr: Co-requisite: 451L.
MEDT 463 Clinical Microbiology II (3) (1 Lec, 2 3-hr Lab) Modern practices in diagnostic

microbiology. Repeatable one time. MDT majors only. A-F only. Pr: 431 or consent.
MEDT 464 Immunohematology (3) (2 Lec, 1 3-hr Lab) Antigen-antibody relationships in human blood, study of blood groups, clinical problems in transfusion. Repeatable one time. MDT majors only. Pr: MICR 461 or consent. (Spring only)
MEDT 471 Clinical Biochemistry I (4) Biochemical processes in human health and disease states. Repeatable one time. MDT majors only. Pr: 471L.
MEDT 477 Clinical Lab Methods and Analyses I (3) (2 Lec, 1 3-hr Lab) Lab experiments illustrating fundamental principles and methods of clinical laboratory analyses. Repeatable one time. MDT majors only. A-F only. Pr: 477L.
MEDT 478 Clinical Lab Methods and Analyses II (3) (2 Lec, 1 3-hr Lab) Continuation of 477L. Repeatable one time. MDT majors only. A-F only. Pr: 477L.
MEDT 481 Professional Issues in Medical Lab
Science (1) Discussions about various professional issues through oral presentations and critiquing of peer presentations. Repeatable one time. MDT majors only. CR/NC only. Pr: consent.
MEDT 495 Special Topics in Medical Technology (V) Acquaints student with role of the medical technologist and overlook of major science in clinical situations to help student develop qualities unique to medical technology. Repeatable one time. MDT majors only. CR/NC only. Pr: consent.
MEDT 499 Directed Reading and Research (V) Repeatable one time.
MEDT 531 Advanced Lab Management Concepts and Contemporary Issues (1) Concepts in clinical laboratory management and discussion of contemporary issues for graduates and practicing clinical laboratory scientists. Repeatable one time. Pr: 531 or consent. (Summer only)
MEDT 551 Advanced Clinical Laboratory Hematology and Hemositasis (1) Advanced-level study of hematology and hemostasis through clinical laboratory cases. Repeatable one time. Pr: 451L or consent. (Summer only)
MEDT 581 Clinical Microbiology Preceptorship (5) Clinical training for students with bachelor’s degree in microbiology to be able to qualify as clinical microbiologists in a hospital setting. Includes specimen procurement, processing, detection and identification, susceptibility testing, and other diagnostic technology. CR/NC only. Pr: departmental consent.
MEDT 591 Clinical Training in Medical Technology (28) Application of theory and simulated laboratory experiences in immuno-hematology, clinical chemistry, microbiology, clinical lipidology, coagulation, urinalysis, immunology, to meet stated career entry-level competencies. Repeatable one time. CR/NC only. Pr: BS in MEDT.
MEDT 690 Seminar in Medical Technology (1) Analysis of research and recent literature pertaining to various aspects of medical technology. Repeatable one time. Pr: consent.

Medicine (MED)
School of Medicine
MED 532 Internal Medicine Longitudinal Clerkship (8) Six-month long clerkship in ambulatory setting, and six-week hospital-based experience. Repeatable one time. Pr: third-year standing and consent from clerkship director.
MED 541 Advanced Medicine Clerkship (6) Required 4 weeks duration for fourth-year medical students. Advanced experiences in ambulatory and hospital-based medical care. Proficiency in this course may be established by examination. CR/NC only. Pr: fourth-year standing and completion of 531, or consent.
MED 545 (Alpha) Electives in Medicine (V)
Fourth-year electives in which students study selected topics within field of medicine. (B) allergy/immunology; (C) cardiology; (D) medicine elective in Austin; (E) clinical immunology; (F) medical microbiology; (G) gynecology; (H) obstetrics and gynecology; (J) immunology; (K) microbiology; (L) molecular biology; (M) pathology; (O) pediatrics; (Q) psychosomatic medicine; (R) primary care; (S) psychiatry; (T) radiology; (U) surgery; (V) psychiatry or neurology. Pre: 541 and three other 400-level courses (or concurrent), or consent. (Once a year)

MICR 431 Microbial Physiology (3) Fundamental physiological and metabolic processes of bacteria: emphasis on growth, functions of cell structures, variety of energy metabolism, metabolic regulation, and differentiation at the prokaryote level. Pre: 351.

MICR 431L Microbial Physiology Lab (2) (3-hr Lab) Components and metabolism of the bacterial cell, emphasis on basic physiology and biochemistry and molecular structure. Co-requisite: 431. DY

MICR 461 Immunology (3) Structure and biological actions of antigens and antibodies; fundamentals of antibody synthesis; the relation of immunology to biology and medical sciences. Pre: 351 or BIOL 171, or consent. Recommended: BIOL 275/275L. (Cross-listed as MCB 461) DB

MICR 461L Immunology Lab (2) (2-hr Lab) Basic exercises and experiments in immunology, immunochemistry, immuno-biology to illustrate concepts of 461. Co-requisite: 461 or consent. (Cross-listed as MCB 461L) DY

MICR 463 Microbiology of Pathogens (3) Host-parasite relationships in microbial diseases of humans and animals with emphasis on bacterial pathogens. Pre: 351; and 461; or consent. Co-requisite: 463L or consent. DB

MICR 463L Microbiology of Pathogens Lab (2) (2-hr Lab) Characterization of bacterial pathogens. Isolation, identification, and diagnosis. Co-requisite: 463 or consent. DY

MICR 470 Microbial Molecular Pathogenesis (3) Fundamental mechanisms of bacterial infectious diseases or pathogenesis at the molecular level. Emphasis on bacterial virulence and host-pathogen interactions. Pre: 351/351L, BIOL 171, or consent. DB

MICR 470L Bacterial Molecular Pathogenesis Laboratory (2) Modern techniques to study infectious diseases. Covers tissue culture and animal models for studies of extracellular and intracellular microbial infections; bacterial resistance mechanisms toward antibacterial drugs, and virulence factor assays. A-F only. Pre: 351 and 351L, 470 (or concurrent). (Fall only)

MICR 475 Bacterial Genetics (3) Genetic analysis and the molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: 351 or BIOL 275, or consent. (Cross-listed as MCB 475) DB

MICR 475L Bacterial Genetics Lab (2) (2-hr Lab) Techniques for study of transfer and expression of prokaryotic genes: transformation, conjugation, transposon mutagenesis, preparation and analysis of plasmids and chromosomal DNA. Pre: 475 (or concurrent). (Cross-listed as MCB 475L) DY

MICR 485 Microbes and Their Environment (3) Distribution, diversity, and roles of microorganisms in terrestrial, freshwater, and marine ecosystems. Importance of bacteria in pesticide degradation, bioremediation of oil spills, sewage treatment, biocatalysis, food fermentation. Pre: BIOL 171 and CHEM 272/272L, or consent. Co-requisite: 351L. Recommended: BIOL 275L. DB

MICR 485L Microbes and Their Environment Lab (2) (3-hr Lab) Techniques for study of interaction of microorganisms with and within their natural habitats; symbiosis between microorganisms and plants and animals; microbial feedbacks in element cycling; food fermentation by bacteria. Pre: 485 (or concurrent) or consent. DY

MICR 490 Virology (3) Basic principles of virus biology. Topics include methods for virus study, virus structure, replication, virus pathogenesis, and host response. Pre: 351 or BIOL 275, or consent. DB

MICR 490L Virology Lab (2) (3-hr Lab) General laboratory techniques related to virology. Emphasis on virology, including isolation, cell culture, assay, purification, and identification of viruses. Pre: 351L or BIOL 275/275L and 490 (or concurrent). or consent. DY

MICR 499 Microbial Biological Problems (V) Directed reading and research. Limited to seniors majoring in microbiology, critical analysis of the methods and logic of experimental design. Lecture and discussion of primary literature. A-F only. Pre: 351 and three other 400-level courses (or concurrent), or consent. (Once a year)

MICR 500 Master's Plan B/C Studies (1) Enrollment for degree completion. Pre: master's Plan B or C candidate and consent.

MICR 601 Molecular Cell Biology (3) Provide fundamental concepts and dynamic characteristics of the molecules of the prokaryotic and eukaryotic cell, their biosynthesis and regulation, and the mechanisms that regulate cellular activities. A-F only. Pre: basic course in cell and molecular biology, or consent. (Fall only) (Cross-listed as MBBE 601)

MICR 602 Molecular Biology and Genetics (3) Graduate-level basic course on molecular biology and genetics. Prereq: one year of biology. Graduate students only. Concepts in related subjects such as biochemistry, cell biology, cancer biology, immunology, plant genetics, and virology. Pre: 402/BIOL 402 (with minimum grade of B or higher), or with consent from instructor. (Alt. years: fall) (Cross-listed as MBBE 602)

MICR 614 Research Ethics (1) Introduction to ethical issues faced by individuals and institutions involved in scientific research. Moral reasons involved in research, monitoring, and authorship; ownership of data and genetic technologies. MICR graduates only. A-F only. Pre: graduate standing in MICR or related field, or consent. (Once a year)

MICR 625 Advanced Immunology (3) Detailed reports and discussions on selected advanced topics and current research literature. Pre: 461 or consent. (Alt. years: spring)

MICR 630 Microbial Genome (3) Advanced studies of microbial genome: relation to functional genomcs, structural genomics, and proteomics. A-F only. Pre: 351 and one 400-level MICR course, or consent. (Alt. years)

MICR 632 Advanced Microbiological Physiology (3) Selected topics. Pre: 431 or consent. (Alt. years: spring)

MICR 652 Advanced Marine Microbiology (3) Advanced studies of marine microorganisms in diverse habitats with consideration of applications of marine microorganisms, interactions with higher organisms, physiological diversity, and past and current methods. A-F only. Pre: 351 and 401, or consent. (Alt. years)

MICR 655 Advanced Virology (3) Detailed reports and discussions on selected advanced topics and current research literature. Pre: 463, 490, BIOC 441; or consent. (Alt. years: fall)

MICR 661 Regulations of Gene Expressions in Microorganisms (3) Use of bioinformatic tools to understand comparative genomics, metabolic pathways, and protein evolution. A-F only. Pre: 351 and one 400-level MICR course, or consent. (Alt. years)

MICR 671 Bacterial Genetics (3) Directed study and discussion of research literature on bacterial and bacterial virus mutation, genetic recombination, evolution and control mechanisms. Pre: graduate standing; undergraduates that have taken 475 may register with consent. (Alt. years: spring)

MICR 680 Advances in Microbial Ecology (3) Highlights in microbial ecology; interaction of microorganisms with abiotic and biotic components of their environments. Microbial tools for study of autecology and symbiology of microorganisms. Pre: 485 or consent. (Alt. years: spring)

MICR 681 Host-Parasite Relationships (3) Mechanisms of pathogenicity of microorganisms and defense mechanisms of humans. Review of contemporary literature. Pre: 463 or consent. (Alt. years: fall)

MICR 685 Molecular and Cellular Bacterial Pathogenesis (3) Directed study of the molecular and cellular mechanisms of bacterial pathogenesis. Overview of key literature, synthesis of scientific problems into research proposals. Pre: 451, 463, 470 or consent from instructor.

MICR 690 Seminar (1) Required of graduate students. Repeatable unlimited times; only one credit will count toward the degree.

MICR 695 Research Literature Review (1) Review of primary literature in a selected area of microbiology. Repeatable ten times; three credit limit.
A-F only. Pre: graduate status or consent.


MICR 700 Thesis Research (V) Repeatable unlimited times.

MICR 746 Advanced Plant-Bacteria Interactions (3) Molecular biology, genomics, molecular genetics, and infection mechanisms of bacterial plant pathogens and symbionts. Pre: PEPS 606 (with a minimum grade of B or better) or consent. (Cross-listed as PEPS 746)

MICR 795 Special Topics in Microbiology (V) Selected topics in any aspect of microbiology. Repeatable unlimited times.

MICR 800 Dissertation Research (V) Repeatable unlimited times.

Military Science and Leadership (MSL)

ROTC Programs

A weekly two-hour leadership laboratory is required for courses numbered 200 and above. This laboratory is optional for the 100-level courses. The laboratory includes practical application of leadership skills, land navigation, basic tactical and Army Training procedures.

MSL 100 Introduction to Physical Fitness (1) Hands-on participatory course following the Army’s physical fitness program. Classes conducted three days per week with Army ROTC cadets. Focus is on aerobic conditioning, muscular strength and endurance. Repeatable three times. A-F only.

MSL 101 Introduction to Military Science I (2) Introduces cadets to personal challenges and competencies critical for effective leadership: personal development of life skills such as goal setting, time management, physical fitness, and stress management related to leadership, officership, and the Army profession. Focus on developing basic knowledge and comprehension of Army Leadership Dimensions while understanding the ROTC program, its purpose in the Army, and its advantages for the student.

MSL 101L Introduction to Military Science I Lab (1) Practical application in adventure training, one-rope bridges, rife marksmanship, land navigation, drill and ceremonies, physical training, Pre-requisite: 101.

MSL 102 Introduction to Military Science II (2) Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback and using effective writing skills. Explores leadership values, attributes, skills, and activities in the context of practical, hands-on, and interactive exercises. Cadre role models and building stronger relationships among cadets through common experience and practical interaction are critical.

MSL 102L Introduction to Military Science II Lab (1) Practical application in adventure training, one-rope bridges, rife marksmanship, land navigation, drill and ceremonies, physical training, Pre-requisite: 102.

MSL 201 Intermediate Military Science I (3) Explores creative and innovative tactical leadership strategies and styles through historical case studies and engaging in interactive student exercises. Cadets practice aspects of personal motivation and team building by planning, executing, and assessing team exercises. Focus is on continued development of leadership values and attributes through understanding of rank, uniform, customs and courtesies.

MSL 201L Intermediate Military Science I Lab (2) Practical application in adventure training, one-rope bridges, rife marksmanship, land navigation, drill and ceremonies, physical training, Pre-requisite: 201.

MSL 203 Basic Camp (6) Four-week summer course conducted at Ft. Knox, Kentucky. Substitutes for ROTC basic course (101, 102, 201, and 202) and fulfills course requirement for admission to ROTC advanced courses. Credit will be given for 203 or basic courses, but not both. Pre: consent.

MSL 301 Leading Small Organizations I (4) (2 Lec, 2-hr Lab) Challenges cadets to study, practice, and evaluate adaptive leadership skills with demands of the ROTC Advanced Camp. Challenging scenarios related to small unit tactical operations will develop self-awareness and critical thinking skills. Cadets will receive systematic, specific feedback on their leadership abilities, and analyze/evaluate their leadership values, attributes, skills and actions. A-F only. Pre: 101, 102, 201, 202, 301, 302, and consent.

MSL 302 Leading Small Organizations II (4) (2 Lec, 2-hr Lab) Intensive situational leadership challenges to build awareness and skills in leading small units. Decisionmaking and motivational skills of the team members under fire are explored, evaluated, and developed. Military operations are reviewed to prepare for the ROTC Advanced Camp. Cadets apply principles of Leadership, Army training, and motivation to troop leading procedures; and are evaluated on what they know and do as leaders. A-F only. Pre: 101, 102, 201, 202; or consent.

MSL 303 ROTC Advanced Camp (6) Six-week summer field training exercise conducted at Fort Knox, Kentucky. Arduous and intensified leadership training is conducted throughout the six-week period. Required for U.S. Army commissioning. Pre: 301, 302, 401, and consent.

MSL 391 History of Military Warfare (3) Lecture/discussion on the art and science of warfare with concentration on U.S. military history from the Colonial Period onward. Generally restricted to Army ROTC students, with few exceptions to non-ROTTC students. A-F only. Pre: consent.

MSL 399 Directed Reading and Research (V) Limited to military science students who have had at least one previous ROTC course for which a grade of B or higher was earned and a cumulative GPA of 2.0 or better. Pre: consent.

MSL 400 Fundamentals of Leadership (3) Introduces students to the fundamentals of leadership. Activities challenge students to connect theory to practice, develop positive relationships through application of effective leadership concepts for leader development, and prepare leaders for leadership. Pre: consent.

MSL 401 Leadership Challenges and Goal Setting (4) (3 Lec, 2-hr Lab) Develops proficiency to plan, execute, and assess complex operations; function as a staff member, provide leadership performance feedback to subordinates. Situational opportunities to assess risk, make ethical decisions, and provide coaching to fellow ROTC cadets challenged to analyze, evaluate, and instruct younger cadets. A-F only. Pre: 101, 102, 201, 202, 301, and 302; or consent.

MSL 402 Transition to Lieutenant (4) (3 Lec, 2-hr Lab) Explores dynamics of leading in complex situations of command. Explores the differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Interaction with non-governmental organizations, civilians on the battlefield, government organizations, and host nation support are examined and evaluated. Case studies, scenarios, and What Now, Lieutenant? exercises prepare cadets to lead as commissioned officers. Pre: 101, 102, 201, 202, 301, 302, and 401; or consent.

MSL 499 Advanced Military Research (V) Directs the student to conduct detailed research on a military topic and present to the department leadership plus assist MSL cadre on a battalion analysis. Repeatable up to eight credits. Must be in Military Science and Leadership Program or Military Service member in junior or greater standing, Pre: departmental approval.

Key to symbols & abbreviations: see the first page of this section.

Molecular Biosciences and Bioengineering (MBBE)

College of Tropical Agriculture and Human Resources

The minimum required grade for prerequisites is a grade of C or better. Pre: consent.

MBBE 304 Biotechnology: Science and Ethical Issues (3) Introduction to the concepts, goals, ethical issues and consequences of biotechnology using real-life case studies of GMOs, cloning, DNA fingerprinting, gene therapy and genetic engineering. Pre: BIOL 171 or consent. (Cross-listed as BIOL 304)

MBBE 375 Essential Biochemistry (3) Introduction to basic concepts of cellular biochemistry and metabolic pathways as applied to nutritional, medicinal and environmental biochemistry. A-F only. Pre: CHEM 152 or CHEM 272 or BIOL 341, or consent.

MBBE 401 Molecular Biotechnology (3) General principles, applications, and recent advances of the rapidly growing science of molecular biology. Topics include impact of biotechnology on medicine, animal sciences, environment, agriculture, forensics, and economic and socio-ethical issues. Pre: C (not C-) or better in CHEM 275 or consent. (Cross-listed as BIOL 401) DB

MBBE 402 Principles of Biochemistry (4) Molecular basis of living processes in bacteria, plants and animals; emphasis on metabolism of carbohydrates, lipids, proteins, pyrimidines and purines. Pre: C (not C-) or better in BIOL 275/275L, CHEM 272 and CHEM 273; or consent. (Cross-listed as BIOL 402) DB

MBBE 402L Principles of Biochemistry Lab (2) (1 Lec, 1-3-hr Lab) Principles techniques of biochemical laboratory. A-F only. Pre: 402 (or concurrent), BIOL 402 (or concurrent). D Y

MBBE 405 Marine Functional Ecology and Biotechnology (3) Marine functional genomics, biodiversity of marine natural habitats, marine microbial communities and their ecological functions, interactions of marine microbes and their host, climate change and marine biotechnology. A-F only. Pre: OCN 231 or MIRC 130, or consent. (Spring only) (Cross-listed as OCN 405)

MBBE 408 Molecular Cellular Biology II (3) Cell structure and function. Structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in BIOL 407; or consent. (Cross-listed as BIOL 408 and MCB 408) DB

MBBE 412 Environmental Biochemistry (3) Biochemical and chemical principles of occurrence, distribution, biotic and abiotic conversion, fate, and impact of synthetic and natural molecules in the environment. Important pollutants will be used as case studies to illustrate the principles. A-F only. Pre: CHEM 152 or CHEM 272, and CHEM 162 or CHEM 171; or consent. DB

MBBE 461 Biotechnology for Teachers (3) Principles, methods, classical examples, recent development, benefits and concerns of modern biotechnology. Pre: BIOL 304 or equivalent.

MBBE 483 Introduction to Bioinformatics Topics for Biologists (3) Introduction to the use of computational tools and approaches to analyze the enormous amount of biological data (DNA, RNA, protein) available today. A-F only. Pre: BIOL 171 (or equivalent), or consent. (Once a year) (Cross-listed as BIOL 483)

MBBE 491 Special Topics in MBBE (V) Study and discussion of special topics and problems in molecular biosciences and bioengineering. Pre: consent.

MBBE 499 Directed Research (V) Supervised individual instruction in laboratory research problems in biochemistry, molecular and cellular biology, genomics, and genetics. Repeatable 3 times or up to 16 credits. Limited to qualified undergraduate students. A-F only.

MBBE 601 Molecular Cell Biology (3) Provide fundamental concepts and dynamic characteristics of the molecules of the cell. Study of the genetic cell, their biosynthesis and regulation, and the mechanisms that regulate cellular activities. A-F only. Pre: basic course in cell and molecular biology, or consent. (Fall only) (Cross-listed as MCB 401) DB

MBBE 602 Molecular Biology and Genetics (3) Graduate-level basic course on molecular biology and genetics. Prepares students to understand advanced concepts in related subjects such as biochemistry, cell biology, cancer biology, immunology, plant genetics, and genomics. Pre: 402/BIOL 402 (with a minimum grade of B or higher), or with consent from instructor. (Alt. years: fall) (Cross-listed as MIRC 602)

MBBE 607 Advanced Molecular Biology. Advanced topics in chemical and physical characteristics of foods as well as their role in human nutrition. Repeatable one time. A-F only. Pre: graduate student status
research, mentoring, authorship, ownership of data, genetic technologies and record keeping. This course is designed for students with majors in the natural sciences. A-F only. Pre: BIOL 172 (or concurrent), or MATH 312 (or concurrent), or PHYS 170 (or concurrent), or CHEM 272 (or concurrent); or consent. (Cross-listed as MCB 314) DS MCB 407 Molecular Cell Biology I (3) Relationship between structure and function. Regulation of gene expression at the transcriptional level. Pre: C (not C-) or better in BIOL 275/275L and CHEM 273, or consent. (Cross-listed as BIOL 407) DB MCB 408 Molecular Cellular Biology II (3) Cell structure and function, Cell cycle, structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in 407; or consent. (Cross-listed as BIOL 408 and MBBE 408) DB MCB 408L Molecular and Cellular Biology Laboratory (2) (3-hr Lab) A laboratory to accompany 407 and 408. Pre: BIOL 407 (or concurrent) or BIOL 408 (or concurrent). (Cross-listed as BIOL 408L) DB MCB 461 Immunology (3) Structure and biological actions of antigens and antibodies; fundamentals of antibody synthesis; the relation of immunology to biology and medical sciences. Pre: MCB 351 or BIOL 351, or both; or consent. Pre: BIOL 275/275L. (Cross-listed as MCB 461) DB MCB 461L Immunology Lab (2) (2-3 hr Lab) Basic exercises and experiments in immunology, immunoochemistry, immunobiology to illustrate principles of 461. Pre: BIOL 461 or consent. (Cross-listed as MCB 461L) DB MCB 472 The Biology of Cancer (3) Integrative, in-depth focus on the genetics, cell biology, and molecular basis of cancer. Combination of classroom lectures and problem-based discussions in small groups. Addresses ethical implications of cancer research and treatment. A-F only, MCB 472 may be repeated up to 2 times. Pre: BIOL 407 (or concurrent) and BIOL 408 (or concurrent) or consent. (Spring only) (Cross-listed as BIOL 472) MCB 475 Bacterial Genetics (3) Genetic analysis and molecular genetics of bacterial manipulation, and expression of heritable characteristics in prokaryotes. Pre: MCB 351 or BIOL 275, or consent. (Cross-listed as MCB 475) DB MCB 475L Bacterial Genetics Lab (2) (2-3 hr Lab) Techniques for study of transfer and expression of prokaryotic genes: transformation, conjugation, transposition, mutagenesis, preparation and analysis of plasmid and chromosomal DNA. Pre: 475 (or concurrent). (Cross-listed as MCB 475L) DB Music (MUS) College of Arts and Humanities Applied music courses appear at the end of this section. MUS 106 Introduction to Music Literature (3) Elements, styles and forms of music, from listener’s standpoint. DH MUS 107 Music in World Cultures (3) Folk, popular, and art music from major regions of the world, with emphasis upon Asia and the Pacific; representative styles and regional characteristics. FG MUS 108 Fundamentals of Music (3) Basic organization concepts in music and introduction to music theory. Learning through hands-on experience with creative activities in various aspects of musical performance. Pre: knowledge of written notation. DA MUS 114 University Chorus (1) Performance of choral literature from all periods. Previous choral experience not required. Repeatable unlimited times. DA MUS 121 (Alpha) Class Instruction I (1) Basic principles of performance; relevant problems in literature. (B) voice; (C) piano; (D) guitar. A-F only. Cannot be audited. DA MUS 122 (Alpha) Class Instruction II (1) Basic principles of performance; relevant problems in literature. A-F only. Cannot be audited. DA MUS 123 (Alpha) Pacific Music Performance Class (1) Basic principles of performance of Pacific music. Relevant problems at elementary level. (B) slack key guitar; (C) ukulele. Repeatable in different sections. DA MUS 125 First-Level Secondary Piano (1) Piano as secondary performance field; application of theory to problems in improvising, harmonizing,进而transposing, and sight-reading at keyboard. Pre: music majors. A-F only. Consent. DA MUS 126 First-Level Secondary Piano (1) Piano as secondary performance field; application of theory to problems in improvising, harmonizing, creating, transposing, and sight-reading at keyboard. Continuation of 125. For music majors. A-F only. Consent. DA MUS 127 (Alpha) Asian Music Performance Class (1) Basic principles of performance of Asian music. Relevant problems in literature at elementary level. Pre: 126 only. Consent. DA MUS 128 (Alpha) Asian Music Performance Class (1) Basic principles of performance of Asian music. Relevant problems in literature at elementary level. Pre: 126 only. Consent. DA MUS 155 Percussion Techniques (2) Similar to 151 using percussion instruments. A-F only. MUS 156 Brass Techniques (2) Similar to 151 using brass instruments. A-F only. MUS 157 String Techniques (2) Fundamental performance techniques, materials, and teaching skills on string instruments for students preparing to teach instrumental music. A-F only. (Once a year) MUS 158 Woodwind Techniques (2) Fundamental performance techniques, materials, and teaching skills on woodwind instruments for students preparing to teach instrumental music. A-F only. (Once a year) MUS 199 Recital Attendance (1) Attendance at a graded recital offered in one of the following areas: (A) music majors (BMus, six semesters; BA and BEd, four semesters). Repeatable unlimited times. CR/NC only. MUS 225 Second-Level Secondary Piano (1) Continuation of 125–126; increased emphasis on piano literature up to intermediate level. MUS majors only. A-F only. Pre: 126 or consent. MUS 226 Second-Level Secondary Piano (1) Continuation of 225. A-F only. Pre: 225 or consent. MUS 240 Creative Applications of Music Technology (3) Introductory laboratory experience. Teaches musicians fundamental technology concepts through creative projects. Exposes students to a variety of music and audio software. A-F only. Pre: music majors or minors or consent. MUS 250 Introduction to Music Education (1) Survey of American education, with an emphasis on music learning, teaching and philosophy, school structure and governance, diversity and multi-cultural education, and professional ethics. Supervised clinical and field experiences required. MUS majors only. A-F only. (Alt. years) MUS 253 Elementary Music in Action (3) (3 Lec, 1 hr Lab) Musical concepts, philosophy and pedagogy: use of media, singing, movement, and instruments; as well as resources for an active elementary music classroom. Pre: BIOL 172, 105, 141, 126, 151-156 or consent. (Fall only) DA MUS 280 Basic Theory and Aural Skills (3) Fundamentals of music theory, notation, sight-
approaches to violin, viola, cello, and double bass in both individual and class settings. A-F only. Pre: 157 or consent. (Alt. years: spring)
MUS 454 Music in Special Education (3) Designed for music educators, and special education majors or musicians interested in understanding and preparing to use music with special education students. Will be offered both as a campus and online course. A-F only. Pre: MUS 311, or consent.
MUS 459 Vocal Pedagogy (3) Scientific studies of vocal mechanism; application to techniques of singing. Pedagogical methods for individual voice instruction and evaluation in applied music teaching. Pre: 286 and 288.
MUS 461 (Alpha) Eras of Western Music History (3) Changing styles and forms in periods of European art music from 500 A.D. to the present. (B) medieval; (C) Renaissance; (D) Baroque; (E) Classic; (F) Romantic; (G) 20th century. Repeatable one time for different alphas. Pre: 265 and 266, or consent.
MUS 462 (Alpha) Studies in Western Music History (3) (F) music of the United States. Pre: 265 and 266, or consent.
MUS 463 (Alpha) Topics in Music Literature (3) (B) symphonic music; (C) concerto; (D) chamber music; (E) choral music; (F) solo song; (G) wind band literature; (H) orchestra literature. Repeatable one time for different alphas. Pre: 265 and 266, or consent.
MUS 464 Opera (3) Historical study from Monteverdi to present. Pre: 265 and 266, or consent.
MUS 466 Music and Ethics (3) Studies music’s roles in religious traditions and politics, as identity formation, and music’s relationship with lyrics in a variety of forms. Readings approach these issues from the question of ethics. A-F only. Pre: 265 and 266, or consent. (BI-DH)
MUS 472 Sound Systems of World Musics (3) Music-theoretical study of sound organization as defined by various cultures and development of aural analysis in world music. Pre: junior standing or consent.
MUS 477 History of Rock and Roll (3) An examination of rock and roll from various perspectives including economics, regionalism, freedom of expression. Pre: upper division standing or consent. D-H
MUS 478 (Alpha) Musical Cultures (3) The study of a musical culture area. (B) Hawai‘i; (C) China; (D) Japan; (E) Korea; (F) Indonesia; (G) Philippines; (H) India; (I) Pakistan; (J) other. Repeatable one time for different alphas. Pre: junior standing or consent. (H-H cross-listed as ASAN 478)
MUS 479 Topics in Ethnomusicology (3) Problem-oriented cross-cultural investigation of music and music organization. Pre: junior standing or consent.
MUS 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
MUS 505 Western Music History Review (3) Online course survey representative component, musical styles, and genres from the Western tradition. Repeatable one time. Pre: graduate standing and consent or departmental approval.
MUS 600 (Alpha) Seminar (3) Advanced problems in (B) composition theory/analysis; (C) music literature; (E) performance repertory; (F) music education; (H) theory. Repeatable nine times. Pre: graduate standing or consent; also 661 for (D) and (F).
MUS 601 Advanced Topics in Music (V) Advanced topics in history, literature, theory, applied music, music education, and ethnomusicology; some in intensive modular study. Pre: MUS majors only. Pre: appropriate lower division music courses or consent and graduate standing.
MUS 625 Advanced Conducting (V) Conducting instrumental and choral groups. Repeatable three times, up to 12 credits. Pre: instructor consent.
MUS 626 Advanced Conducting (2) Continuation of 625.
MUS 649 College Level Teaching Practicum (1) Practical experience teaching at the college level. Examination of elements for successful college teaching. Repeatable two times. MUS majors only. Graduate students only. Pre: consent.
MUS 651 Foundations of Music Education (3) Music and music education in their philosophic, aesthetic, social, historical, and psychological dimensions. Repeatable one time for different alphas. Pre: 265 and 266, or consent.
MUS 653 Music Curriculum Theory and Design (3) Procedures for planning, teaching, evaluating, and administering music programs in elementary, secondary, and higher education. Evaluation of current programs; procedures for change. Pre: graduate standing and consent.
MUS 655 Music in Childhood Education (3) Principles and programs in teaching music to children in early childhood settings and elementary school. Curriculum development, analysis of research, and current approaches. Pre: 353 or 354, teaching experience, and graduate standing.
MUS 657 World Musics in Undergraduate Education (2) Concepts and materials at junior college and undergraduate levels. Preparation for structuring and teaching courses in non-Western musics. Pre: graduate status in music and 107 or 407 (or equivalent). Pre: graduate standing.
MUS 659 Seminar in College Music Teaching (3) Examines components of good teaching, adult learning theories, course organization, methodologies, evaluation, and other music issues. For students planning a college teaching career in music. Pre: consent.
MUS 660 (Alpha) Studies in Music Literature (3) Detailed study by chronological period. (B) medieval; (C) Renaissance; (D) Baroque; (E) Classic; (F) Romantic; (G) 20th century. Repeatable in different alphas. Pre: 661 or consent.
MUS 661 Bibliography and Library Resources in Music (3) Basic techniques of searching and locating music literature; includes retrieval techniques from online computer catalog. MUS majors only. Pre: graduate standing or consent.
MUS 670 (Alpha) Regional Music (3) Musical content and historic/cultural context of principal musical traditions. (B) Asia; (C) Oceania. Repeatable nine times. Pre: consent.
MUS 678 (Alpha) Advanced Problems in Ethnomusicology (3) (B) transcription of music performance; (C) movement analysis; (D) other. Pre: consent.
MUS 680 (Alpha) Studies in Music Theory (3) (B) stylistic counterpart to 1700; (C) stylistic counterpart from 1700; (D) advanced analysis; (E) contemporary technical and theoretical analysis; (F) contemporary technical and resources; (H) atonal analysis and set theory; (I) Schenkerian analysis. Pre:
MUS 685 Intercultural Composition (3) Examination of compositional approaches, techniques, and characteristics of works by East Asian influences in Western concert settings, or vice versa. Repeatable one time. Pre: graduate standing only. Pre: A-F only. Pre: graduate standing or consent.
MUS 687 Masters Composition Practicum (3) Original composition in all forms. Masters-level composition students only. Repeatable five times. A-F only. Pre: consent.
MUS 695 Plan B Master’s Project (V) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A maximum of 3 credits may be earned in MUS 695. Graduate standing in music education or music composition. A-F only.
MUS 699 Directed Research (Y) Reading and research in ethnomusicology, musicology, music education; reading and practice in theory, composition, or performance. Repeatable unlimited times. Pre: consent of chair and department chair.
MUS 700 Thesis Research (V) Repeatable unlimited times.
MUS 701 (Alpha) Topics in Music (3) Advanced topics in musicology, theory, ethnomusicology, and music education. (B) psychology of music; (C) research in music education; (D) research methods in musicology; (E) advanced diction for singers. Repeatable in different alphas. Pre: consent. Pre: appropriate to topic or consent.
MUS 702 Seminar for Doctoral Students (V) Selected topics centering on areas pertinent to the student’s degree needs and research interests. Repeatable nine times, up to 12 credits. A-F only. Pre: admission to PhD program in music or consent.
MUS 750 (Alpha) Seminar in Music Education (3) Selected problems in music education. (B) childhood; (C) adolescence/adulthood issues. A-F only. Pre: graduate standing and consent.
MUS 787 Doctoral Composition Practicum (3) Original composition in all forms. Doctoral-level composition students only. Repeatable five times. A-F only. Pre: consent.
MUS 800 Dissertation Research (Y) Repeatable unlimited times. Satisfactory/Unsatisfactory only. Pre: candidacy for PhD degree and consent of dissertation chair.
APPLIED MUSIC
For information on sections, requirements, and costs, consult the music department.
Instructor is given in 14 individual lessons per semester, either one half-hour lesson per week (1 credit hour) or one full-hour lesson per week (2 credit hours). Instructors are not made up unless instructor is notified a reasonable time in advance of the excused absence.
Registration for lesions and choice of teacher must be approved by the department chair.
Assignment and admission to these courses are based on tests and auditions given by the department during the advising and registration period. Applied music courses cannot be audited or taken CR/NG.
MUS 230 (Alpha) Elective Applied Music, Ethnic (V) Instruction in instrumental performance at elementary level. Study of works representative of literature. (B) koto; (C) shamisen; (E) Hawaiian chun; (F) kalimba. Repeatable for four semesters. A-F only. Pre: audition or consent.
MUS 231 (Alpha) Applied Music, Western (1) For nonmajors or music majors in secondary performance fields. Individual instruction in solo vocal or instrumental performance at elementary level. Representative works. (B) voice; (C) piano; (D) organ; (E) recorder; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for four semesters. A-F only. Pre: audition or consent.
MUS 250 (Alpha) Applied Music, Western (V) For music majors or intended majors. Individual instruction in solo or instrumental performance at first performance level. Representative works. Weekly
Key to symbols & abbreviations: see the first page of this section.

repetitory laboratory required. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for six semesters. A-F only. Pre: audition.

MUS 330 (Alpha) Applied Music, Western (V) For nonmajors or for music majors in secondary performance fields. Individual instruction in solo vocal or instrumental performance at an advanced level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for six semesters. A-F only. Pre: advanced from MUS 230 or consent; any 231 or consent for (E).

MUS 332 (Alpha) Applied Music, Western (V) For music majors. Individual instruction in solo vocal or instrumental performance at the junior level. Representative works. Weekly repertoire laboratory required. Half recital required to complete junior level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for three semesters. A-F only. Pre: four semesters of 232 and promotion by board examination.

MUS 432 (Alpha) Applied Music, Western (3) For music majors. Individual instruction in solo vocal or instrumental performance at the senior level. Representative works. Weekly repertoire laboratory required. Full recital required for completion of this performance level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for two semesters. A-F only. Pre: two semesters of 332 and advancement by board examination.

MUS 635 (Alpha) Graduate-Level Applied Music (3) For Nonmajors accepted for M.Mus in performance. Individual instruction in solo vocal or instrumental performance at graduate performance level. Representative works. Weekly repertoire laboratory required. Full recital required to complete graduate performance level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for two semesters. A-F only. Pre: consent for (E). MUS 432 required for M.Mus in performance. A-F only. Pre: consent for (E).

Native Hawaiian Health (NHH) School of Medicine

NHH 450 Applied Health Disparities Research (V) Instruction on social determinants of health, issues of health equity, and how these issues can be addressed through research. Discussions and activities promote a greater understanding of health disparities research. Repeatable unlimited times. Pre: consent.

NHH 499 Directed Reading/Research (V) Individual reading and/or research. Repeatable unlimited times. Junior standing or higher. Pre: consent.

NHH 501 Humanities in Medicine I (2) Introduction to medical science stressing key historical figures and their contributions to the development of scientific methods. Special emphasis on writing skills, health team concept, and culture and contributions of the Pacific. Repeatable one time. CR/NC only. Pre: admission to Imi Ho’ola Post-Baccalaureate Program.

NHH 502 Humanities in Medicine II (2) Continuation of 501. Repeatable one time. CR/NC only. Pre: 501.

NHH 503 Medical Biology I (11) (2 Lect, 2 Tutorial, 1 3-hr Lab) Foundation in medical sciences, including anatomy, physiology, microbiology, pathology, and pharmacology (focus on respiratory, cardiovascular, and urinary systems); develop critical thinking and problem-solving skills. Includes lectures, problem-based tutorials, and histology and gross anatomy labs. CR/NC only. Pre: admission to Imi Ho’ola Post-Baccalaureate Program.

NHH 504 Medical Biology II (11) (2 Lect, 2 Tutorial, 1 3-hr Lab) Continuation of 503. CR/NC only. Pre: 503.

NHH 505 Medical Biochemistry I (6) Provide background knowledge, biochemical, and molecular biology with emphasis in principles of biochemical processes as well as clinical correlations to medical conditions; develop critical thinking, standardization of skills, and problem-solving skills. CR/NC only. Pre: admission to Imi Ho’ola Post-Baccalaureate Program.

NHH 506 Medical Biochemistry II (6) Continuation of 505. CR/NC only. Pre: 505.

NHH 513 Native Hawaiian and Traditional Healing (1) Introduction to Native Hawaiian health issues and traditional healing practices. MD majors only. CR/NC only. Pre: MDED 551 or consent.

NHH 545 Native Hawaiian Health Care (V) Clinical experiences in Native Hawaiian Health Care System and community health care centers, incorporating both western and traditional Hawaiian medicine. Open to fourth year medical students interested in Native Hawaiian Health Care. CR/NC only. Pre: MED 531 or MED 532.

NHH 575 Seminar in Issues of Social Justice in Health (1) Social justice provides an analytical and prescriptive framework to understand health inequities; understand and compare policies; understand and analyze the implications for health and health equity. CR/NC only. Pre: consent. (Z) Repeatable for unlimited times. Junior standing or higher. Pre: consent.

NHH 595 Clinical Skills Preceptorship in the Lau Oala Clinic of the Department of Native Hawaiian Health (V) Provides a focused experience in clinical medicine incorporating both western and traditional Hawaiian medicine. Open to fourth year medical students interested in Native Hawaiian Medicine. Repeatable one time. MD majors only. CR/NC only. Pre: MDED 574 or consent. (Fall only).

NHH 650 Advanced Applied Health Disparities Research (V) Instruction on social determinants of health, issues of health equity, and how these issues can be addressed through research. Discussions and activities promote a greater understanding of health disparities research. Repeatable two times, or up to 27 credits. Pre: consent.

NHH 699 Directed Reading/Research (V) Individual reading and/or research. Repeatable unlimited times. Graduation standing only. Pre: consent.

Natural Resources and Environmental Management (NREM)

NREM 192 Introduction to Natural Resources and Environmental Management (1) Introduction to NREM student learning outcomes and scholarly breadth within the departments. This course provides an overview of campus resources, networking with current and former NREM students and external stakeholders, career skills development. Repeatable one time. A-F only. Pre: consent.

NREM 200 Environmental Service Learning II (3) Experiential service learning course for students participating in the Hawai‘i Youth Conservation Corps summer program as Hana Hou members. Hawai‘i Youth Conservation Corps summer program students only. A-F only. (Summer only)

NREM 203 Applied Calculus for Management, Life Sciences, and Human Resources (3) (2 Lect, 1 Lab) Applications of the principles of continuity, derivatives, exponential and logarithmic functions, partials, integrals) to problems in business management, social sciences, and life sciences. Applies symbolic techniques and quantitative methods in problem solving, utilizes concept of proof as a chain of inferences, and promotes development of reasoning skills and mathematical logic in bridging theory and practice. A-F only. Pre: MATH 101 or consent.

NREM 210 Introduction to Environmental Science (3) Analysis of our environment with emphasis on understanding relationships and interactions of physical, biological, technological, and political components using scientific methods. Food supply and safety, water quality, pollution control, biodiversity, environmental policy. Open to nonmajors. (Cross-listed as PEPS 210 and SUST 210) DB

NREM 220 Agricultural and Resource Economics (3) Introduction to basic economics concepts, including demand, supply, exchange, market price and market failure. Economic evaluation and policy for the uses of various natural resources, especially in production agriculture, is included. A-F only. (Cross-listed as SUST 220) DS

NREM 251 Scientific Principles of Sustainability (3) Introduction to the scientific principles of sustainability, including the ecology of managed and natural ecosystems, global change biology, ecological principles of natural resource management, renewable energy technologies, and the environmental impacts of humans. (Cross-listed as SOCS 251 and TPPS 251)

NREM 292 Internship Preparation (1) Exploration of internship and career opportunities for NREM majors. Development of career-building skills, including resume, interview, and professional networking. NREM majors only. A-F only. (Fall only)

NREM 301 Natural Resources Management (3) Biological and physical science aspects of natural resource management and policy, including social and global scales. Topics covered include resource management of soil, water, forests, wetlands, coasts and wildlife. A-F only. Pre: NREM/TPPS 251 or 210; CHEM 151 or 152; BIOL 171 or 172; and BIOL 171 or 172, consent. (Spring only) (Cross-listed as SUST 311) DB

NREM 301L Natural Resources Management Lab (1) (1 4-hr Lab) Laboratory and field methods covering biological and physical principles and concepts in natural resource management. Emphasis on basic field measurement techniques, computer skills commonly used in managing natural resources and writing scientific laboratory reports. A-F only. Co-requisite: 301. (Spring only) DY

NREM 302 Natural Resource and Environmental Policy (3) Introduction to American government policy in natural resources and environmental protection at federal, Hawaii state and county levels. Policy principles, legal structure, governmental agencies, major statutes and programs, analytical techniques, program assessments. A-F only. Pre: NREM/PEPS/SUT 210 or (BIOL 105) or BIOG 101 or (GG 101 or higher); and 220/SUST 220 or one ECON course or two DES courses. (Cross-listed as SUST 312) DS

NREM 304 Fundamentals of Soil Science (3) Origin, development, properties, management of tropical soils; classification of Hawaiian soils. A-F only. Minimum prerequisite grade of C or consent. Pre: CHEM/BIOL 105 and CHEM 104 or consent. 304L. (Fall only) (Cross-listed as TPPS 304) DP
NREM 304L, Fundamentals of Soil Science (Laboratory) (1) Field and analytical methods for exploring the origin, development, properties, and management of soils, with an emphasis on tropical and Hawaiian soils. Corequisite: CHEM 161 and CHEM 161L. (Fall only) (Cross-listed as TPSS 304L)

DY

NREM 306 Environmental Ethics (3) Application of traditional and modern ethical theories to environmental issues. Development and evaluation of specific environmental ethical theories. Application of ethical theories to environmental decision-making. A-F only. Pre: 210 or GEOG 101 or CHEM 101. (Alt. years) (Cross-listed as SUST 316)

NREM 310 Statistics in Agriculture and Human Resources (3) Theory, applications, and presentation of statistical reasoning. Descriptive, probability, and inferential statistical analysis with extensions to multiple variable cases. A-F only.

NREM 311 Current Topics in Plant Science (1) An undergraduate seminar that provides the presentation and discussion of topics of current relevance to students preparing for careers in applied plant sciences. Oral focus designation. A-F only. Pre: 210 or TPSS 200/SUST 211, or consent. (Cross-listed as TPSS 311)

NREM 314 Managerial Accounting (3) Principles and methods of agricultural accounting. Preparing and interpreting financial statements. Sources and costs of credit, capital budgeting, tax management, estate planning, and taxation of one time. A-F only. Pre: 220/SUST 220 or ECON 130 or consent. (Cross-listed as TPSS 314) DS

NREM 351 Enterprise Management (3) An introduction to basic management principles and methods used in business management. Introduce broad range of business strategies. Understand the critical role each strategy plays. Facilitate student’s practice of analytical and critical thinking through case studies. (Cross-listed as TPSS 351)

NREM 358 Basic Environmental Benefit Cost Analysis (3) Fundamentals of cost-benefit analysis with extensions to environmental impacts and projects: case studies. Pre: 220/SUST 220 or ECON 130 or consent. (Cross-listed as SUST 358) DS

NREM 380 Tropical Forestry/Agroforestry (3) (2 Lec, 1-3 hr Lab) Biophysical and socioeconomic description and analysis of major tropical forestry and agroforestry management systems, including Hawaii and the Pacific Basin. The role of traditional land use, pressures from regional and global development, and efforts to preserve these systems for rural communities will be discussed. Pre: CHEM 151 or higher and BIOL 171 or higher. (Alt. years: spring) DB

NREM 399 Directed Study (V) Limited to exceptional undergraduate students qualified to carry advanced study. Pre: consent.

NREM 410 Methods in Wildlife Management & Conservation (4) Introduces fundamental techniques for wildlife management and conservation. In addition to hands-on training, students will learn underlying biological and ecological principles, as well as quantitative skills, with an emphasis on sustainable management. Required of senior standing or higher. A-F only. Pre: BIOL 171. (Spring only) (Cross-listed as SUST 411)

NREM 420 Community and Natural Resource Management (3) Theory and tools for working with communities in the management of natural resources is presented using a participatory format. Topics include sustainable development, extension programming, participatory learning and community development and conflict management. Pre: two social science courses or consent. (Fall only) (Cross-listed as SUST 420) DS

NREM 429 Spreadsheet Modeling for Business and Economic Analysis (3) Quantitative decision-making methods for effective agribusiness management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution, and interpretation and presentation of results. Pre: NREM/SUST 220 or ECON 130, and 310 or ECON 321; or consent. (Once a year) (Cross-listed as ECON 429 and TPSS 429) DS

NREM 450 Wildlife Ecology and Management (3) Lecture-based overview of the history, ecology, and management of wildlife species (i.e., terrestrial vertebrates) from around the world and Hawaii. One or two field trips may be required. Class size limited to 25 students. Pre: BIOL 172 or consent. (Alt. years) (Cross-listed as SUST 451)

NREM 460 Sustainable Nutrient Management in Agroecosystems (4) (3 Lec, 1-3 hr Lab) Biological, chemical, and physical processes governing the cycling of nutrients in agroecosystems, crop and livestock production, and the effects on surrounding unmanaged ecosystems. Pre: TPSS 304 and CHEM 161, or consent. (Cross-listed as TPSS 460) DB

NREM 461 Soil and Water Conservation (3) Past and present issues in soil and water conservation will be examined, including conservation tillage, irrigation, and drainage will be discussed. Land-based threats to coastal zones and watershed management will also be covered. Pre: 301/SUST 311 or 304. DS

NREM 463 Irrigation and Water Management (3) Basic soil-water-plant relationships, irrigation water requirements, irrigation efficiencies, different methods of irrigation, planning, design and management of an irrigation system, fertilization and impact of irrigation on soil and water quality. Pre: 203 (or equivalent) and NREM/TPSS 304 (or equivalent), or consent. (Alt. years) (Cross-listed as TPSS 463)

NREM 466 Irrigation Systems & Water Conservation Planning (3) Combined lecture and hands-on field course on theory and practice of natural resource conservation planning. Includes individual and group projects, with emphasis on graduate student design. Pre: graduate junior or senior standing and consent. Recommended: at least one upper division course in soils, natural resources, planning, physical geography, or related area; or consent. (Alt. years) DP

NREM 475 Plant Nutrient Diagnosis in the Tropics (3) Designed for students to identify essential nutrients required by plants; diagnose nutrient disorders in plants; and propose environmentally-sound nutrient management plans. Pre: 304/TPSS 304 (or concurrent) and BIOL 172. (Cross-listed as TPSS 475)

NREM 477 Geographic Information Systems for Resource Managers (4) Combined lecture-lab on the basic concepts and principles of geographic information systems, remote sensing, and global positioning system. Practical skills to be developed by participants will include analysis of environmental problems. Pre: either 310 or MATH 140 or MATH 373, and 301 or SUST 311; or consent. (Once a year)

NREM 480 Applied Forest Ecology (3) Application of ecological theory to sustainable management of forest resources in the Pacific, including silviculture (production of timber and nontimber forest products), restoration (restoring damaged or degraded forests), and conservation (conserving existing forest resources). A-F only. Pre: 301/SUST 311 and 380 or consent. (Alt. years)

NREM 491 Topics in Natural Resources and Environmental Management (V) Study and discussion of significant topics and problems. Offered by visiting faculty and/or for extension programs. Repeatable five times up to four credits. A-F only. Pre: consent.

NREM 492 Internship Experience (3) Internship work experience for NREM majors. Complete writing assignments with a minimum of 4,000 words. A-F only. Pre: 292.

NREM 494 Environmental Problem Solving (3) (2 Lec, 1-3 hr Lab) Appropriate course for NREM 450 and related majors. Ecosystem management within problem-solving context. Applications of research and analytical methods, management tools to case studies. Focus on environmental decision-making, and communication. A-F only. Pre: 310, 301/SUST 311 (or concurrent), 302/SUST 312 (or concurrent), and senior; or consent. (Once a year) (Cross-listed as SUST 494) NREM 499 Directed Study (V) Repeatable up to four credits. Pre: consent.

NREM 500 Master’s Plan B/C Studies (V) Enrollment for degree completion. Repeatable up to 3 credits. Pre: master’s Plan B or C candidate and consent.

NREM 600 Foundations of Natural Resource and Environmental Management and Policy (4) Critical evaluation of environmental management and policy. Students develop research skills and integrative knowledge important for all resource managers in, e.g., ecology, applied economics, hydrologic policy/management, and human dimensions. Pre: graduate standing or consent.

NREM 601 Social-Ecological Systems Analysis of Natural Resource and Environmental Management (4) Case study approach to building the structural and behavioral framework for dynamic systems underlying sustainable NREM and policy. Emphasize the transdisciplinary interactions of the ecological and economic components. Pre: 600, and NREM/SUST 220, and BIOL 171, or consent. (Spring only)

NREM 611 Resource and Environmental Policy Analysis (3) Exploration of institutional and policy dimensions of natural resource development, management, allocation, markets and pricing, focusing on their environmental impacts. Emphasis on policy analysis using case studies and empirical findings. Original paper required. A-F only. Pre: grade of C- or above in ECON 130 or NREM/SUST 220, or consent. (Fall only) (Cross-listed as SUST 611)

NREM 612 Predicting and Controlling Degradation in Human-Dominated Terrestrial Ecosystems (3) Historic, present, and projected trends in understanding and managing human-dominated ecosystems; predicting, measuring and mitigating degradation especially in terrestrial ecosystems with a focus on small volcanic islands in tropical settings. A-F only. Pre: 301/SUST 311 and 304 (or equivalent) and 600. Recommended 601, or consent. (Fall only) (Cross-listed as SUST 612)

NREM 620 Kaiaulu: Care and Collaborative Management of Natural Resources (3) Engagement with theory and practice of collaboration to care for natural resources. Topics include community based management, common property, Hawaiian knowledge, co-management, and access through readings, discussion, and projects with Hawaii’s communities. (Spring only)

NREM 627 Applied Micrometric Economics (3) Economic applications to the agricultural and nonagricultural industries are emphasized. Econometric techniques are used to estimate demand, supply, production and cost functions which are analyzed in terms of economic theory and market information. A-F only. Pre: AREC 626 and ECON 627, or consent.

NREM 631 Sustainable Agriculture Seminar (3) Critical evaluation of existing and alternative cropping systems from a long-term perspective. Value conflicts and resolution. Repeatable unlimited times. Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 637 Resource Economics (3) Analysis of problems of development and management of natural resources with emphasis on resources in agriculture and in economic development. Pre: ECON 608 and ECON 629. (Cross-listed as ECON 637 and SUST 637)

NREM 640 Land Systems Science (3) Through discussion of primary land systems, integration of natural resource use and environmental modeling software, this interdisciplinary course explores how drivers, states, and trends in human appropriation of land affect socio-ecological system functioning Pre: CHEM 161 or GEOG 470 or GEOG 476 or GG 460 or GG 461. (Alt. years: Fall) (Cross-listed as SUST 640)

NREM 652 Research Skills (1) Examines the use of libraries and information technology for scholarly investigation in support of scientific research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as ANSC 652, FSHN 652, and TPSS 652)

NREM 658 Advanced Environmental Benefit Cost Analysis (3) Advanced environmental benefit-cost analysis will require that proficiency be demonstrated on fundamentals and address topics related to key symbols & abbreviations: see the first page of this section.
sustainability, including income equality, non-market goods, risk, cost of public funds, and the social discount rate. (Cross-listed as SUST 658)

NREM 660 Hydrologic Processes in Soils (3) (2 Lec, 1 3-hr Lab) Process in soils and the processes involved in water infiltration drainage and solute transport. Emphasis on key parameters required for modeling. Recommended: CE 424 or consent. (Fall only) Cross-listed as BE 664 and CEE 625

NREM 662 Watershed Hydrology (3) Application of basic hydrologic processes and management practices operating on small islands watersheds. Pre: 203 or equivalent and 304 or equivalent; or consent. (Once a year)

NREM 664 Small Watershed Modeling (3) Introduction to process-based modeling of watershed with emphasis on model applications. Deals with the characteristics of nutrient transport processes and nitrogen, phosphate and organic matter transport processes. Pre: CEE 424 or (concurrent) or GG/SUST 425 (or concurrent) or BS degree from NREM, or consent. (Spring only)

NREM 665 Coastal and Wet and Ecology and Management (3) Study of marshes, mangroves, sea grass beds, and coral reefs. Emphasis on the hydrology, biogeochemistry, productivity, and community dynamics of these systems. Response to perturbation and management strategies will also be discussed. Pre: advanced undergraduate coursework in hydrology, soils, and ecosystem ecology recommended. (Alt. years)

NREM 670 Interdisciplinary Methods for Agrarian Systems (3) Emphasis on interdisciplinary methodologies for conducting research and impact analyses on agrarian systems, sustainable development, and resource management. Pre: consent. (Cross-listed as TPPS 670) (Alt. years; fall)

NREM 671 International Agricultural Systems (2) Analysis of trends and strategies in international agricultural research and development. International agricultural research centers (IARC), Food and Agriculture Organization (FAO), university networks and consortia, and private voluntary organizations (PVOs). Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 677 Remote Sensing of the Environment (3) Fundamentals, techniques, and applications of remote sensing for natural resource assessments and environmental monitoring. Lab consisting of field radiometric exercises, computer modeling of energy-matter interaction, processing, and analysis of remotely sensed imagery. Pre: one physics course (e.g. PHYS 150), one statistics course (e.g. 310), or consent. Recommended: either GEOG 470 or GG 460 or one introductory remote sensing course. (Alt. years)

NREM 680 Ecosystem Ecology (4) (2 Lec, 1 3-hr Lab) Physiological ecology with emphasis on tropical forests, human impacts, and global environmental change. Factors controlling ecosystem structure, productivity, nutrient cycling, plant-soil-atmosphere interactions, and energy balance. Field and laboratory methods in ecosystem science. Pre: advanced undergraduate coursework in ecology and soil science; graduate standing; and consent. (Alt. years: 2018-2019)

NREM 682 Restoration Ecology (3) Graduate seminar on foundations of restoration ecology, application of ecological theory to restoration practice. Emphasis on structure and function in degraded terrestrial systems using case studies from Hawai‘i and around the world. Pre: advanced undergraduate ecology course and graduate standing, or consent. Completion of 680 recommended, but not required. (Alt. years)

NREM 685 Landscape Ecology (3) Focuses on the history, theories, and contemporary views of landscapes; including scale, land cover, land use, landscape metrics, disturbance regimes, land management, landscape change, the relationship of landscapes to species, and modeling. Pre: graduate students, or consent. (Alt. years)

NREM 690 Conversion of Biology (3) Theories and concepts of ecology, evolution and genetics for conservation of biological diversity. Topics will include restoration ecology, management planning, laws and policies, biological invasions. Pre: BIOL 375 and either ZOOL 480 or BOT 462; and either ZOOL 410, 439, 620, 623, BOT 453, 454, 456, or 492. (Cross-listed as BOT 690 and ZOOL 690)

NREM 691 Advanced Topics in Natural Resources and Environmental Management (V) Study and discussion of significant topics and problems at an advanced level. Offered by visiting or existing faculty as a special course. Repeatable one time. Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 695 Master’s of Environmental Management Capstone Preparation (1) Preparation for NREM Master’s Plan B capstone experience. NREM majors only. A-F only. Pre: 600 (or concurrent), 601, 605 (or concurrent), a graduate methods course, and at least 12 graduate elective credits. (Fall only)

NREM 696 Master’s of Environmental Management Capstone Experience (3) Capstone experience for NREM Master’s Plan B students. NREM majors only. A-F only. Pre: 695 or concurrent.

NREM 699 Directed Research (V) Repeatable unlimited times.. Pre: graduate standing.

NREM 700 Thesis Research (V) Repeatable unlimited times.

NREM 701 Research Seminar (1) Presentation and discussion of student research proposals, theses and dissertations, and research presentations by NREM faculty, students, and invited speakers. A-F only. Pre: consent.

NREM 800 Dissertation Research (V) Repeatable unlimited times.

Natural Sciences (NSCI)

College of Natural Sciences

NSCI 101 Natural Sciences and Life-Pulling the Puzzle Apart (1) Journey through the Natural Sciences finding fun, excitement, and success in science, mathematics, engineering, medicine, and all that is the natural sciences. Focus upon challenging worldviews of belief, invention, impact, and ethics, CR/NC only.

NSCI 501 Seminar for Science Teachers (V) Seminar and discussions of current and significant topics and problems in science where teachers can exchange new and innovative teaching ideas and strategies. Repeatable. Pre: in-service teachers or consent.

NSCI 503 Computers in Classroom (V) Combined lecture, laboratory and discussion on the use of computers as a teaching tool in the classroom. To be taught in a hands-on manner appropriate for the science teachers. Restricted to in-service teachers or consent. Repeatable one time. A-F only.

NSCI 504 Mathematics Workshop for Teachers (V) An in-depth study of topics from intermediate and college mathematics course (e.g. 205), and one statistics course (e.g. 310), or consent. Recommended: either GEOG 470 or GG 460 or one introductory remote sensing course. (Alt. years)

NURS 200 Intro to Professional Nursing I (1) This first level course focuses on nursing practice and education. Professional responsibilities in the practice of nursing are emphasized. NURS majors only. A-F only. Pre: admittance into HS-DN program. (Fall only)

NURS 201 Introduction to Professional Nursing II (1) This second level course builds on the knowledge and skills gained in the first level and focuses on professional responsibilities in nursing practice and education. NURS majors only. CR/NC only. Pre: 200. (Spring only)

NURS 210 Health Promotion Across the Lifespan (3) Focuses on a health promotion model of care, assessment, and communication skills. It introduces the nurse’s role, code of ethics, and evidence-based practice. NURS majors only. A-F only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. Co-requisites: 210, 210L, and 212.

NURS 210L Health Promotion Across the Lifespan Lab (6) Clinical course focuses on a health promotion model of care, assessment, and communication skills. Introduces nurse’s role, code of ethics, and evidence-based practice. NURS majors only. CR/NC only. Co-requisites: 210, 210L, and 212.

NURS 211 Professionalism in Nursing (2) Professional responsibilities of nursing practice are examined through the historical and sociopolitical context of nursing, and the development of the nursing profession. Pre: NURS 210. CR/NC only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. CR/NC only. Pre: 210, 210L, and 212.

NURS 212 Pathophysiology (3) Focus on pathophysiological concepts that are basic to understanding illness and injury. This course will help students to gain knowledge of the corresponding spectrum of human responses, which serve as a foundation for the formulation of clinical decisions and care planning. NURS majors only. A-F only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. Co-requisite: 210, 210L, and 212.

NURS 213 Pharmacology for Nursing (3) This course will help students to gain knowledge of the mechanisms of action, toxicity, adverse reactions, side effects, therapeutic uses, and nursing implications of the major categories of drugs. NURS majors only. A-F only. Pre: 210, 210L, and 212. Co-requisites: 220 and 220L. (Spring only)

NURS 220 Health and Illness I (3) Focuses on nursing assessment to support identification of risk factors and detection/prevention of complications from illness. NURS majors only. A-F only. Pre: 210, 210L, 211, and 212, or departmental approval. Co-require: 213 and 220L.

NURS 220L Health and Illness I Lab (6) Clinical course focuses on using nursing assessment to support identification of risk factors and detection/prevention of complications from illness. Nursing skills are integrated into clinical experiences. NURS majors only. CR/NC only. Pre: 210, 210L, 211, and 212. Co-requisite: 213 and 220L.

NURS 301 Introduction to Evidence Based Practice and Health Promotion (3) Provides an introduction to the HSNC. Competencies and spiraling of concepts and is based on the development of student responsibility for learning. Emphasis on writing instruction, and research evidence to support nursing care. NURS majors only. A-F only.

NURS 306 Statistics in Nursing Research (3) Emphasizes the basic principles of statistics as applied to nursing research. NURS majors only. A-F only. Pre: admission to the Executive RN to BS in Nursing Program. (Summer only)


Key to symbols & abbreviations: see the first page of this section.
NURS 340 Contemporary Ethical Issues in Health Care (3) Explore contemporary ethical issues and their legal implications. Focus on decision-making in professional practice and social policy formation. Pre: open to non-nursing majors with consent.


NURS 481 Nursing Honors Research Project (3) Involves directed, mentored research study for SONDH Honors students with their honors advisor. The course grade depends on mutual agreement negotiated each course semester. Repeatable three times. NURS majors only. A-F only. Pre: acceptance into the Honors program.

NURS 499 Directed Reading and Research (3) Planned individualized study or research in specialized area related to interprofessional collaborative practice. Repeatable one time. Senior undergraduate NURS students only. Pre: consent.

NURS 500 Master’s Plan B/C Studies (1) NURS 501 Professionalism in Nursing (2) Introduction to history of nursing and leaders in the field. Will explore contemporary nursing issues and research. Strategies to foster adherence to a professional code of ethics in practice will be examined. NURS majors only or consent. Admission into GEPN only. A-F only. (Once a year)

NURS 502 Pathophysiology (3) Web-enhanced on pathophysiologic concepts of disease prevention and injury and the corresponding spectrum of human response, which serves as a foundation for the formulation of clinical decisions and care planning. NURS majors only or consent. Admission into GEPN only. A-F only. (Once a year)

NURS 503 Pharmacology for Nursing Practice (3) Essential principles of pharmacology using a pathophysiologic approach with an emphasis on administering medications and evaluating their effects. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 501, 502, 504, 504L, 505, 505L. (Once a year)

NURS 504 Health Assessment (2) Concepts/theories of health assessment, data collection, and analysis to distinguish between health/wellness, risk factors or health deviations across the lifespan. Emphasis on principles of communication and interviewing. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 504L Health Assessment Lab (2) Application of assessment skills in dry lab and clinical settings, with attention to principles of communication, interviewing and physical examination skills. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 505 Foundations of Nursing Science (2) Nursing process and scientific based nursing interventions to meet basic human needs using basic psycho-motor skills to support assessment, intervention, and evaluation activities. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 505L Foundations of Nursing Science and Practice Lab (4) Application of the nursing process and scientific based nursing interventions to meet basic human needs using basic psycho-motor skills to support assessment, intervention, and evaluation activities. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 507 Bio-Behavioral Health Nursing (2) Biopsychosocial theories of human behavior related to function, alteration, and/or disruption of mental processes; reviews current knowledge of nursing care, psychiatric treatment/psychosocial rehabilitation of identified mentally ill adults/children and their families. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 507L. (Once a year)

NURS 507L Bio-Behavioral Health Nursing Lab (2) Application of current knowledge regarding human behavior related to function, alteration, and/or disruption of mental processes; reviews current knowledge of nursing care, psychiatric treatment/psychosocial rehabilitation of identified mentally ill adults/children and their
families. NURS majors only or consent. Admission into GEPN only. CR/NC only. Co-requisite: 507. (Once a year)

NURS 508 Nursing Care of Childbearing Families (2) Introduces the student to the theoretical concepts of holistic nursing care of the perinatal family. Women’s and men’s health issues are discussed. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 508L. (Once a year)

NURS 508L Nursing Care of Childbearing Families Clinical/Lab (2) Application of the nursing care of the mother and family. The student will apply clinical and theoretical concepts of holistic nursing care for women experiencing customary and complicated perinatal processes. NURS majors only or consent. Admission into GEPN only. CR/NC only. Co-requisite: 508L. (Once a year)

NURS 510 Introduction to the Care of Children and Families (2) Examines the bio/psycho/social response of the child and family to health and illness, as well as nursing care for acute and chronic conditions. Lab course taken concurrently. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 510L. (Once a year)

NURS 510L Nursing Care of Children and Families Clinical/Lab (2) Accompanies and supports Pediatric Nursing to provide educational experiences in the hospital and outpatient or community settings. NURS majors only or consent. Admission into GEPN only. CR/NC only. Co-requisite: 509. (Once a year)

NURS 513 Acute Care Nursing (4) Addresses the bio/psychosocial, and cultural needs of patients in the acute care setting. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 513L. (Once a year)

NURS 517 Clinical Immersion to Nursing Practice (3) Examination of continuity of care for clients with complex needs. Emphasis on application of leadership, management, and quality improvement in the clinical setting. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 517L.

NURS 517L Clinical Immersion to Nursing Practice Lab (6) Application of the bio/psychosocial human health response and treatment of conditions. Application of health promotion, risk reduction and disease detection and nursing care treatments in the acute care setting. NURS majors only or consent. Admission into GEPN only. CR/NC only. Co-requisite: 513. (Once a year)

NURS 517 Clinical Immersion to Nursing Practice Lab (3) Examination of continuity of care for clients with complex needs. Emphasis on application of leadership, management, and quality improvement competencies are stressed. NURS majors only or consent. Admission into GEPN only. A-F only. Co-requisite: 513L.

NURS 518 Introduction to Community and Public Health Nursing (2) Introduces community and public health nursing with an emphasis on application to nursing practice in the community and public health settings. NURS majors only or consent. Admission to GEPN only. A-F only. Co-requisite: 518L. (Spring only)

NURS 518L Introduction to Community and Public Health Nursing Lab (3) Application of health promotion, risk reduction, and disease prevention and detection and nursing care treatments in the community setting. NURS majors only or consent. Admission to GEPN only. CR/NC only. Co-requisite: 518. (Spring only)

NURS 600 Epidemiology for Advanced Nursing (3) Introduction to epidemiologic principles and methods, with an emphasis to application to nursing practice. NURS majors only. A-F only. (Once a year)

NURS 605 Health Promotion and Disease Prevention (3) Teaching and learning concepts applied to health promotion and prevention of common health and lifestyle conditions with culturally diverse individuals, families, groups, and communities. Includes didactic (30 hrs) and fieldwork (45 hrs). Repealtable one time. Pre: classified graduate student status in the SON, and 513 (or concurrent) or consent.

NURS 608 Genetics and Health Care (3) Addresses the scientific, psycho-social, ethical, cultural, and spiritual issues surrounding genetic disease, genetic testing, and living with an inherited condition. Repeatable one time. Pre: graduate standing or consent.

NURS 609 Health Politics & Policy (3) Review of national health policies, issues, and concerns; and international comparison of health policy evolution; includes didactic and 45 hours of fieldwork experience learning.

NURS 611 Psychiatric-Mental Health Assessment and Diagnosis (3) Identification and synthesis of pertinent biopsychosocial and cultural data to complete advanced psychiatric-mental health assessments and diagnoses. NURS majors only. Pre: 612L Advanced Assessment and Clinical Reasoning (2) Provides a framework for the development of advanced skills for systematic and comprehensive data collection, organization, precise recording, and communication of data reflecting the biopsychosocial status of individuals across the life span. NURS majors only or consent. A-F only.

NURS 612L Advanced Assessment and Clinical Reasoning Lab (3) Clinical lab and practicum for advanced practice nursing. Emphasis on integration of knowledge, skills and outcome evaluation. NURS majors only or consent. A-F only.

NURS 613 Pathophysiology for Advanced Practice (3) Provides an understanding of normal physiological mechanisms and pathological processes to serve as a foundation for clinical assessment, decision making, and clinical management across the lifespan. NURS majors only or consent. Pre: enrollment as a classified student in a graduate program in the SONDH.

NURS 615 Clinical Skills and Procedures for Advanced Practice Nursing (2) Clinical laboratory that focuses on the procedures performed by advanced practice nurses (nurse practitioners and/or clinical nurse specialists). Topics will vary by section and semester. NURS majors only. CR/NC only.

NURS 616 Psychobiology of Human Behavior and Psychopharmacology (3) Survey of the psychobiological basis of selected human behaviors and mental disorders. Emphasis on the interaction of biopsychosocial mechanisms and pathological treatments prescribed by health care providers. NURS majors only or consent.

NURS 617 Human Responses to Acute and Chronic Illness-A (3) The first of two courses that focuses on the delivery of advanced practice nursing in the assessment, diagnosis, and management of common acute and chronic adult health problems in the acute care setting. NURS majors only or consent. No waiver. Pre: 612, 612L, and 613; no waiver. (Once a year)

NURS 618 Human Responses to Acute and Chronic Illness-B (3) Second of two courses that focuses on the delivery of advanced practice nursing in the assessment, diagnosis, and management of common acute and chronic adult health problems in the acute care setting. NURS majors only. A-F only. Pre: 612, 612L, and 613; no waiver. (Once a year)

NURS 619 Emerging Diseases & Implications for Advanced Nursing Practice (3) Selected emerging diseases are examined within historical context, known science (past and present) and societal factors that influence treatment, containment strategies. Considerations for advanced public health nursing practice are identified and examined. NURS majors only. A-F only. (Spring only)

NURS 620 Nursing Research, Theory, and Evidence-Based Practice (3) Examination of theory, research, and evidence-based inquiry to support advanced nursing practice. Pre: enrollment as a classified student in the graduate degree program in SONDH.

NURS 621 Acute and Episodic Care Management (3) Diagnosis and management of health and illness issues with an emphasis on acute/episodic conditions seen in context of family and community. Advanced practice nurse-client relationship, practice roles, and culturally relevant care are included. NURS majors only or consent. A-F only. Pre: 612/612L, 613, and 629. Co-requisite: 675.

NURS 622 Psychiatric-Mental Health Issues and Roles (3) Exploration of major issues and roles in advanced practice psychiatric-mental health nursing. NURS majors only or consent.

NURS 623 Psychopharmacology (3) Survey of biologic/psychological basis of major mental disorders, including the schizophrenias, affective and personality disorders, pediatric and geriatric problems, and neurological dysfunctions with appropriate applications. NURS majors only. Pre: graduate standing or consent.

NURS 624 Adolescent and Family Psychiatric-Mental Health Care (3) Seminar on theory/research in advanced psychiatric-mental health nursing of adolescents and young adults representing diverse populations. Emphasis on development and nursing theories, evidence-based practice, therapeutic modalities and disease management of psychiatric illness. Pre: 611 (or concurrent) or consent. (Once a year)

NURS 625 Advanced Nursing Roles (3) Provides students with an understanding of different roles of the advanced professional nurse; an ability to proactively manage the environment of their specialty practice; includes 45 hours of field work experience. A-F only.

NURS 626 Advanced Population Health Nursing (3) Introduction to the core competencies, key theoretical models and concepts that guide advanced population health nursing. The student will initiate their professional portfolio, which must be completed during the last semester of the MS program. NURS majors only. A-F only.

NURS 627 Child/Family Health Assessment (4) (2 Sem, 8-hr Lab) Opportunity to develop specialized clinical competence in assessment of children as a basis for the development of clinical specialization. Development of the individual’s potential toward health maintenance functioning. NURS majors only or consent.

NURS 628 Child Health: Special Health Needs (3) Provides a theoretical basis required for specialized clinical competence in adapting recent findings on child/parent assessments, social and health risk indicators, the role of environment, and multidisciplinary settings in the care of pediatrics. NURS majors only. A-F only. Pre: NURS majors, 612/612L and 633 and 634, and 3 credits of 675; or consent.

NURS 629 Farmacology for Nurses in Advanced Practice (3) Prepares APNs to evaluate, monitor, and prescribe pharmaceuticals to treat acute and chronic illnesses across lifespan. Emphasis on drug indications, mechanisms of action, clinical efficacy, adverse effects, interactions, monitoring, education, and cost effectiveness. Enrollment as a classified student in a SOND graduate nursing program. Repeatable unlimited times. NURS majors only or consent. Pre: 613 (or concurrent) or consent.

NURS 630 Introduction to Information Technology in Healthcare (3) Introduction to the use of information systems in healthcare. Selected information systems and data sets are explored with application of results to various patient populations and clinical practice settings.

NURS 632 Therapeutic Modalities (3) Therapeutic modalities used in advanced practice psychiatric-mental health nursing with individuals, families, and groups representing culturally diverse populations. NURS majors only. Pre: 612/612L.

NURS 633 Child Health: Promotion and Maintenance (3) Presents normal developmental, physiological and social needs of children within the context of family; then focuses on the management of common acute and chronic illnesses of children. NURS majors only or consent. Pre: 612/612L; 613, and 629. Co-requisite: 675.

NURS 634 Child Health: Advanced Pediatric Acute/Chronic Care (3) (Sem, 8-hr Lab) Theoretical and clinical application of pediatric clients with higher acuity and more complex management issues. Emphasizes critical analysis of evidence based research in pediatric health care. NURS majors only or consent. Co-requisite: the PNP and FNP program, 612/612L, 613, and 633, and completed 3 credits of 675 and/or consent.

NURS 635 Women’s Health: Promotion and Maintenance (3) Provides a foundation of concepts
necessary to maintain and promote women’s health, including developmental, physiological and social needs of women of all ages and the management of common health problems and concerns specific to women. NURS majors only or consent. Pre: 612/612L, 613, and 629. Co-requisite: 675.

NURS 636 Women’s Health: Special Problem (5) (2 Sem, 12-hr Lab) Focuses upon assessment and intervention of high-risk women during pregnancy, interconception, and the menopausal years. Emphasizes critical analysis of research in pregnancy, family planning, and common gynecologic concerns. Pre: 635 or consent. NURS majors only or consent.

NURS 638 Child and Adolescent Psychiatric-Mental Health (3) Theory and research in advanced practice psychiatric-mental health nursing of children and adolescents representing culturally diverse populations. Emphasis on growth and development, assessment and diagnosis, and therapeutic modalities. NURS majors only. A-F only. Pre: 620 (or concurrent).

NURS 639 Disciplinary Knowledge I (3) Exploration of a variety of philosophies of science and examination of factors influencing the development of nursing theory and the integration of nursing as a discipline. NURS majors only.


NURS 641 Advanced Nursing in the Global Health Environment (3) Exploration and analysis of key global health topics of concern for APNs. A-F only.

NURS 646 Advanced Psychiatric-Mental Health Practicum (V) Supervised application of theories, research, and skills for advanced practice psychiatric-mental health nursing with individuals, families, and groups representing culturally diverse populations. Includes the program’s capstone experience. Repeatable five times. NURS majors only. Pre: 611. Co-requisite: 632.

NURS 647 Family Systems in Health and Illness (3) Family systems approach to include selected family theories, family research and family centered culturally sensitive clinical assessment and intervention in health and illness situations. Pre: graduate standing or consent.

NURS 650 Complementary and Traditional Care (3) A review of research, theoretical systems and approaches to complementary and traditional care in culturally diverse populations with a focus on wellness. Appropriate for all health-care professionals.

NURS 655 Research and Measurement in Nursing Education (3) Testing and evaluation applied to nursing education. NURS majors only. A-F only. Pre: consent. (Once a year)

NURS 660 (Alpha) Selected Topics in Nursing (3) Advanced study, exploration of special topics in clinical nursing. (D) developmentally disabled children and their families; (I) current issues in professional nursing. NURS majors only or consent for (D).


NURS 662 Leadership, Role, Identity and Organizational/System Change (3) Study of theoretical and conceptual models of leadership and management as applied to relevant advanced practice nurses’ roles, their respective populations, and changing healthcare environments. NURS majors only or consent.

NURS 663 Analysis of Healthcare Delivery Models (3) Analysis of various clinical management concepts and health-care delivery systems influencing outcomes, process, and costs in the delivery of care. NURS majors only or consent.

NURS 664 Seminar and Practicum in Nursing Executive Leadership (3) Supervised practicum to build mid to senior level nursing leadership competencies and facilitate change in complex healthcare organizations. NURS majors only. Pre: 663 (or concurrent) or consent.

NURS 665 Clinical Economics and Finance (3) Economic principles of the conceptual tools and use for in developing and managing patient care processes. NURS majors only.

NURS 668 Community Based Participatory Research (CBPR) for Advanced Practice Nurses (3) Online course (SO BPB 668 CBPR method in Advanced Practice Nurses to address population level issues amenable to nursing interventions; 15 hours of didactic and 90 hours of field experience are included. NURS majors only. (Once a year)

NURS 669 Evaluating Research for Evidence-Based Practice (3) Introduces evidence-based practice methods for improving the quality of nursing practice. Develops skills in differentiating quantitative and qualitative research, statistical methods, and searching, critiquing, and synthesizing literature, pertinent to health care issues. A-F only. Pre: permission of course faculty. (Fall only)

NURS 670 Advanced Practice Nursing During Public Health Disasters (3) The role of the advanced professional nurse in public health preparedness, planning and response. Includes 45 hours of field work where the student will practice emergency response functional roles. NURS majors only. A-F only. Pre: consent. (Summer only)

NURS 671 Biostatistics: Application in the Advanced Nursing Practitioner Setting (3) Includes basic bio-statistical applications of statistical findings to practice programmatic decisions. NURS majors only. A-F only. Pre: graduate standing in the Department of Nursing or consent. (Once a year)

NURS 672 Advanced Practice Population Health Nursing Practicum (V) Student will conduct a complex service project for a public or community based population. May be taken for 6 credits. (45 hours of practicum experience awarded for each one credit of the course) Repeatable one time. NURS majors only. A-F only. Pre: 24 credits of MS in Advanced Population Health Nursing or consent. NURS majors only. A-F only. Pre: consent. NURS majors only. A-F only. Pre: 600. (Spring only)

NURS 675 Advanced Practice Clinical (V) Application of concepts and principles of assessment, diagnosis, management and evaluation of clients in supervised clinical practicum for advanced practice nursing. Repeatable unlimited times. NURS majors only or consent. A-F only. Pre: 612/612L, 613, and 629 (or concurrent).

NURS 676 Primary Care I Seminar: Health Assessment (1) Seminar to discuss the evidence, concepts, and principles of assessment, diagnosis, management. Utilization of clinical cases and current literature on health care assessment. NURS majors only. A-F only. Pre: 612/612L, 613, and 629. Co-requisite: 676.


NURS 679 Primary Care IV Lab (advanced level): Primary Care Integration Across the Lifespan (3) (V) Advanced level clinical experience. Application of concepts and principles of assessment, diagnosis, evaluation, and management of clients across the lifespan in primary care settings for advanced primary care nursing students. Repeatable one time, up to five credits. NURS majors only. A-F only. Pre: 678/678L. Co-requisite: 679.

NURS 680 Cultural Competency in Nursing Education (3) Evaluates the impact of history on the culture of nursing and nursing education. Explore strategies to provide education in a culturally sensitive manner to culturally diverse students. NURS majors only. A-F only. Pre: graduate standing, or consent.

NURS 682 Health and Health Practices of Populations with Health Disparities in Hawai’i and Other Places (3) Teaching and learning concepts applied to health promotion and the prevention of common conditions of disease among populations with health disparities in Hawai’i and other places; includes didactic and 45 hours of field experience. NURS majors only. A-F only. Pre: consent.

NURS 683 Occupational Health I (2) Historical development of occupational health; occupational diseases and accidents; control of hazards in occupational environments; selection of common conditions of disease among populations with health disparities in Hawai’i and other places; includes didactic and 45 hours of field experience. NURS majors only. A-F only. Pre: consent.

NURS 690 Curriculum Evaluation in Nursing Education (3) Current trends of planning for evaluation and critical analysis and application of curriculum evaluation frameworks in nursing education. NURS majors only. A-F only. Pre: 747 or consent.

NURS 692 Introduction to Research Methods (3) Nursing research methods for qualitative and quantitative studies, institutional review board procedures, and how to develop a research proposal. NURS majors only. A-F only. Pre: consent.

NURS 693 Advanced Practice Clinical for Clinical Nurse Specialists (V) Application of concepts and principles of education, consultation, research, and management and evaluation of clients in supervised clinical practicum for adult health clinical nurse specialist students. Repeatable five times. NURS majors only. A-F only. Pre: 612 (or concurrent), 612L (or concurrent), 613 (or concurrent), and 629 (or concurrent) or consent.

NURS 695 Successful Aging: Physiologic (3) Advanced study of the functional, cultural, psychological, and socioeconomic phenomena that impact the physiology of normal and abnormal aging. Emphasis is on promoting successful aging among older residents of the Pacific Basin and applications to primary care health. NURS majors only or consent. Pre: consent.
Monitoring Systems to collect and stream in-situ etc. to construct, program, and deploy environmental sensors, 3D printing, programming, -F only. Pre: 201 or MICR 130, or consent. (Spring only) Marine functional genomics, OCN 403 Marine Functional Ecology an DP PHYS 272/272L; or consent. (Fall only) OCN 491 Principles of Sustainability Analysis (3) Introduction to the principles of sustainability analysis through execution of Life Cycle Analysis applied to products, processes, or systems. LCA and the evaluation of each will be presented. Personal computer or laptop (Word 97 or higher) OS, and minimum of 4GB RAM. Repeatable one time. Junior standing or higher. A-F only. Pre: CHEM 161 or PHYS 170 or CHEM 161/161L or MATH 241; or consent. (Fall only) (Cross-listed as CEE 441 and SUST 441) OCN 442 Principles of Environmental Management (3) Introduction to the processes of developing Environmental Management Systems that address the principles outlined in ISO14001:2015. Repeatable one time. Junior standing or higher. A-F only. Pre: CHEM 161 or PHYS 170 or CHEM 161/161L or MATH 241; or consent. (Fall only) (Cross-listed as PLAN 442 and TIM 462) OCN 444 Plate Tectonics (3) (2 Lec, 1-3 hr Lab) Quantitative geometrical analysis techniques of plate tectonics theory; instantaneous and finite rotation poles; plate boundary stresses. Pre: GG 200 or consent. (Alt. years) (Cross-listed as GG 444) DP OCN 450 Aquaculture Production (3) Theory and practice of aquaculture: reproduction, yield trials, management, economics, and business case studies of fish, crustaceans, and molluscs. Field classes held at commercial farm and hatchery. Pre: ANSC 321 and ANSC 445 or OCN 420 and CM 162/162L or higher. (Cross-listed as ANSC 450) OCN 457 Ridge to Reef: Coastal Ecosystem Ecology and Connectivity (3) Watershed and coastal biogeochecmy/ecosystem science. Emphasis on field surveying and sampling of stream and reef habitats; laboratory chemical/biological analyses. Analysis of land use impacts on ecosystem health and anthropa’sa resource management. A-F only. Pre: 201/201L, 310; or consent. OCN 480 Dynamics of Marine Ecosystems: Biological-Physical Interactions in the Oceans (3) Combined lecture and discussion examining biological and physical processes in the oceans and their impacts on the functioning of marine ecosystems. GEs majors only. A-F only. Pre: 201/201L, 310/310L, and PHYS 272/272L; or consent. (Alt. years) OCN 481 Introduction to Ocean Ecosystem Modeling (3) Introduction to modeling biogeochemical and physical oceanic processes by building a coupled model of the Pacific to investigate physical and biological interactions. Students learn ecosystem dynamics, basic numerical methods, and programming. A-F only, GEs majors only. Pre: 310 or PHYS 272; and OCN/GG 312 (with a minimum prerequisite grade of B). (Spring only) OCN 490 Communication of Research Results (2) Lecture/discussion to provide instruction and experience in oral and written presentation of scientific results. Registration limited to GEs majors in their final year. A-F only. Pre: consent. OCN 496 Topics in Global Environmental Science (V) Lecture and discussion or seminar. Current topics in environmental science explored in detail. Typically offered by faculty in their specialties, or developed in response to student interest. GEs majors only. Repeatable unlimited times, credits earned up to six credits. Pre: consent. OCN 499 Undergraduate Thesis (V) Directed research in which the student carries out a scientific project of small to medium size, and which is more than that of, or more focused than, the senior honors thesis. The student must complete a document in the style of a scientific journal article. Repeatable one time or up to six credits. Pre: consent. OCN 601 Marine Biology-Environments and Organisms (4) (3 hr Lab; 3 hr Lab) Introduction to the diversity of marine organisms and the many specialized coastal, reef, and oceanic habitats in which they live. Lab and field research exercises will complement lecture subject including Marine Biology graduate degree program only. MB and OCN majors only. A-F only. Pre: consent. (Fall only) (Cross-listed as MBIO 601) OCN 602 Marine Biology-Processes and Impacts (4) (3 hr Lab; 3 hr Lab) Investigation of biological phenomena and processes related to productivity and food webs, community structure and ecology, adaptations, and physiology, and impacts of human activities and fisheries. Graduate standing in Marine Biology graduate degree program only. MB and OCN majors only. A-F only. Pre: 601. Minimum prerequisite grade of B. (Spring only) (Cross-listed as MBIO 602) OCN 620 Physical Oceanography (3) Introduction to properties of seawater, oceanographic instruments and methods, heat budget, general ocean circulation, regional oceanography, waves, tides, sea level, Formation of water masses, dynamics of circulation. Repeatable one time. Pre: MATH 242 (or concurrent), or consent. OCN 621 Biological Oceanography (3) Factors governing productivity, population dynamics, distribution of organisms in major ecosystems of the ocean, emphasis on ecology of pelagic zone. OCN majors only. Pre: consent. OCN 622 Geological Oceanography (3) Marine geological processes, ocean basin structure and tectonics, sedimentation. Pre: GG 101. OCN 623 Chemical Oceanography (3) Chemical processes occurring in marine waters; why they occur and how they affect oceanic environment. Pre: CHEM 171. OCN 625 Aquatic Photosynthesis (3) Biochemical and biophysical concepts of photosynthesis. Application and interpretation of ecological processes of photosynthesis in aquatic systems. Open to nonmajors. A-F only. Pre: consent. (Spring only) OCN 626 Marine Microplankton Ecology (4) (3 Lec, 1-3 hr Lab) Distribution, abundance, and ecology of marine microplankton; algae, heterotrophs, and protozoans, with an emphasis on metabolic rates and processes. Pre: consent. OCN 627 Ecology of Pelagic Marine Animals (4) (3 Lec, 1-3 hr Lab) Ecology of pelagic animals including feeding, energetics, predation, and anti-predation tactics. Life-history strategies, vertical flux of materials, population dynamics, fisheries. Pre: consent. (Spring only) OCN 628 Benthic Biological Oceanography (4) (3 Lec, 1-3 hr Lab) Processes controlling the structure and function of benthic communities, including organization of communities, interactions, sediment geochemistry, feeding strategies, recruitment, succession, and population interactions. OCN and MB majors only. Pre: consent. OCN 629 Molecular Methods in Marine Ecology (3) Molecular methods and techniques to understand marine ecosystems, emphasis on standard and specific applications to marine ecology; emphasis on hands-on tools for ecological and biogeochemical processes of microbes; developing practical skills for research project in marine microbial ecology and biological oceanography. Pre: consent. A-F only. Pre: 403, 626, 627, or 628; or consent. (Fall only) OCN 630 Deep-Sea Biology (3) (1.5 Lec, 1.5 Discussion) Biology and ecology of deep-sea organisms and communities, including benthic-pelagic coupling, depth zonation, energetics, diversity, adaptations, hydrothermal vents, seamounts, abyssal plains, deep-sea resource extraction, and global
Key to symbols & abbreviations: see the first page of this section.
community in Hawai‘i, culminating in a research paper and public presentation. PACS majors only. A-F only. Pre: 108 and 201 and 202, and either 301 or 302.

PACS 462 Drama and Theatre of Oceania (3) Survey of the contemporary drama and theatre of Oceania that combines island and Western traditions. Includes Papua New Guinea, Hawai‘i, Fiji, Samoa, Australia, New Zealand. Pre: ANTH 550 or THEA 101, or consent. (Cross-listed as THEA 462) DH

PACS 474 Studies in Pacific Literature (3) Intensive study of selected questions, issues, traditions, writers, movements, or genres in the field of Pacific Literature. Repeatable one time. Pre: ENG 320 and one other 300-level ENG course. (Cross-listed as ENG 474) DL

PACS 492 Topics in Pacific Islands Studies (3) Repeatable two times. DS

PACS 493 Writings Images in the Pacific Islands (3) Critically examines indigenous and foreign representations of the Pacific Islands and is designed to make film a central focus of inquiry for students interested in the contemporary Pacific. Repeatable one time.

PACS 494 Culture and Consumption in Oceania (3) Lecture on changing patterns of consumption in Oceania, and the historical, political, cultural, artistic, and economic forces that influence such practices. Pre: upper division standing, or consent.

PACS 495 Encountering Tourism in Asian-Pacific Societies (3) A critical examination of a wide spectrum of issues relating to the evolution and current impact of tourism on contemporary Asian and Pacific societies. Topics include colonial antecedents, social impacts, cultural, and environmental concerns, case studies (including Hawai‘i). (Cross-listed as ASAN 495) DS

PACS 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.

PACS 601 Learning Oceania (3) Graduate seminar. Introduction to the nature and origins of Pacific Studies as an organized field of study. Epistemological, conceptual, political and ethical issues facing students of the region today. Co-require: 602.

PACS 602 Re/ Presenting Oceania: Pacific and American Perspectives (3) Graduate seminar. Critical analysis of the way political, social, and cultural aspects of Oceania have been represented in scholarly and popular media. Co-require: 601.

PACS 603 Researching Oceania: Creative and Conventional Methods of Inquiry (3) Graduate seminar. Lecture, library research and the conception of a Master’s research project. Pre: 601 and 602.

PACS 640 Women in Oceania (3) Will look at feminist theory, ethnography, culture, activism and globalization in the context of writing, research and film on women in Oceania. Pre: consent.

PACS 690 Graduate Seminar: Change in the Pacific (3) Interrelationship of change in selected Pacific Islands regions, institutions, and processes. Repeatable two times. Pre: consent.

PACS 695 Master’s Portfolio Project (V) Independent study for students working on MA portfolio projects. A grade of satisfactory (S) is assigned when the project is satisfactorily completed. Repeatable one time. A-F only. Pre: graduate standing in PACS.

PACS 699 Directed Reading and Research (V) Repeatable unlimited times.

PACS 700 Thesis Research (V) Repeatable unlimited times.

Pali (PALI)

College of Languages, Linguistics and Literature

PALI 381 Elementary Pali I (3) Reading simple texts from Pali canon. Grammar taught as needed for the reading. Pr: ENG 382 or equivalent)

PALI 382 Elementary Pali II (3) Continuation of 381.


PALI 482 Intermediate Pali II (3) Continuation of

Key to symbols & abbreviations: see the first page of this section.

PACE 407 Peace Processes in Philippines and Hawai‘i (3) History of Philippine Islam and the Moro struggle, the peace process in Mindanao and sovereignty movement for Hawaiian nation. 75 min. Lec. 75 min., joint enrollment with Philippine students. Junior standing only. A-F only. Pre: consent. (Fall only) (Cross-listed as ASAN 407) DH

PACE 410 History of Peace Movements (3) Examination of two centuries of U.S., European, Australian, and Hawaiian peace, theory, action, and ideology. Also surveys early Christian and secular attitudes to war. Open to nonmajors. Pre: any DS course, or consent. DH

PACE 412 Gandhi, King, and Nonviolence (3) Life and thought of Mahatma Gandhi and Martin Luther King, Jr. Pre: any Social Science 100 or 200 level course, or consent. DH

PACE 413 Terrorism (3) Multidisciplinary approach to the origins, dynamics, and consequences of international terrorism, including the psychological, legal, ethical and operational concerns of counterterrorism. Pre: any 200-level DS course, or consent.

PACE 420 Introduction to Human Rights: International and Comparative Perspectives (3) Introduction to international, regional, and domestic human rights law; comparative perspectives on the theoretical origins of human rights and policy debates on the protection of human rights, dispute resolution, and enforcement mechanisms. Pre: any 100 or 200 level social sciences course and consent.

PACE 429 Negotiation (3) Negotiation theory, negotiation skills and application of negotiation in conflict prevention, conflict management and conflict resolution. Pre: any Social Science 100 or 200 level course, or consent.

PACE 430 Leadership for Social Change (3) In-depth study of current models and emerging theories of ethical leadership in community service; development of tangible leadership skills, including communication, conflict resolution, team-building, and management skills. Sophomore standing or higher. A-F only. Pre: any 200-level DS course.

PACE 436 Geography of Peace and War (3) Geographical factors underlying conflict in the world. Pre: sophomore standing or higher, or consent. (Cross-listed as GEOG 436) DS

PACE 447 Mediation Skills: UH Basic (3) Basic mediation skills training course. Completion of course requirements qualifies student to be listed as a mediator for university disputes, as co-mediator or on mediation panel.

PACE 450 Protest Under Occupation (3) Explore nonviolent protests when one Independent State controls the territory of another Independent State (or international organization, such as the United Nations), without the transfer of sovereign title. Sophomore standing or higher. Pre: any 200-level DS course.

PACE 460 Indigenous Nonviolent Action in the Asia-Pacific (3) Study of nonviolent methods (i.e., United Nations structures, international law, boycotts, and peaceful protest) used to gain political goals and examines their successes, failures, and the prospects for those that remain ongoing. Sophomore standing or higher. Pre: any 200-level DS course.

PACE 468 Introduction to Facilitating Organizational Change (3) Explores the characteristics of organizations from different perspectives including structural, political, ethical, and cultural frames from organizational theory and practice. Focuses on how to design organizational change strategies and facilitate their implementation. Sophomore standing or higher. A-F only. Pre: any 200-level DS course (with a minimum grade of C-).

PACE 477 Culture and Conflict Resolution (3) Conflict resolution techniques for major world culture. Emphasis on cultures of the Pacific Basin,
Pacific Islands, and Asia. Pre: any DS course, or consent. DS
PACE 478 International Law and Disputes (3)
Management, prevention, resolution of international disputes and the role of international law. Pre: any Social Science 103 or equivalent, or consent. DS
PACE 480 Managing Human Conflict (3)
Introduction into the field of conflict analysis and resolution through the examination of theory and role-play. Conflict studies are considered the forms of conflict resolution, such as negotiation, mediation, and arbitration. Sophomore standing or higher. Pre: any 200 level social science course, or consent. DH
PACE 485 Topics in Peace and Conflict Resolution (3) Recent trends and conflict resolution. Repeatable one time. Pre: any DS course, or consent. DH
PACE 489 Hiroshima & Peace (3) 10-day intensive course at Hiroshima, Japan, in the 2-weeks before the annual August 6 commemoration of the atomic bombing. Home-stay with Japanese family. Sophomore standing. A-F only. Pre: any 200 level social science course, or consent. DH
PACE 495 Practicum and Internship (3) The practicum and internship in Peace and Conflict Resolution provides an opportunity for students to apply the skills and concepts learned in earlier courses. Pre: any two other PACE courses or consent. (Cross-listed as PUBA 495)
PACE 629 Advanced Negotiation (3) Mastery of advanced negotiation skills for strategic dispute resolution, negotiation, decision problem-solving, creating partnerships and alliances, and crafting optimal agreements. Students participate in simulations and acquire personal and professional skills vital for leadership. Graduate standing only. Pre: one of the following courses: 429, 447, 577, 647, 652, or 668; or PLAN 627; or COMG 455 or SOC 730; or LAW 508; or MGT 660. (Cross-listed as PLAN 629)
PACE 637 Gender, Law and Conflicts (V) Examines how international law and domestic legal systems address and resolve conflicts regarding women’s rights, gender roles, and gender identity. Takes a comparative approach with emphasis on the Asia-Pacific region. (Cross-listed as LAW 549 and WS 647)
PACE 640 Seminar: Social Studies (3) Study in trends, research, and problems of implementation in teaching field. Repeatable two times. Pre: teaching experience or consent. (Cross-listed as EDCS 640K)
PACE 647 Mediation: Theory and Practice (3) Combined lecture, discussion, and mediation simulations. Theory of ADR field. Theory of major different models of mediation, both in the U.S. and internationally. Application and simulation process to categories of disputes, family, workplace, and international, A-F only. Pre: graduate standing, or departmental approval. (Once a year)
PACE 650 Dispute Resolution System Design (3) Conflict prevention, management and resolution in the workplace. Design and implementation of effective systems integrating ADR and recent advances in dispute resolution methodology to government, health, nonprofit, educational, private sector and other institutions. Pre: graduate standing, or departmental approval.
PACE 652 Conflict Management for Educators (3) Conflict resolution theory and practice for administrators, faculty and staff in educational organizations, K-12, community colleges and universities. Application and theory of negotiation, mediation, facilitation and hybrid ADR processes. Pre: EDEA 601 or EDEA 650, or consent. (Cross-listed as EDEA 652)
PACE 660 Family Mediation (3) Theory and skills for practical family conflict mediation. Negotiation and conflict intervention skills used by social workers, lawyers, and other intervenors in family conflict. Focus on Hawaii’s divorce and custody laws and practices. Repeatable one time. Graduate students only. A-F only. Pre: consent.
PACE 668 Facilitation: Facilitating Community and Organizational Change (3) Advanced conflict resolution course. Covers key issues in the prevention, management and resolution of multi-party conflicts. Combined lecture, discussion, and simulations. A-F only. Pre: graduate standing, or departmental approval. (Once a year)
PACE 690 Topics: Conflict Theory (V) Recent issues of policy and practice in peace and conflict management theory. Repeatable up to 12 credits. A-F only. Pre: graduate standing or consent.
PACE 695 Conflict Resolution Practicum (V) Practice in conflict resolution skills. Open to candidates for Certificate in Conflict Resolution. Repeatable one time or up to three credits. A-F only. Pre: consent.
PACE 699 Directed Reading and Research (V) Repeatable up to 9 credits. A-F only. Pre: departmental approval or consent.
PACE 790 Advanced Topics: Conflict Theory (3) Advanced covering issues of policy and practice in peace and conflict management theory. Repeatable one time. Graduate standing only. Pre: consent.

Pediatrics (PED) School of Medicine
PED 501 Pediatric Seminars (1) Interactive weekly lecture/seminar designed to teach topics in pediatrics and supplemented by small group 2-hour encounters with faculty clinicians in pediatric emergency medicine, inpatient pediatric, and enonatology to gain exposure in pediatric hospital care. Repeatable one time. Medical students only. CR/NC only. Pre: MDED 551.
PED 506 Introduction to Research Methodology, Biostatistics, and Epidemiology (1) Interactive seminar series to cover the following topics: data types, descriptive statistics, inferential statistics, selecting a statistical test, data distributions, measures of data spread, statistical test assumptions, standard deviation vs. standard error, etc. Repeatable one time. Medical students only. CR/NC only. Pre: MDED 551.
PED 531 7-Week Pediatric Clerkship (10) 7-week basic pediatric clerkship. Repeatable one time. Pre: third-year standing.
PED 545 (Alpha) Electives in Pediatrics (V) Fourth-year elective in pediatric sub-specialty areas in which medical students may receive clinical experiences and are expected to develop a sub-specialty area within the field of pediatrics.
B. (B) adolescent medicine; (C) ambulatory pediatric care; (E) clinical genetics; (F) Sub-Internship in Neonatology; (G) Pediatric cardiology; (H) Sub-Internship in Pediatric emergency medicine; (I) Sub-Internship in Pediatric hematology/oncology; (J) Sub-Internship in infectious diseases; (K) Sub-Internship in pediatrics—general ward in pediatrics; (M) extramural electives in pediatrics; (N) pediatric rheumatology; (P) developmental behavioral pediatrics; (Q) pediatric international preceptship; (R) Sub-Internship in Pediatric Critical Care; (S) Pediatric radiology; (T) Pediatric ultrasound; (U) Pediatric nephrology; (V) Pediatric sports medicine. CR/NC only. Repeatable two times per alpha, up to 36 credits, not repeatable for (Q). Pre: 551 552. PED 599 Directed Reading/Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.

Persian (PERS) College of Languages, Linguistics and Literature
PERS 101 Beginning Modern Persian I (4) Listening, reading, writing, speaking skills, language structure, and culture integrated in a variety of communicative and creative activities. Pre: 102, 111, or consent. HSL
PERS 102 Beginning Modern Persian II (4) Continuation of 101. Pre: 101 or consent. HSL
PERS 111 Intensive Beginning Modern Persian
(Total of 101 and 102 covered in one intensive course. HSL
PERS 201 Intermediate Modern Persian I (4) Continuation of 102. Listening, reading, writing, speaking skills, language structure, and culture integrated in a variety of communicative and creative activities. Pre: 102, 111, or consent. HSL
PERS 202 Intermediate Modern Persian II (4) Continuation of 201. Pre: 201 or consent. HSL
PERS 401 Fourth-Level Modern Persian I (3) Conducted in Persian. Advanced reading, writing, and conversations. Cultural contemporary and historical topics. Pre: 401 or consent.
PERS 451 Structure of Modern Persian (3) Introduction to phonology, morphology, syntax, and semantics of Modern Persian. Pre: 202 or consent.

Pharmacology (PHRM) School of Medicine
PHRM 201 Introduction to General Pharmacology (3) Drugs discussed with emphasis on sites and mechanism of action, toxicity, fate, and uses of major therapeutic agents. Pre: mammalian physiology and dental hygiene major. DB
PHRM 203 General Pharmacology (3) Similar to 201 but wider in scope of drugs discussed. Intended for undergraduates in the health sciences and related fields. Pre: mammalian physiology. DB
PHRM 499 Directed Reading and Research (V) Directed reading and research in experimental pharmacology. Repeatable unlimited times. Pre: consent.
PHRM 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable unlimited times. Pre: master’s Plan B or C candidate and consent.
PHRM 590 Selected Topics in Pharmacology (V) Elective for medical students in Pharmacology. Repeatable up to 12 credits. CR/NC only. Pre: MDED 551.
PHRM 595 Principles of Pharmacology (1) Pharmacology elective course for medical students. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)
PHRM 599 Research in Pharmacology (V) Pharmacology research elective for medical students. MD majors only. CR/NC only. Pre: MDED 551 or consent.
PHRM 601 General Pharmacology (3) Pharmacodynamics, receptor theory, modeling, clinical trials and the FDA will be covered. Concepts in ADME/T and clinical research are also considered. Pre: consent.

PHRM 602 Systemic Pharmacology (9) Provides instruction at an organ systems/functional level covering major organ and functional systems of the human body. Concepts in pharmacological research at the animal, organ system and whole human level will also be considered. Repeatable one time. Pre: consent.

PHRM 640 Neuropharmacology (2) Physiology and pharmacology of central and peripheral nervous systems, focusing on synaptic chemistry and signalling. A-F only. Pre: CMH 606, or consent from the course director. (Cross-listed as CMB 640)
PHRM 699 Directed Research (V) Repeatable unlimited times.
PHRM 700 Thesis Research (V) Repeatable unlimited times.

PHRM 800 Dissertation Research (V) Repeatable unlimited times.

Key to symbols & abbreviations: see the first page of this section.
PHIL 110 Introduction to Philosophy: Survey of Problems (3) Introduction to the kinds of problems that concern philosophers and to some of the solutions that have been attempted. DH

PHIL 102 Asian Traditions (3) Universal themes and problems from Asian perspective. DH

PHIL 103 Introduction to Philosophy: Environmental Philosophy (3) A critical examination of environmental issues; analyzing the nature of the human being, the nature of nature, and the relationship between being and nature. DH

PHIL 110 Introduction to Deductive Logic (3) Principles of modern deductive logic. DH

PHIL 111 Introduction to Inductive Logic (3) Introduction to the theory of arguments based on probabilities and to the theory of decision-making in the context of uncertainty. A-F only. FQ

PHIL 130 Introduction to World Philosophy 1 (3) Introduction to philosophy as it has manifested itself differently across cultures throughout the world. Focus on the philosophical thought from its beginnings up until 1500 CE. A-F only. (Fall only) FGA

PHIL 211 Ancient Philosophy (3) An introduction to the history of philosophy based on translations of texts originally written in classical Greek or Latin. DH

PHIL 212 Between Ancient and Modern Philosophy (3) Introduction to the history of philosophy based on translations of texts originally written in modern European languages. DH

PHIL 213 Modern Philosophy (3) Introduction to the history of philosophy based on texts or translations of ‘modern’ works, that is works originally written in a modern European language. DH

PHIL 218 Women Philosophers (3) Introduces students to the ideas of women philosophers. Repeatable one time. A-F only. Pre: any course 100 or above in PHIL or WS, or consent. (Alt. years) (Cross-listed as PACE 280) DH

PHIL 280 The Meaning of War (3) Exploration of ethical questions related to the many facets of war—e.g., patriotism, tribalism, holy war, self-sacrifice, cowardice, media coverage, propaganda, torture, genocide, pillage, suicide, battlefield immunity. (Alt. years) (Cross-listed as PACE 280) DH

PHIL 300 Business Ethics (3) Case studies and critical analyses of ethical issues in business. Readings from business literature, law, etc. Pre: any course 100 or above in PHIL or BUS or BLAW, or consent. DH

PHIL 301 Ethical Theory (3) Problems and methods in theory of normative and decision. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 302 Political Philosophy (3) Problems and methods in philosophical theories of political legitimacy. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 303 Social Philosophy (3) Problems and methods in evaluation of contemporary life, values, and institutions. Traditional philosophical problems of freedom, justice, authority, equality. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 304 Metaphysics (3) Problems arising from attempts to categorize rationally what is, and what appears to be. Among others, topics may include universals and particulars, personal identity, freedom and determinism, and time. Pre: any course 101 or above in PHIL or 100 in POLS or SOC, or consent. DH

PHIL 305 Philosophy of Religion (3) Problems and methods. Nature of religious experience, alternatives to theism, existence of god, relation between faith and reason, nature of religious language. Pre: any course 100 or above in PHIL or consent. PHIL

PHIL 306 Philosophy of Art (3) Problems and methods in aesthetic valuation and in appreciation, creation, and criticism of artworks. Pre: any course 100 or above in PHIL or ARCH or ART or MUS or any DL course 100 or above; or consent. DH

PHIL 307 Theory of Knowledge (3) Problems and methods in epistemology. Nature of knowledge, its varieties, possibilities, and limitations. Pre: any course 100 or above in PHIL or 200 or above with either DB or DP designation; or consent. PHIL

PHIL 308 Philosophy of Science (3) Problems and methods. Domains of inquiry, methods of validation, and attendant moral concerns. Pre: any course 100 or above in PHIL, or 200 or above with either DB or DP designation; or consent. DH

PHIL 310 Ethics in Health Care (3) Ethical issues in application and organization of biomedical resources; professional responsibility, confidentiality, euthanasia, experimentation on human subjects, etc. Pre: any course 100 or above in PHIL or MED or NURS or with a DB designation; or consent. DH

PHIL 311 Philosophy and Aesthetics of Film (3) Aesthetics and ontology of film and video, based on readings in the philosophy of film and the viewing of a number of films per semester. Pre: one course in PHIL or THEA, drama or film; or consent. See departure for list of approved courses. DH

PHIL 312 Ethics in Practice (3) Team-taught exploration of five contemporary ethical issues using a variety of philosophical approaches and methods. Pre: any 100 course or above in PHIL or above 100 in POLS or SOC, or consent. (Fall only) FGA

PHIL 313 Philosophy and Evolution (3) Explores the ethical and epistemological implications of the theory of evolution. Pre: one course in PHIL or BIOL, or consent. DH

PHIL 314 Critical Thinking: Pre-Medicine (3) Scientific and social perspectives on the nature of disease and their impact on medical practice. Exploration of these topics through reading, writing, and in class discussion. Pre: any course 100 in PHIL or above; or any two BIOL, CHEM or PHYS courses; or consent.

PHIL 315 The Role of Models in Global Environmental Science (3) Introduction to philosophy of science for some background in the natural sciences. Special emphasis on issues arising from the construction and use of models. Pre: any course 200 or above in PHIL or any course 200 or above with either DB or DP designation, or consent. (Alt. years: spring) (Cross-listed as OCN 315) DH

PHIL 316 Science, Technology, and Society (3) Investigation of some of the complex interconnections between science, technology, and society. Pre: any course 100 or above in PHIL or in a course with either DB or DP designation, or consent. DH

PHIL 317 Critical Thinking: Pre-Law (3) Introduction to concepts and techniques for evaluating arguments. Emphasis on their application both to questions of law and to issues in jurisprudence. Pre: any course 100 or above in PHIL or POLS or SOC, or consent. DH

PHIL 318 Philosophy of Law (3) Historical and contemporary issues in law and legal theory. Law and morality; legal responsibility, justice, rights, punishment, judicial reasoning. Pre: any course 101 or above in PHIL or above 100 in BLAW or POLS or SOC, or consent. DH

PHIL 319 Ethical Issues in the Law (3) Exploration of ethical issues that have come before (mainly U.S.) courts, including but not confined to, medical and private law, and of responses to them. Pre: any course 200 or above in PHIL or consent. (Cross-listed as WS 419) DH

PHIL 422 Philosphy of Language (3) Classical and modern theories of mind, cognition, and action. Pre: any course 200 or above in PHIL or PSY, or consent. DH

PHIL 436 Philosophy of Language (3) Contemporary theories in semantics and syntax; problems of meaning, reference, speech acts, etc. Pre: any course 200 or above in PHIL or LING, or consent. DH

PHIL 438 Gender and Environmental Philosophy (3) Interdisciplinary approach to women’s perspectives and roles on ecological and environmental issues; critical analysis of eco-feminist, materialist, and scientific approaches to gender as a social and political movement; cross-cultural comparison of women’s roles in human ecology. Pre: any course 200 or above in PHIL or WS or any course 200 or above with a DB or DP designation, or consent. (Cross-listed as WS 438) DH

PHIL 445 Symbolic Logic (3) Intermediate-level course covering proof techniques for classical, first-order predicate calculus, and an introduction to meta-theory. Pre: 110 or any course 200 or above in ICS or MATH; or consent. DH

PHIL 448 Individual Philosophers/Topics (3) Examination of work of a major Eastern or Western philosopher, or topic of philosophical concern. Repeatable three times. Pre: 100, 101, 102, 103, 211, 212, 213, or consent. DH

PHIL 499 Undergraduate Capstone (3) Capstone seminar for undergraduates. Concentration on a topic of current philosophical concern. Repeatable one time with consent. Pre: declared major in PHIL with at least six courses 200 or above in PHIL, or consent. DH

PHIL 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent. DH

PHIL 511 Studies in Ethics (3) Key issues in 2018-2019 Courses 491
PHIL 614 Studies in Metaphysics (3) Key issues in ontological and cosmological theory; Problems of materialism, idealism, phenomenonalism, etc. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 304.

PHIL 615 Studies in Philosophy of Religion (3) Key issues in contemporary aesthetics, against background of traditional Western and Eastern theories. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 304.

PHIL 616 Studies in Aesthetics (3) Key issues in contemporary aesthetics, against background of traditional Western and Eastern theories. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 304.

PHIL 617 Studies in Epistemology (3) Key issues in current philosophical debates about knowledge. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 307.

PHIL 622 Studies in Hermeneutics (3) Important debates concerning the methodology of textual interpretation. Pre: graduate standing or consent.

PHIL 630 History and Theory of Science (3) Exploration of problems at the intersection of historical studies of science as a process and philosophical emergence of basic concepts of the sciences. Pre: graduate standing or consent. Recommended: 308 or 316.

PHIL 670 Confucianism (3) Ethical, social, institutional problems in classical theory. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 671 Neo-Confucianism (3) Logic, epistemology, metaphysics, and ethics of major Chinese Neo-Confucian philosophers. 11th–16th century. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 672 Daoism (3) Critical examination and evaluation of major philosophical ideas in Lao Zi, Zhuang Zi, and Confucius. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 699 Directed Research (V) Repeatable up to 30 credits. Pre: graduate standing and consent.

PHIL 700 Thesis Research (V) Repeatable up to six credits. Pre: master’s Plan A candidate and consent.

PHIL 720 Seminar on Individual Philosophers (3) The most significant texts of an important philosopher. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 725 Seminar in Philosophical Topics (3) Close study of a topic of important philosophical controversy. Repeatable two times in the MA program; an additional three times in the PhD program. Pre: graduate standing or consent.

PHIL 730 Seminar in Islamic Philosophy (3) Major philosophical problems in Islamic thought. Focus either on a specific topic or one author. Repeatable one time. Pre: graduate standing or consent. (Once a year)

PHIL 734 Seminar in Philosophical Periods (3) Close study of a period of significant and connected philosophical activity within a philosophical tradition. Repeatable two times with consent. Pre: graduate standing or consent.

PHIL 740 Seminar in Philosophical Texts (3) Reading, analysis, and critical discussion of one of several closely related philosophical text in its original language (sometimes in conjunction with established translation). Repeatable one time with consent. Pre: graduate standing or consent.

PHIL 750 Seminar in Indian Philosophy (3) Major philosophical problems in the development of Indian thought during its formative period. Repeatable two times with consent of instructor and Graduate Chair. Pre: graduate standing or consent. Recommended: 350.

PHIL 760 Seminar in Buddhist Philosophy (3) Major philosophical problems in the development of Buddhist thought during its formative period. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 360.

PHIL 770 Seminar in Chinese Philosophy (3) Fundamental issues, problems, movements, and schools of Chinese philosophy, such as classical Confucianism, Daoism, Legalism, Chinese logic, and Neo-Confucianism. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 771 Seminar in Yi Jing (3) Metaphysical, epistemological, ethical, and axiological views of Yi Jing and its claim as foundational work for classical Confucianism, Daoism, and Neo-Confucianism. Pre: graduate standing or consent.


PHIL 790 Seminar in Comparative Philosophy (3) Comparison of widely differing philosophical traditions. Specific topic changes each semester. Consult department for more information. Repeatable two times with consent. Pre: graduate standing or consent.

PHIL 800 Dissertation Research (V) Repeatable unlimited times.

Physics (PHYS) College of Natural Sciences

PHYS 100 Survey of Physics (3) Mechanics, electricity and magnetism, waves, optics, atomic and nuclear physics. Only algebra and geometry used. For non-science majors. DP

PHYS 100L Survey of Physics Lab (1) (1-3-hr Lab) Introduction to experimental analysis, physical observation and measurement, experiments on conservation laws, fluid friction, oscillations. Pre: 151 or 170 or 170L, and MATH 243 or 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 101 Mechanics (3) Laws of motion, energy, momentum, gravitation. Pre: PHYS 140, or 170, or MATH 242 or 244 (or concurrent) or MATH 253A (or concurrent) or consent.

PHYS 103 Electromagnetism and Magnetism (3) Electrostatic and magnetostatic fields in vacuum and in matter; induction; Maxwell’s equations; AC circuits. Pre: 152 or 272 or 272A, and MATH 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 105 Thermodynamics (3) Laws of thermodynamics, heat and temperature. Pre: PHYS 140, or PHYS 272 (or concurrent) or 272A (or concurrent) or PHYS 272L (or concurrent) or consent. DP

PHYS 107 Modern Physics (3) Introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or 272 or MATH 243 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 107L General Physics Lab III (2) (1-4-hr Lab) Experiments illustrating selected concepts of 274, including diffraction and interference of light, wave nature of matter, photoelectric effect, atomic spectra, and semiconductors. Pre: 152L or 272L, or 274 (or concurrent). DP

PHYS 305 Computational Physics (4) (3 Lec, 1-3-hr Lab) Analysis of physical systems and problem solving using computers and numerical methods. Pre: PHYS 152 or 152L or 272 or 272L, and MATH 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 310 Theoretical Mechanics I (3) Particle dynamics, rigid-body dynamics, planetary motion. Pre: PHYS 152 or 170A, or MATH 243 or 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 312 Theoretical Mechanics II (3) Rigid-body mechanics continued, fluid dynamics, wave motion, theory of relativity. Pre: 310. DP

PHYS 330 Electricity and Magnetism (3) Electrostatic and magnetostatic fields in vacuum and in matter; induction; Maxwell’s equations; AC circuits. Pre: 152 or 272 or 272A, and MATH 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 331 Theoretical Electromagnetism (3) Rigid-body mechanics continued, fluid dynamics, wave motion, theory of relativity. Pre: 310. DP

PHYS 350 Electricity and Magnetism (3) Electrostatic and magnetostatic fields in vacuum and in matter; induction; Maxwell’s equations; AC circuits. Pre: 152 or 272 or 272A, and MATH 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 399 Individual Work in Advanced Physics (V) Limited to students with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in physics.

PHYS 400 Applications of Mathematics in Physical Sciences (3) Mathematical methods; techniques; applications to problems in physical sciences. Pre: PHYS 152 or MATH 244 and PHYS 272 (or concurrent) or consent. Recommended: upper division mathematics course. DP

PHYS 410 Quantum Mechanics I (3) Principles and methods of quantum mechanics, atomic and nuclear physics, and elementary particle theory. Pre: PHYS 272 (or concurrent) or consent. DP

PHYS 415 Quantum Mechanics II (3) Non-relativistic quantum mechanics, introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or 272 or MATH 243 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 420 Modern Physics (3) Non-relativistic quantum mechanics, introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or 272 or MATH 243 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 425 Intermediate Electricity and Magnetism (3) AC circuits; electrostatic and magnetostatic fields in vacuum and in matter; Maxwell’s equations; AC circuits. Pre: 152 or 272 or 272A, and MATH 244 (or concurrent) or MATH 253A (or concurrent) or consent. DP

PHYS 426 Quantum Physics (3) Quantum mechanics, atomic and nuclear physics, elementary particle theory. Pre: PHYS 272 (or concurrent) or consent. DP

PHYS 440 Solid-State Physics I (3) Crystal structure: lattice vibrations; phonon effects; electronic processes in solids (metals, semiconductors, and superconductors). Pre: 274 and 350 (or concurrent). DP

PHYS 441 Solid-State Physics II (3) Energy-band calculations, optical processes, Josephson effect, theories of dielectrics and magnetism, physics of color centers, order-disorder transformation. Pre: 440. DP

PHYS 450 Electromagnetic Waves (3) Field equations, plane, spherical and guided waves. Pre: 311; or consent. DP

PHYS 460 Physical Optics (3) Fundamentals of classical physical optics emphasizing linear systems theory, including optical fields in matter, polarization phenomena, temporal coherence, interference and diffraction (Fourier optics). Specialized applications include Gaussian beams, laser resonators, pulse propagation, and nonlinear optics. Pre: 450 (or concurrent with a minimum grade of C) or EE 372 (or concurrent with a minimum grade of C), or consent. (Cross-listed as EE 470) DP

PHYS 475 Electronics for Physicists (4) (3 Lec, 1-3-hr Lab) Investigation of Kirchoff’s Laws, electromagnetic circuit theory, analytical and stability theory with circuits. Applications to physical measurements are stressed. A-F only. Pre: junior standing, and 152L or 272L. DP

Key to symbols & abbreviations: see the first page of this section.
PHYS 476 Modern Electronics for Physicists
(3) Introduction to high performance solid state instrumentation by means of practical research electronics: printed circuit board design/fabrication; complex programmable logic design/verification; integrated circuit SPICE simulation. Detector fabrication and test emphasis during final project. Pre: 475 (or equivalent) or consent. (Spring only)

PHYS 480 Quantum Mechanics I (3) Wave mechanics, Schrödinger equation, angular momenta, potential problems. Pre: 274, 310, 350, 400 (or concurrent); either MATH 244 or 253A; and either MATH 311 or 360 (or concurrent). DP

PHYS 480L Advanced Physics Lab (2) Advanced experiments including angular correlations in positronium annihilation, optical polarization phenomena, chaos, measurements of c and the muon lifetime, electron spin resonance, and the Mössbauer effect. Numerical simulations of particular physics experiments are included. Pre: 274L and 480 (or concurrent), or consent. DY

PHYS 481 Quantum Mechanics II (3) Continuation of 480; atomic physics, scattering, perturbation theory. Pre: 480. DP

PHYS 481L Advanced Physics Lab (2) Advanced experiments including angular correlations in positronium annihilation, optical polarization phenomena, chaos, measurements of c and the muon lifetime, crystal diffraction, and the Mössbauer effect. Numerical simulations of particle physics experiments are included. Pre: 274L, 480, and 480L (or concurrent). DP

PHYS 485 Professional Ethics for Physicists (1) Student seminar on ethical principles and their application to research in physics and astronomy and choice of career. Historical examples will be presented and discussed by the participants. PHYS, ASTP, and ASTR majors only. A-F only. Pre: 310 or ASTR 300 (or concurrent), or consent. DP

PHYS 490 Modern Physics (3) Introduction to nuclear and elementary-particle physics. Pre: 480 (or concurrent). DP

PHYS 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Satisfactory/ Unsatisfactory only. Pre: the master’s Plan B or C candidate and consent. DP

PHYS 505 Physics Workshop for Teachers (V) Major concepts of physics taught by means of hands-on conceptual activities for elementary and secondary teachers. Restricted to in-service teachers, or consent. Repeatable one time. (Cross-listed as NSCI 505)

PHYS 600 Methods of Theoretical Physics (3) Mathematical tools of theoretical physics. Continuation of 500 with an independent selection of topics. Pre: 400 or consent. (Alt. years)

PHYS 610 Analytical Mechanics (3) Dynamics of particles, particle systems; rigid bodies; Lagrangian and Hamiltonian equations, and variational methods. Pre: 600 (or concurrent); or MATH 402. (Alt. years)

PHYS 650 Electrodynamics I (3) Potential theory, Maxwell’s equations, electromagnetic waves, boundary value problems. Pre: 450, and 600 (or concurrent), or MATH 402. (Alt. years)

PHYS 651 Electrodynamics II (3) Relativistic electrodynamics, radiation by charged particles. Pre: 650. (Alt. years)

PHYS 660 Advanced Optics (3) Contemporary advanced topics in optics including nonlinear optics and optical parametric oscillators, atomic lasers and laser systems, and free-electron lasers. Pre: 460. (Alt. even years)

PHYS 670 Quantum Mechanics (3) Physical basis and formulation of quantum theory. Exact solutions of Schrödinger equation and their applications. Approximation methods. Applications to atomic, nuclear, and molecular physics. Pre: 400 or 481 and 600 or MATH 402.


PHYS 690 Seminar (V) Discussions and reports on physical theory and recent developments. CR/NC only. Pre: graduate standing or consent.

PHYS 694 Condensed Matter Seminar (1) Results and discussions of current topics in condensed matter physics. Repeatable six times with consent.

PHYS 695 Seminar on Atomic and Solid-State Physics (1) Reports and discussion on recent developments in atomic and solid-state physics. Repeatable five times with consent.

PHYS 696 Seminar on Elementary Particle Physics (1) Reports and discussion on recent developments in elementary particle physics. Repeatable four times. Pre: consent.

PHYS 699 Directed Research (V) Repeatable unlimited times. Pre: consent.

PHYS 700 Thesis Research (V) Research for master’s thesis. Repeatable unlimited times. Pre: 711 Topics in Particles and Fields (3) Topics in current theoretical research: e.g., unified field theories, general relativity, gravitation, and cosmology. Repeatable four times. Pre: consent.

PHYS 712 Special Topics: Experimental Physics (3) Topics in current experimental research in low-energy, high-energy physics, cross-disciplinary physics. Repeatable in different topics. Pre: consent.

PHYS 730 Statistical Physics I (3) Equilibrium thermodynamics; Gibbs ensembles; quantum statistics: ideal and non-ideal Fermi; Bose and Boltzmann gases; phase transitions; and critical phenomena. Pre: 670. (Alt. years)

PHYS 731 Statistical Physics II (3) Nonequilibrium thermodynamics, transport theory, fluctuation dissipation theorem, many-body Green’s function methods, normal Fermi and Bose liquids, superfluidity, superconductivity. Pre: 670 and 730. (Alt. years)

PHYS 772 Quantum Field Theory I (3) Relativistic wave equations and their solutions. Dirac’s theory of the electron, propagator techniques. Applications to quantum electrodynamics. Pre: 671. (Alt. years)

PHYS 773 Quantum Field Theory II (3) Local gauge invariance, Yang-Mills theories; quantum chromodynamics, spontaneous symmetry breaking and Goldstone bosons; the standard electroweak theory; grand unified theories. Pre: 772. (Alt. years)

PHYS 777 Nuclear and Particle Physics (3) Nuclear physics; electron-nucleon interactions; hadron structure and partons. Techniques of particle physics. Pre: 481 and 671. (Alt. years)

PHYS 778 Nuclear and Particle Physics II (3) Quantum chromodynamics; electroweak interactions; the standard model. Pre: 777 or consent. (Alt. years)

PHYS 785 Solid-State Theory (3) Crystal symmetry, electronic excitations in solids, transport theory, optical properties, lattice vibrations, electron-phonon interaction, magnetism, superconductivity. Pre: 670. (Alt. years)

PHYS 786 Solid-State Theory (3) Crystal symmetry, electronic excitations in solids, transport theory, optical properties, cohesive energy, lattice vibrations, electron-phonon interaction, magnetism, superconductivity. Pre: 785. (Alt. years)

PHYS 800 Dissertation Research (V) Research for doctoral dissertations. Repeatable unlimited times.

Physiology (PHYL)
School of Medicine
The minimum grade required for undergraduate prerequisites is a C (not C-) or better, and graduate prerequisites is a C (not C-) or better.

PHYL 103 Human Physiology and Anatomy (5) Introduction to human physiology and anatomy designed to serve the needs of dental hygiene students and others interested in pursuing health-related careers. DP

PHYL 103L Physiology and Anatomy Lab (1) Laboratory to complement 103. Co-requisite: 103.

PHYL 110 Physiology and Anatomy Lab (1) Laboratory study of human anatomy and physiology by means of models, histology slides, experiments, and demonstrations. Co-requisite: 101 or consent. DY

PHYL 110A Advanced Anatomy and Physiology (4) Integrated presentation of human anatomy and physiology. An optional laboratory (PHYL 310L) is available separately. Pre: BIOL 171 and BIOL 172, or any BIOL course; or consent. Pre: BIOL 160 or higher (or any BIOL course; or consent. DB

PHYL 301L Human Anatomy and Physiology Lab (1) Laboratory study of human anatomy and physiology by means of models, histology slides, experiments, and demonstrations. Co-requisite: 301 or consent. DY

PHYL 302L Advanced Anatomy and Physiology (4) Continuation of 301. Pre: 301/301L or consent. DB

PHYL 302L Human Anatomy and Physiology Lab (1) Continuation of 301L. Pre: 301/301L, or consent. Co-requisite: 302. DY

PHYL 401 Human Physiology: Organ Systems (4) Basic function of the major organ systems in man. Covers cardiovascular, respiratory, renal, acid-base, and gastrointestinal physiology. Pre: 302 or equivalent with consent. DB

PHYL 402 Human Physiology: Integrative Systems (4) Senior-level course in integrative systems (central nervous system and endocrinology). Complements 401. Pre: 401 and either BIOL 341 or CHEM 152, or consent. DB

PHYL 405 Applied Muscle Physiology (3) Science and technology of strength training. Anatomy, kinesiology, physics, and physiology applied to development of muscular strength and mass. Repeatable one time. A-F only. Pre: 302; or consent. DB

PHYL 450 Physiological Anthropology (3) Study of ecological factors in human variation. Human population and its biological and cultural responses to the environment. Pre: ANTH 215 or consent. DB

Plant and Environmental Protection Sciences (PEPS)
College of Tropical Agriculture and Human Resources
A grade of C or better is required in prerequisite courses.

PEPS 210 Introduction to Environmental Science (3) Analysis of our environment with emphasis on understanding relationships and interactions of physical, biological, and chemical components of the environment. Open to nonmajors. (Cross-listed as NREM 210 and SUST 210) DB

PEPS 250 The World of Insects (3) Biology/ecology of insects with emphasis on relationships to plants, animals, and especially people in Hawai`i and the tropics. Open to nonmajors.

PEPS 310 Environment and Agriculture (3) Overview of environmental issues and impacts associated with agriculture, specifically pest management issues, and options for environmentally responsible management and amelioration of these impacts. (Cross-listed as SUST 320)

PEPS 340 Ecology of Infectious Diseases and Symbioses (3) Introduction to the ecology of
infectious diseases of animals, plants, and humans. Factors affecting disease transmission and virulence. Effects of human activities and environmental change on disease transmission. Emphasis on issues pertinent to Hawai‘i. Pre: BIOL 171 and BIOL 172; or consent. (Spring only) (Cross-listed as OCN 340)

PEPS 350 Invasive Species (3) Ecological, economic, and sociological impacts of invasive species on tropical ecosystems; characteristics of invasive species; vulnerable habitats; management of invasive species or eradication options; impacts on evolution, biodiversity and ecological stability. Open to nonmajors. (Alt. years: spring) DB

PEPS 363 General Entomology (3) Biology, diversity, and ecology of insects with emphasis on Hawaiian fauna. Classification to order level. A-F only. Pre: BOT 101 or ZOOL 101 or BIOL 171; or consent. DB

PEPS 363L General Entomology Laboratory (1) Laboratory in the biology and classification to family level of Hawai‘i’s insects and arthropods. A-F only. Pre: 363 for concurrent or consent. DY

PEPS 371 Genetics: Theory to Application (3) Fundamentals of genetic theory using traditional breeding and biotechnological procedures in insect and plant pathogen management for sustainable agricultural production. Repeatable one time. A-F only. (Cross-listed as SUST 371 and TPSS 371)

PEPS 405 Plant Pathogens and Diseases (4) (3 Lec, 1 3-hr Lab) Classification, morphology, ecology, and biology of plant pathogens, and viruses that attack economic crops. Etiology and control of plant diseases. Pre: 210/SUST 210 or BOT 101 or MIRC 130, or consent. (Fall only) DB

PEPS 410 Sustainable Food and Plant Health Management (2) Provides knowledge and understanding of soils, agroecology, and sustainable approaches for plant health management, and prepares students for applied research in various tropical cropping systems. A-F only. (Alt. years: spring) (Cross-listed as TPSS 410 and SUST 410)

PEPS 418 Turfgrass Pest Management (3) Provides students with knowledge and real world experience on common turfgrass pests and management strategies in Hawai‘i, with emphasis on integrated pest management. Common cool-season turfgrasses and pest management are discussed. A-F only. (Fall only) (Cross-listed as TPSS 410 and SUST 410)

PEPS 421 Foundations of Pest Management (4) (3 Lec, 1 3-hr Lab) Principles and concepts of insect pest management using biological, ecological, cultural, behavioral, chemical, and physical control methods. A-F only. Pre: one of the following: 250 or 363, BIOL 171, BIOL 172, or BOT 101; or consent. (Spring only) DB

PEPS 422 Biological Control of Invasive Species (3) Biological control of arthropods, weeds, plant pathogens, and vertebrates. Pre: 363 or consent. DB

PEPS 430 Plant Disease Management (3) Diagnosis, epidemiology, and integrated management of important plant diseases and pathogens for key plants and cultivated crops in various agroecosystems in Hawai‘i, the Pacific, and the global tropics. Pre: 405. (Spring only)

PEPS 451 Environmental Law (3) Exploration of federal laws, regulations, and precedents that govern our interaction with the environment. Analysis of laws regulating air, water, toxics, pests, endangered species, and environmental justice. Pre: junior or senior standing.

PEPS 463 Urban Pest Management (3) (2 Lec, 1 3-hr Lab) Biology, ecology, and management of pest organisms associated with people, structures and the urban environment. Pre: consent. DB

PEPS 481 Weed Science (3) (2 Lec, 1 3-hr Lab) Weed classification, identification, adaptations for weediness: principles of weed control; properties, uses, and action of herbicides. Lab pesticide application equipment and till farming greenhouse and field experiments. A-F only. Pre: CHEM 152 and TPSS 200/SUST 211, or consent. (Fall only) (Cross-listed as TPSS 481) DB

PEPS 486 Symbioses (3) Study of symbioses in insects and a wide range of organisms. Students will learn the types of symbioses, evolution, and ecology of symbiotic lifestyles, and their impact on agriculture and human health.

PEPS 491 Topics in Plant & Environmental Protection (V) Study and discussion of significant topics and problems. May be offered by visiting faculty, extension faculty or research faculty. Repeatable two times.

PEPS 495 PEPS Capstone (4) Integration and application of academic knowledge and critical skills emphasizing professional work and directed research. Field studies, employment with cooperating businesses, government or schools are all options. A-F only. Pre: consent.

PEPS 499 Directed Research (V) Conduct original research or environmental protection sciences limited to qualified undergraduate students. Repeatable two times. CR/NC only.

PEPS 601 Agrosecurity and Food Safety (2) Concepts of agrosecurity and food safety (including plant and animal biosecurity), global impacts of introduced pests and diseases, and current mechanisms for interception of pests and mitigation of disease. A-F only. (Fall only)

PEPS 605 Biology of Plant Pathogens: Fungi and Nematodes (4) (2 Lec, 2 3-hr Lab) Principles and concepts in pathogen biology, epidemiology and management of plant diseases caused by fungi, oomycetes, and nematodes. Laboratory techniques for isolation and identification of pathogens and disease diagnosis. A-F only. (Fall only)

PEPS 620 Biology of Plant Pathogens: Bacteria and Viruses (4) Principles and concepts in pathogen biology, epidemiology, and management of plant diseases caused by bacteria and viruses. Laboratory techniques for isolation and identification of pathogen-fungus disease diagnosis. A-F only. Pre: 605 (with a minimum grade of B). (Spring only)

PEPS 651 Diagnosis and Management of Tropical Plant Diseases (3) Interactive and interactive course integrating plant pathogen and pest biology with diagnostic and management approaches. Will use biological information about pathogens, anthropods, and abiotic stresses to diagnose diseases, disorders, or other injuries of plants. A-F only. Pre: (605 and 606) with a minimum grade of B, or consent. Co-requisite: 615L. (Summer only)

PEPS 651L Diagnosis and Management of Tropical Plant Diseases Laboratory (2) Diagnosis and management of plant pathogen and pest problems in laboratory and field. Taught concurrently with 651. A-F only. Pre: (605 and 606) with a minimum grade of B. (Cross-listed as BOT 651L) (Summer only)

PEPS 614 Insect Physiology (2) (2 Lec) Study of the principal physiological and biochemical functions in insects, with emphasis on hormonal interactions. Pre: 402 or consent.

PEPS 652 Molecular Plant-Fungal Interactions (3) Focuses on the actions of plant pathogenic fungi/ oomycetes and their host responses at the molecular and cellular level. Current genetic and genomic approaches to study plant-fungal interactions will be discussed. Graduate standing only. Pre: consent. (Every 2 years) (Cross-listed as MBBE 652)

PEPS 660 Seminar in Plant Pathology (1) Seminar on research and topics in plant pathology. Repeatable unlimited times. A-F only. Pre: graduate standing or consent.

PEPS 662 Systematics and Phylogenetics (3) (2 Lec, 1 3-hr Lab) Classification and study of diversity among insects, and other life forms. Use of morphological and molecular characters to reconstruct evolutionary histories. A-F only. Pre: graduate standing or consent.

PEPS 665 Quantitative Genetics and Evolution (3) Overview of the class course exploring theory and methods to understand genotype evolution and adaptation; focus will be on a range of organisms. Pre: TPSS 453 and TPSS 605, or consent. (Cross-listed as TPSS 665)

PEPS 671 Insect Ecology (3) (2 Lec, 1 3-hr Lab) Insects as living units in an environment of physical and biotic factors. Pre: consent of instructor.

PEPS 675 Biological Control of Pests (3) (2 Lec, 1 3-hr Lab) Fundamental concepts. Critical study of major biological control projects. Pre: 421 or consent. Recommended: 662; and ZOOL 631 or 632.

PEPS 676 Biological Control of Weeds (3) Examine approaches to weed biological control of invasive plants in various environments with different agents (insects pathogen, and vertebrates), integration with other management tactics, sociopolitical aspects, and history of the practice. Graduate students only. Pre: 421 or 422 or consent. (Alt. years: spring) DB

PEPS 686 Invertebrate Microbiology (3) (2 Lec, 1 3-hr Lab) In-depth study of the molecular and cellular interactions between microbes and animals. Topics will cover types of symbiosis, gut microbe, parasites, and agricultural pathogens, and disease and human health.

PEPS 690 Seminar in Entomology (1) Seminars on research and topics in entomology. Repeatable unlimited times. Pre: graduate standing or consent.

PEPS 691 Special Topics (V) Study and discussion of significant topics and problems in plant and environmental protection sciences at an advanced level. Offered by visiting or existing faculty as a special course. Repeatable unlimited times. Pre: graduate standing or consent.

PEPS 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing in entomology or tropical plant pathology.

PEPS 699 Directed Research (V) Directed research, critical reviews in environmental protection sciences, entomology, or plant pathology. Repeatable unlimited times. CR/NC only.


PEPS 716 Advanced Plant Nematology (3) (2 Lec, 1 3-hr Lab) Advanced study of nematode taxonomy, genetics, behavior, host interactions, and sustainable management in an integrated laboratory. Pre: 605 (with a minimum grade of B) or consent.

PEPS 730 Advanced Plant Virology (2) Characterization, genome organization, gene expression, and molecular mechanisms of plant viruses. Pre: 606 (with a minimum grade of B) or consent.

PEPS 746 Advanced Plant-Bacteria Interactions (3) Molecular biology, genomics, molecular genetics, and infection mechanisms of bacterial plant pathogens and symbionts. Pre: 606 (with a minimum grade of B or better) or consent. (Cross-listed as MIRC 746)


PEPS 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times. CR/NC only.

**Political Science (POLS)**

**College of Social Sciences**

Either a 100 level or 200 level course is a prerequisite to all 300 level courses except with the consent of the instructor.

POLS 110 Introduction to Political Science (3) Discussion of politics as an activity and of political problems, systems, ideologies, processes. DS

POLS 120 Introduction to World Politics (3) Power and contemporary world politics since 1945 with an emphasis on the U.S. role. DS

POLS 130 Introduction to American Politics (3) American political processes and institutions, as seen through alternative interpretations. Emphasis on opportunities and limitations for practical political participation. DS

POLS 150 Introduction to Global Politics (3) Foundations in global politics from political, historical, and multicultural perspectives. A-F only. FGB

POLS 160 Introduction to International and Global Studies (3) Introduces undergraduate students to the major political, social, economic, cultural, technological, and historical dimensions of globalization. Special attention will be paid to...
globalization process that have impacted Hawai‘i and the Asia-Pacific region. A-F only. (Cross-listed as SOCS 180) FGB

POLS 170 Politics and Public Policy (3) Perspectives on the role of government in guiding economic and civil societies with particular emphasis on the recent U.S. DS

POLS 171 Introduction to Political Futures (3) Introduction to political future studies. Using science fact and fiction past and present images of the future influence people’s actions. DS

POLS 190 Media and Politics (3) Influences and effects of media on politics. Setting public agendas, interpreting events, manipulating the political process, political learning with popular culture. DS

POLS 200 Reading and Writing Politics (1) Develop skills needed to read and write political texts. Weigh competing views; read and analyze texts for what they do and do not say; craft and defend evidence-based arguments; practice writing mechanics and style. Repeatable two times. POLS majors only or consent. A-F only.

POLS 201 Problems of War and Peace (3) Introduction to the problems individuals and political communities currently face with respect to war, peace, and international conflict. Includes questions of human nature, economy, morality, nuclear deterrence, arms control and disarmament, and alternatives to war. DS

POLS 241 Political Design and Futures (3) Possible social and political alternatives for the future. Aims to anticipate and analyze present trends, to formulate visions of better futures, means for their achievement. DS

POLS 271 Race and Politics (3) Racial inequality in the U.S.; mechanisms of institutional racism in employment, education, criminal justice, electoral politics. DS

POLS 301 Hawai‘i Politics (3) Introduction to and critical study of institutions, governments, and political processes of Hawai‘i. Attends to race, class, gender, sexuality, indigeneity and nationality. Grounded in Native Hawaiian perspectives, with an emphasis on comparative study and dialogue. Pre: any 100- or 200-level POLS course or consent. DS

POLS 302 Native Hawaiian Politics (3) Critical study of issues in contemporary Native Hawaiian politics, with an emphasis on application and active engagement. Pre: any 100- or 280-level POLS course or consent. DS

POLS 303 (Alpha) Topics in Hawai‘i Politics (3) Intensive examination of particular institutions, processes, and issues. (B) the military in Hawai‘i; (C) political parties; (D) international law; (E) elected officials; (F) food. A-F only. Pre: HAW 202 (or concurrent) for (C) only, sophomore standing or higher or consent. (C-Cross-listed as HAW 428) DS for (B) only. DH for (C) only.

POLS 304 Indigenous Politics (3) Conceptualizing politics from the perspective of indigenous epistemologies, philosophies, language, and social and political movement. Pre: sophomore standing or higher, or consent. DS

POLS 305 Global Politics/Comparative (3) Introduction to global politics with emphasis on concepts and theories developed from a comparative politics perspective. Pre: sophomore standing or higher, or consent. DS

POLS 306 Comparative Politics of Developing Countries (3) Political, economic, and social development in the Third World. Repeatable one time. Pre: sophomore standing or higher, or consent. DS

POLS 307 (Alpha) Topics in Comparative Politics: Country/Regional (3) Political, social, and economic processes of different countries/regions. (B) Southeast Asia; (C) Pacific Islands; (F) Middle East; (G) Philippines; (H) Japan; (I) Europe; (J) India; (K) East Asia. Repeatable one time. Pre: sophomore standing or higher, or consent. DS

POLS 308 Chinese Political Economy (3) Interdisciplinary review and analysis of the social and political issues in contemporary China, the interchange between state and society in national policies, the relationship between cultural tradition and technological modernization in the social transformation process. A-F only. Pre: sophomore standing or higher, or consent. (Cross-listed as ASAN 308) DS

POLS 309 Politics of Indigenous Language Revitalization (3) Study of the importance and processes of revitalization for indigenous peoples in Hawai‘i, the Pacific, Asia, and North America. Pre: any 100 level POLS course. (Alt. years) DS

POLS 315 Global Politics/International Relations (3) Introduction to global politics with emphasis on concepts and theories developed from an international relations perspective. Pre: sophomore standing or higher, or consent. DS

POLS 316 International Relations (3) Decision-making behavior of international actors; strategies of peacemaking. Pre: sophomore standing or higher, or consent. DS

POLS 317 International Law (3) Nature and function of international law in international politics. Pre: sophomore standing or higher, or consent. DS

POLS 318 Current Issues in International Law, Organization, and Culture (3) Principles, norms, cases, and their interaction with culture and organization in international politics. Pre: any 100 level POLS course or consent. DS

POLS 319 International Organization (3) International governmental and nongovernmental organizations. Pre: sophomore standing or higher, or consent. DS

POLS 321 International Migration (3) Political-cultural economy of international migration: post-colonial population and immigrants. Pre: sophomore standing or higher, or consent. DS

POLS 322 American Foreign Policy (3) Purposes, methods, strengths, obstacles, prospects; factors affecting American foreign policy; impact abroad and at home. Pre: sophomore standing or higher, or consent. DS

POLS 323 Model United Nations (1) Simulation of United Nations organizations, especially General Assembly. Repeatable 4 times. Pre: 315 (or concurrent) or 319 (or concurrent), or instructor consent. DS

POLS 324 Global Environmental Politics (3) Evolution of international law and decision-making on a variety of environmental concerns: from endangered species to pollution to climate change. Interaction of population, development, and environment in global governance. (Cross-listed as SUST 324) DS

POLS 325 Religion and Law in the U.S. (3) Surveys church-state jurisprudence since the 1940s, with special attention to difficulty of defining religion, and applies the religious freedom issues in U.S. Pre: sophomore standing or higher, or consent. (Once a year) (Cross-listed as AMST 325) DH

POLS 333 Advanced Topics in Global Politics (3) Studies of political development in the context of increasingly integrated and globalized political economies. Repeatable one time. Pre: any 100 level POLS course or consent. DS

POLS 335 History of Political Thought (3) Theories, approaches, concepts, and issues developed or raised in history of political philosophy and thought. Pre: any 100- or 200-level POLS course, or consent. DS

POLS 337 American Political Theory (3) Origins and development of American political thought. Pre: any 100 level POLS course or consent. DS

POLS 338 (Alpha) Topics in Political Theory (3) Significant works, historical continuities, and issues in classical political philosophy: (F) revolution and utopia; (G) contemporary political theory; (I) Marxist philosophy. Pre: any 100- or 200-level POLS course or consent. DS

POLS 339 Feminist Theory (3) Contemporary debates in feminist theory concerning gender, race, and class; subjectivity and representation; gender and colonialism; how to write "nature." Pre: any 300 level POLS or WS course; or consent. (Cross-listed as WS 439) DS

POLS 340 Korean Politics and Society Through Film (3) Examines modern Korean politics and society through films. Through movies and documentaries, students will learn major sociopolitical issues including military dictatorship, democratization, and globalization that Korea has witnessed for the last several decades. Repeatable one time. Sophomore standing or higher. A-F only. DS

POLS 341 The Politics of Media (3) Study of the political manipulation of aural and verbal images. Emphasis to increase media literacy. Pre: any 100 level POLS course, or consent. DS

POLS 342 Political Design and Futures (3) Alternative future social and political possibilities; design of means of realizing future. Pre: any 100 level POLS course, or consent. DS

POLS 343 The Politics of Film (3) Political, philosophical, and artistic dimensions of film; cross-cultural film genres; representational practices in films. Pre: any 100 level POLS course, or consent. DS

POLS 344 Nā Polītika ma ka Nīhou Hawai‘i - Politics in Hawaiian Language Media (3) Study of Hawaiian news media with emphasis on political content. Taught in Hawaiian. Pre: HAW 302 (or concurrent) and one of 110, 120, 130, 170, or 171; or consent. (Cross-listed as HAW 445) DH

POLS 366 Advanced Topics in Theory, Media, and Method (3) Studies in political theory, media, and methods that analyze political relations in a globalized world. Pre: sophomore standing or higher, or consent. DS

POLS 367 Disability Law and Politics (3) Introduction to the history, politics, and social movements of U.S. disability law and activism. An analysis of disability politics as the result of the interaction between disability movement activism and the development of policy and law. A-F only. Pre: sophomore standing or higher, or consent. (Fall only) DS

POLS 368 Gender, Justice and Law (3) Exploration of landmark U.S. Supreme Court cases related to sex and gender. Topics may include sex discrimination, sexual orientation discrimination, and reproductive freedom. A-F only. Pre: one of WSS 151, WSS 175, WSS 176, WSS 202, WSS 260, WSS 381, or consent. (Cross-listed as AMST 436 and WSS 436) DS

POLS 372 Women and Globalization in Asia (3) History, culture, and contemporary reality of Asian women in Asia and the U.S. Includes critical analysis of American feminist methodology and theory. Pre: one of AMST 310, AMST 316, AMST 318, AMST 373, AMST 455, WSS 360, WSS 361, WSS 439; or consent. (Cross-listed as AMST 438 and WSS 462) DS

POLS 373 American Politics (Electives) (3) Examination of voter and voting processes (participation, apathy, socialization, symbolic process, media, etc.); ideologies and belief systems. Pre: sophomore standing or higher, or consent. DS

POLS 374 Law, Politics, and Society (3) Relationships between law, politics, and society will be explored. Emphasis is placed on several dimensions of legal legitimacy and the many things that law does for us and to us. Law’s response to violence; the connections between law and social change; access to the law and its sociological dimensions; how/why law fails and what happens when it does. A-F only. Pre: any 100 level POLS course or SOC 100 or any 200 level SOC course, or consent. (Cross-listed as SOC 374) DS

POLS 375 Constitutional Law I: Institutional Power (3) Provides students with methods for interpreting U.S. Supreme Court decisions and analyzes the U.S. Supreme Court’s jurisprudence on institutional authority, including the Judiciary, Executive, and Legislative branches and their relationships to power. Pre: sophomore standing or higher, or consent. DS

POLS 376 Constitutional Law II: Rights and Liberties (3) Analyzes the U.S. Supreme Court’s jurisprudence on civil rights and liberties. Pre: sophomore standing or higher. DS

POLS 377 Topics in Law and Politics (3) Current issues; recent research findings; practical research undertaken by student. Pre: sophomore standing or higher, or consent. DS

POLS 378 Topics in American Politics (3) Specific institutions and processes of the American

Key to symbols & abbreviations: see the first page of this section.
governmental system. Pre: sophomore standing or higher, or consent. DS
POLS 379 Power in America (3) Analysis of sources of political, economic, and social power in the U.S. and the institutions through which it is exercised. Pre: sophomore standing or consent. DS
POLS 380 Environmental Law and Politics (3) Focuses on theories, laws, policies, ethics, and sustainable futures of Hawaii and the U.S. Sophomore standing or consent. Pre: any 100- or 200-level POLS course, or consent. (Alt. years) (Cross-listed as SUST 380) DS
POLS 381 Administration and Society (3) Historical emergence of modern bureaucracy; mutual impacts of administrative forms on social life; relation of bureaucracy to capitalism and patriarchy; constitution of the administered individual. Pre: sophomore standing or higher, or consent. DS
POLS 382 Political Leadership (3) Exploration of concepts and theories of political leadership, partly through biography, as preparation for public service or advanced scholarly inquiry. Pre: sophomore standing or higher, or consent. DS
POLS 383 Politics and Public Policy II (3) Overview of the policy-making process in various political arenas (families, cities, nations, etc.); emphasis on conceptual and empirical analysis. Pre: any 100-level POLS course. DS
POLS 384 Women and Politics (3) Women’s role in political institutions and processes in the U.S. and other countries. Female and male approaches to power; feminist theory, goals, and action. Pre: any 100-level POLS course (or concurrent), WS 151 (or concurrent), or WS 362 (or concurrent); or consent. (Cross-listed as WS 384) DS
POLS 385 American Politics (3) Institutions (parties, interest groups, legislatures, executives, local government); policies (national defense, poverty, energy, etc.); politics (symbolism, inequality, race, and gender). DS
POLS 386 Public Policy-Making (3) Students develop understanding of theory, practice, and ethical issues of public policy-making. Combines lecture/discussion and fieldtrips. Students develop policy analysis and strategic plans that identify issues, interests, and methods of influence. Repeatable one time. A-F only. Pre: HON 101 or HON 291, or departmental approval. (Cross-listed as HON 301) DS
POLS 387 Politics of the Ocean (3) Study of the ocean as a political place. Engagement with theories, policies, and lived-experiences of the ocean through a political lens, including literature and experiential learning. Sophomore standing or higher. A-F only. Pre: any 100- or 200-level POLS course, or consent. (Cross-listed as SUST 387) DS
POLS 389 Health Politics (3) Examines the politics of health care. Focus on institutional models to health care, the role of health care reform, and contemporary health care issues and controversies. Repeatable one time. Sophomore standing or higher. A-F only. Pre: any 100-level POLS course or consent. DS
POLS 390 Political Inquiry and Analysis (3) Introductory survey and analysis of methods used in empirical research, policy analysis, and social criticism. DS
POLS 393 Advanced Topics in Law, Policy, and Society (3) Studies integrating concerns of public law, public policy, public administration, and social movements. Pre: any 100- or 200-level POLS course, or consent. DS
POLS 394 Co-ops, Communities, Collectives (3) Theory and practice of democratic organizations: women’s and feminist organizations; co-ops, communes, and collectives; indigenous people’s organizations; women’s and feminist organizations; co-ops, communes, and collectives; indigenous people’s organizations; women’s and feminist organizations; co-ops, communes, and collectives; indigenous people’s organizations; women’s and feminist organizations; co-ops, communes, and collectives; indigenous people’s organizations; women’s and feminist organizations. A-F only. Pre: any 100- or 200-level POLS course or 390 (or concurrent) or WS 151, or consent. (Cross-listed as WS 394) DS
POLS 396 Nonviolent Political Alternatives (3) Exploration of scientific and cultural resources for nonviolent alternatives in politics. Pre: any 100- or 200-level POLS course, or consent. (Cross-listed as PACE 373) DS
POLS 399 Directed Reading and Research (V) Pre: consent.

POLS 401 Teaching Political Science (6) Practicum for majors who serve as undergraduate teaching assistants. Repeatable one time. Pre: 390 (or concurrent), senior standing; and consent. DS
POLS 402 Legislative Internship (V) Field placement at the Hawai'i Legislature integrated with academic study of political institutions and practices. A-F only. Pre: consent. Recommended: 390. (Spring only) DS
POLS 403 Community Internship (V) Field placement integrated with academic study of political institutions and community organizations. Repeatable one time. Pre: consent. Recommended: 390. DS
POLS 404 Senior Thesis (3) Independent research and thesis writing with supervision of senior advisor. Pre: 390 (or concurrent) and consent. DS
POLS 405 Executive Internship (V) Open to students awarded a Mânoa Undergraduate Political Fellowship for placement in the Governor’s or Lt. Governor’s Office, Prosecuting Attorney’s Office, or Public Defender’s Office. Field placement, integrated with academic study. A-F only. Recommended: 385, 390.

POLS 406 Senior Seminar in Political Science (3) Discussion of issues and questions of concern to graduating seniors in political science, including substantial research project. Pre: 390 (or concurrent) or senior standing. DS
POLS 408 Mânoa Undergraduate Congressional Fellowship Internship (6) Hawai'i Undergraduate Political Internship's (COP) internship experience in a Hawai'i congressional office. Students review policy processes, House and Senate procedures and produce a final paper. Restricted to fellowship award winners only. Junior and senior standing only. A-F only. Co-requisite: 386.

POLS 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent. DS

POLS 600 Scope and Methods of Political Science (3) Main concepts delineating boundaries of discipline; approaches to knowledge employed by political scientists; empirical and normative theory; problems in theory-building; validity and reliability in research design; philosophy of science applied to political science. DS

POLS 601 Political Analysis and Theory Building (3) Survey of theory-building, approaches and validating methods. DS

POLS 602 Research Techniques and Analytic Methods (3) Quantitative models and statistical inference techniques. DS

POLS 605 Topics in Methodology (3) Specific methodological techniques and experimental designs introduced in 601 and 602. Pre: graduate standing or consent. DS

POLS 610 Political Theory and Analysis (3) Major contemporary approaches and styles in political theory, philosophy, and a practical approach to political science. DS

POLS 611 Tradition of Political Philosophy (3) Discussion of two themes in the Western political tradition from Plato to Nietzsche. Repeatable one time. DS

POLS 612 Hawaiian Political Thought: Theory and Method/Na Mana o Politaika Hawai`i (3) Study of Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: POLS 503, HAW 428; or consent. (Cross-listed as HAW 612) DS

POLS 615 (Alpha) Topics in Political Thought (3) Specific traditions and individuals, or political issues and problems. (C) Feminist theory. Repeatable one time. Pre: graduate standing or consent. (C) Cross-listed as WS 615 DS

POLS 620 Introduction to Indigenous Politics (3) Historical treatment of the contact between state and indigenous peoples and a survey of contemporary indigenous movements, media, indigenous studies programs, and events. DS

POLS 621 Politics of Indigenous Representation (3) Politics of indigenous representations in media, literature, and academia. DS

POLS 630 International Relations (3) Analysis of theories: actors, decisions, systems, conflict, integration, alternative approaches to validation. Pre: graduate standing or consent.

POLS 633 International Conflict Resolution (3) Analysis of international conflict and conflict resolution. Theory and practice of negotiation, mediation, conciliation, law, and “third-party” methods of peaceful settlement. Pre: graduate standing or consent.

POLS 634 Teaching Model United Nations (1) Substantive and pedagogical approach to using Model United Nations simulation for teaching and conflict resolution. Repeatable two times. Graduate students only. (Fall only)

POLS 635 (Alpha) Topics in International Relations (3) (B) International relations and war; (E) international organization; (F) modeling international systems. Pre: graduate standing or consent.

POLS 640 Comparative Politics (3) Emphasis on and comparative methods. At least one section a semester.

POLS 642 Indigenous Peoples and Western Imperialism (3) Historical examination of U.S. and European Imperialism, including national narratives, politics, and impacts upon indigenous peoples in the Americas, Pacific, and Asia. Repeatable one time.

POLS 645 (Alpha) Politics and Development: Regional (3) Politics of particular regions; particular development processes. (C) China. (C) Cross-listed as ASAN 608 and PLAN 608 DS

POLS 646 (Alpha) Politics and Development: Topical (3) (F) political ecology and development.

POLS 647 American Political Institutions in Comparative Perspective (3) Exploration of American political institutions and development relative to American philosophical foundations and non-American political forms. Federalism as an expansive device will be emphasized, as well American influence and penetration abroad. A-F only. Pre: graduate standing or consent. (Once a year)

POLS 650 Public Administrative Theory (3) Focus varies among theoretical, comparative, and developmental approaches to the study of administration. One section each semester.

POLS 651 Political Leadership (3) Exploration of political leadership as a focus for research, teaching, and applied political science.

POLS 652 Comparative Political Administration (3) Detailed examination of implementation of governmental policy in different countries. Pre: graduate standing.

POLS 660 Public Law and Judicial Systems (3) Law, courts, and rights as a political resource; analyses of public law (including court decisions), other forms of dispute management, and judicial behavior and policy-making. Pre: 110.

POLS 665 (Alpha) Topics in Public Law and Judicial System (3) Recent issues and practices in public law; particular judicial systems. Pre: graduate standing or consent.

POLS 670 Introduction to Public Policy (3) Perspectives on policy analysis; basic approaches to the study of public policy, political economy, and policy evaluation. (Cross-listed as PLAN 607)

POLS 672 Politics of the Future (3) Introduction to political futures studies. Exages of future, theories of social change, methods of social forecasting and designing preferred futures. Pre: graduate standing.

POLS 673 The Future of Political Systems (3) Normative and descriptive forecasts of political institutions, systems, states, and behaviors. Design of preferred systems.

POLS 675 Topics in Public Policy (3) Particular political processes, specific political institutions, or particular policy area. Pre: graduate standing or consent.

POLS 676 Nonviolent Political Alternatives (3) Exploration of nonviolent, non-killling alternatives in political science research, teaching, and public service.

POLS 680 Asian and/or Pacific Politics (3) Political development, international relations, decision-making processes, and systems of political thought in all or part of Asia and/or the Pacific.

POLS 684 Contemporary Native Hawaiian Politics (3) Study of political and social movements, political status, national and cultural identities, and issues of
representation of Native Hawaiians.

PORT 685 (Alpha) Topics in Asian and/or Pacific Politics (3) (C) Korean politics. Pre: graduate standing or consent.

PORT 686 Politics of Hawai‘i (5) Examinations from several perspectives of the political, economic, and cultural forces that historically formed Hawai‘i and contemporary political themes, issues, and processes. Pre: graduate standing.

PORT 42 Teaching Initiative in Political Science (3) Combines the study of the theoretical and practical aspects of teaching political science with supervised classroom teaching of POLS 110. Repeatable one time. A-F only.

PORT 695 Colloquium (5) Specialized subjects in political science.

PORT 696 Graduate Intern Seminar (3) Seminar for those seeking internship experience. Repeatable one time. A-F only. Pre: 672 and 673 or consent for the alternative futures option; 620 or consent for the indigenous politics option; consent of advisor for all other options.

PORT 699 Directed Reading and Research (V) Repeatable unlimited times. Pre: consent.

PORT 700 Thesis Research (V) Repeatable unlimited times.

PORT 702 Seminar: Research Methods (3) Conceptual strategies, data collection approaches, and decision making appropriate to political inquiries. Repeatable unlimited times.

PORT 703 Writing Politics (3) Seminar on the politics of writing, grammar, translation, argument, genre, and style with significant content on indigenous issues of oral epistemologies and the work of native scholars. Repeatable one time.

PORT 710 Seminar: Political Thought (3) Pre-announced topics. Repeatable unlimited times. At least one section per year.

PORT 720 Seminar: Indigenous Theory (3) Pre-announced topics may include gender and sexuality studies, postcolonial theory, colonial discourse analysis, globalization, historiography; emphasis on indigenous epistemologies and the work of native scholars. Repeatable one time.

PORT 730 Seminar: International Relations (3) Pre-announced problems of both international organization and politics. Repeatable unlimited times. At least one section a semester.

PORT 740 Seminar: Comparative Government and Politics (3) Pre-announced topics. Repeatable unlimited times. At least one section a semester.

PORT 750 Seminar: Public Administration (3) Pre-announced administrative theory, comparative and development administration, and functional aspects. Repeatable unlimited times.

PORT 770 Seminar: Public Policy (3) Pre-announced topics. Repeatable three times. Pre: consent of instructor. At least one section a year.

PORT 776 Indigenous Nations and the Problems of Sovereignty (3) Examines intersections of sovereign and indigenous from comparative and critical perspectives. Engages indigenous studies of sovereignty and of alternative political frameworks. Repeatable one time. (Alt. years)

PORT 777 Decolonial Futures (3) Topic engages probable and preferable futures of indigenous struggles and resistances. Emphasis placed on the ethics and responsibilities used to move towards those futures.

PORT 780 Seminar: Politics of Regions (3) Analysis of political development, international relations, decision-making processes, and systems of political thought in regions and subregions of the world. Repeatable.

PORT 800 Dissertation Research (V) Repeatable unlimited times.

**Portuguese (PORT)**

College of Languages, Linguistics and Literature

Students choosing Portuguese for the language requirement should realize it may not be offered if demand is unmet. A grade of C or better in the prerequisite course is required for continuation.

PORT 101 Elementary Portuguese (3) Conversation, grammar and reading. HSL.

PORT 102 Elementary Portuguese (3) Conversation, grammar and reading. Continuation of 101. Pre: 101. HSL.

PORT 103 Intensive Elementary Portuguese (3) Intensive Elementary course covers content of 101 and 102 combined. Hybrid format combines 3 credits online and 3 credits face to face. HSL. (Fall only)

PORT 201 Intermediate Portuguese (3) Reading, conversation, written laboratory drill. Pre: 102. HSL.

PORT 202 Intermediate Portuguese (3) Continuation of 201. Pre: 201. HSL.

PORT 303 Conversation (3) Intensive practice in spoken Portuguese, focusing on the preparation and completion of oral tasks and presentations. 40% or more of the grade is based on 3-4 oral communication presentations. Pre: 202.


PORT 460 Fourth-Level Portuguese Abroad (V) Intensive formal instruction at the fourth-year level in Portuguese language: linguistics, culture, civilization, film, or literature in a Portuguese-speaking country. Repeatable one time. Pre: 360.

**Praktikum (PRAK)**

College of Languages, Linguistics and Literature

PRAK 481 Introduction to Praktikum I (3) Survey of principal Praktikum; selected readings and analysis. Pre: PALI 381, PALI 382, SNSK 281, and SNSK 282; or equivalent.

PRAK 482 Introduction to Praktikum II (3) Continuation of 481.

**Psychiatry (PSTY)**

School of Medicine

PSTY 499 Directed Reading/Research (V) Individualized directed readings and/or research in mental health and psychiatry under the supervision of an instructor. Open to non-majors. Repeatable up to four times. A-F only. Pre: consent.

PSTY 531 7-Week Psychiatry Clerkship (10) 7-week basic psychiatry clerkship. Repeatable one time. Pre: third-year standing.

PSTY 532 Psychiatry Longitudinal Clerkship (5) Five-year longitudinal psychiatry training including knowledge, skills, attitudes for assessment, diagnosis, and management of psychiatric problems in medical practice, inpatient, and emergency room settings. Emphasis on application and development of psychosocial cultural formulations in all areas of psychiatric and medical practice. Repeatable two times. MD majors only. Pre: third-year standing and concurrent registration in 532 courses. Co-requisites: FMCH, MED, OBGN, PEDS, SURG 532 and SURG 535.

PSTY 545 (Alpha) Electives in Psychiatry (V) Senior medical student elective providing advanced instruction on the theory and methods of mental health research as well as supervised participation in an assigned research project in the Department of Psychiatry. (A) child PSTY; (B) geriatric PSTY; (C) child PSTY; (D) forensic PSTY; (E) journal editing; (F) community mental health; (G) PSTY aspects of OBGN, PED, MED, SURG; (H) sub-internship in 170. (I) sub-internship in adult PSTY; (J) sub-internship in addictions PSTY; (K) sub-internship in geriatrics; (L) public and rural PSTY; (T) mental health research. CR/NC only. Pre: 531 or 532, and fourth-year standing.

PSTY 595 Philosophy & Human Suffering (1) To see how various philosophies and religions have related to the question, “what is it to suffer in the world?” Read short excerpts from “classic” texts and discuss in a welcoming atmosphere and draw own conclusions. Medical students only. CR/NC only. Pre: consent.

PSTY 599 Directed Reading/Research (V) Pre: consent.

**Psychology (PSY)**

College of Social Sciences

PSY 100 is a prerequisite for all undergraduate courses except 170. Unless otherwise noted, 700-level seminars are explorations of current issues in their respective areas.

**GENERAL PSYCHOLOGY (X0X)**

PSY 100 Survey of Psychology (3) An overview of the field: psychophysics, perception, learning, cognition, stress, personality, social psychology. DS

PSY 202 Psychology of Gender (3) Survey of topics in psychology relevant to gender and its impact on the lives of women and men: socialization, gender, mental health, racial identity, majority-minority status, sexual orientation, life-span issues and violence. A-F only. Pre: 100 or WS 151. (Cross-listed as WS 202) DS

PSY 407 Practicum in Psychology (V) Supervised psychological experience, typically at a relevant field site such as hospital, industry, social welfare, government, etc. Pre: 100 and consent.

PSY 408 Teaching General Psychology (V) Supervised experience, typically at a relevant field site such as hospital, industry, social welfare, government, etc. Pre: 100 and consent.

PSY 409 General Psychology: Advanced Topics (3) In-depth coverage of some area of theory and research. Repeatable to 6 credit hours. Pre: 100 DS

PSY 600 Methodological Foundations of Psychology (3) Methods used in psychological research; observational, correlational, and experimental types of design.

PSY 700 Thesis Research (V) Research for master’s thesis. Maximum of 6 credit hours. Not repeatable for credit toward master’s degree.

PSY 701 Seminar in General Psychology (3)

PSY 702 Seminar in History and Theory of Psychology (3)


**PHYSICOMETERS (X1X)**

PSY 212 Survey of Research Methods (4) (3 Lec, 1-2 hr Lab) Survey of standard methods and related conceptual issues employed in psychological research. Both experimental and non-experimental methods will be reviewed. Pre: DS

PSY 419 Psychometrics: Advanced Topics (3) In-depth coverage of research methods, methodology, or methodology relevant to individual differences, measurement, or aspects of psychometrics. Repeatable to six credit hours. Pre: 100 DS

PSY 610 Introduction to Regression (3) Introduction to quantitative methods in behavioral sciences and the general linear model with a focus on regression. Topics include correlation, bivariate and multiple regression, mediation, and moderation. Requires basic statistics. (Meets MPS common inquiry methods requirement or elective.)

PSY 611 Analysis of Variance (ANOVA) and Related Methods (3) Introduction to ANOVA and its extensions. (F) Analysis of variance; (M) Multivariate analysis; (O) Analysis of covariance; (S) Analysis of variance with repeated measures. (F, M, O) DS

PSY 613 Factor Analysis and Structural Equation Models (SEM) (3) Theories and applications to latent variables models. Topics include path analysis, exploratory and confirmatory factor analysis, structural equation modeling (SEM), multi-sample SEM, mean structure, latent growth curve models, and multilevel SEM. Requires basic knowledge of regression.

PSY 614 Multivariate Analysis (3) Analysis of multiple dependent variables. Topics include multivariate normal distribution, Hotelling’s T2, discriminant analysis, cluster analysis, canonical
correlation, and principal components analysis (PCA). Pre: 610, EDEP 604, or consent.

PSY 616 Measurement in Education and Social Sciences (3) Test theories and applications in education and social sciences. Topics include true score model; reliability; generalizability theory; validity; item response theory; and applications in research. Class requires knowledge in ANOVA and regression.

PSY 617 Advanced Psychometrics (3) Theories and applications of modern psychometrics. Topics include unidimensional and multidimensional models of item response theory, detecting biased items, measurement invariance, scored items, and current issues in psychometrics. Pre: 616, EDEP 616, or consent.

PSY 618 Categorical Data Analysis (3) Theories and methods for data analysis with categorical and discrete variables. Topics include contingency tables; logistic regression; log-linear models; and introduction to generalized linear models. Pre: 610, EDEP 604, or consent. (Cross-listed as EDEP 618)

PSY 619 Analysis of Multilevel Models and Longitudinal Data (3) Theories and applications of analysis of nested (clustered) data. Topics include fixed and random effects, intra-class correlation, cross-sectional multilevel models, and multilevel models, and methods with repeated measures and longitudinal data. Requires basic knowledge of regression.

PSY 711 Seminar in Quantitative Psychology (3) Specific and newly emerging topics in statistics, including causal analysis of data, missing data, and statistical machine learning. Content varies and focuses on advanced topics not covered in other PSY methodology courses. Repeatable two times. PSY majors only. A-F only. Pre: 610 (with a minimum grade of B) or instructor consent.

PSY 719 Research in Psychometrics (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. Pre: consent. EXPERIMENTAL PSYCHOLOGY (X2X)

PSY 220 Introduction to Behavioral Psychology (3) Outline of basic learning principles. A general, unified approach to study of human personality and behavior. Based upon a learning conception; various areas of psychology and the other social sciences are treated. Pre: 100. DS

PSY 225 Statistical Techniques (3) Frequency distributions; graphic methods; central tendency; variability; correlation; reliability; tests of significance. Pre: 100. DS

PSY 322 Learning and Motivation (3) Theoretical interpretations: survey of major theorists and contemporary issues; major influences in classical and instrumental conditioning. Pre: 100. Recommended: 220. DS

PSY 324 Psychology of Emotion (3) Survey of traditional views and leading theories, and research in related topics. Pre: 100. Recommended: 220 or 322. DS

PSY 325 Cognitive Psychology (3) Mental processes of humans and other organisms. Survey of major theories and findings in cognitive psychology. Pre: 100 or consent. DS

PSY 429 Experimental Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. Pre: 100. DS

PSY 622 Principles of Learning (3) Survey of the principles of learning, including important discoveries in the development of the study of learning, major theories, and books of current and applied research in contemporary literature.

PSY 626 Cognitive Psychology (3) In-depth survey of the computational and representational structures and processes of cognition. Special attention devoted to consideration of the relationship between brain, mind, and computation. Pre: 325 or consent.

PSY 627 Thinking (3) Provides an introduction to higher cognition (thinking and reasoning) and its foundations, particularly as they relate to the larger field of cognitive science. A-F only. (Alt years)

PSY 721 Seminar in Experimental Psychology (3) Repeatable unlimited times.

PSY 722 Seminar in Learning (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. PSYCHOBIOLOGY (X3X)

PSY 230 Introduction to Psychobiology (3) Survey of studies from a natural sciences perspective of Evolution, ethological analysis of behavior genetics, neural mechanisms, drugs and behavior, biological development. Pre: 100. DB

PSY 331 Behavioral Neuroscience (3) Coverage of the neural, developmental and mechanistic principles of learning, memory and cognition, motivated and regulatory behavior and mental disorders. A-F only. Pre: 230 or consent.

PSY 333 Psychopharmacology (3) Coverage of the basic principles of pharmacology as they apply to the brain and specific biological disorders such as anxiety, depression, psychosis, memory, and drug abuse. A-F only. Pre: 230 or consent. (Once a year) DB

PSY 336 Sensation and Perception (3) In-depth coverage of the basic principles involved in sensing and perceiving our environment. A-F only. Pre: 100. DB

PSY 439 Psychobiology: Advanced Topics (3) Coverage in-depth of some area of theory and research in psychobiology, physiological psychology, or sensory processes. Repeatable to six credit hours. Pre: 100. DB

PSY 631 Comparative Cognition (3) Survey of the historical study of cognition across species, including learning, memory, attention, navigation, reasoning, social interaction, and problem solving. Pre: consent. (Spring only)

PSY 632 Selected Topics in Comparative Psychology (3) Intensive review of comparative, communicative, sensory, or learning mechanisms in animals. Pre: 631.

PSY 633 Psychopharmacology (3) Basic principles of pharmacology as they apply to the brain and specific psychological disorders such as anxiety, depression, post-traumatic stress disorders, schizophrenia, psychosis, memory, and drug use. A-F only. Pre: consent. (Spring only)

PSY 634 Behavioral Neuroscience (3) Relation of central and peripheral nervous systems to behavior. Pre: 631 Seminar in Physiological Psychology (3) Repeatable unlimited times.

PSY 732 Seminar in Comparative Psychology (3) Repeatable unlimited times.

PSY 739 Research in Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. DEVELOPMENTAL PSYCHOLOGY (X4X)

PSY 240 Developmental Psychology (3) Emotional, mental, physical, social development from infancy to adulthood; interests and abilities at different age levels. Pre: 100. DS

PSY 341 Social Development of Children (3) Survey of socialization process and acquisition of social behavior. Pre: 240 or HDFS 230. DS

PSY 342 Adult Development and Aging (3) Overview from a multidisciplinary, life-span perspective. Includes research techniques, personality development, family relationships, occupational attainment, death. Pre: 100. Recommended: 240. DS

PSY 442 The Exceptional Child (3) Evaluation of physical, emotional, and intellectual deficiencies; effects on growth and development of children. Pre: 100 Recommended: 240. DS

PSY 449 Developmental Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. Pre: 240, 341, or consent. DS

PSY 640 Developmental Foundations (3) Historical, theoretical, and methodological foundations of development psychology.

PSY 642 Cognitive Development (3) Familiarizes students with current research and theory in cognitive development through readings of original journal articles and monographs. Pre: 640 (or concurrent) or consent.

PSY 741 Seminar in Developmental Psychology (3) Repeatable unlimited times.

PSY 749 Research in Developmental Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. SOCIAL PSYCHOLOGY (X5X)

PSY 250 Social Psychology (3) Cognitive, behavioral, and emotional effects of people: interpersonal relations, attraction, attitudes, group behavior, stereotypes, social roles, aggression, helping, self-concept; applications. Pre: 100. DS

PSY 351 Cross-Cultural Psychology (3) Psychological theories and cultural systems; understanding of own and other cultures: psychological and cultural perception of social motivation; cultural similarities and differences in interpersonal behavior. Pre: 100. DS

PSY 352 Psychology of Human Sexuality (3) Psychosocial aspects of human sexual relationships. Social psychology of emotional and physiological arousal, interpersonal attraction, and societal regulation of intimate relationships. Pre: 100. DS

PSY 459 Social Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. DS

PSY 650 Social Psychology (3) Theories and research in social cognition and behavior.

PSY 653 Cross-Cultural Psychology (3) Application of psychological theories to cross-cultural phenomena; assessment of cross-cultural processes and social motivations; culture and personality; research evaluation and design.

PSY 654 Psychology and Social Issues (3) Conflict, dissent, community issues, problems; social change and its relation to mental disorder.

PSY 655 Applied Social Psychology (3) Problems in use of social psychology principles in human affairs; multidisciplinary considerations.

PSY 656 Social Psychology of Love and Sex (3) Seminar in psychosocial aspects of human sexual relationships. Social psychology of cognitive, emotional and physiological arousal, interpersonal attraction, mate selection, and antecedents and consequences of intimate relationships. Pre: consent. A-F only. (Spring only)

PSY 751 Seminar in Social Psychology (3) Repeatable unlimited times.

PSY 759 Research in Social Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. PERSONALITY/TRANSPERSONAL PSYCHOLOGY (X6X)

PSY 260 Psychology of Personality (3) Scientific study of personality, its meaning, assessment, development, and relation to cultural-social determinants. Pre: 100. DS

PSY 361 Transpersonal Psychology (3) Psychological study of transpersonal human capacities, potentialities, awareness, and growth. Pre: 100. DS

PSY 469 Personality: Advanced Topics (3) Coverage in-depth of some area of theory and research in personality or transpersonal psychology. Repeatable to six credit hours. Pre: 100. DS

ADJUSTMENT/CLINICAL (X7X)

PSY 170 Personal Development (3) The application of psychology to the understanding and enhancement of one’s life.

PSY 270 Introduction to Clinical Psychology (3) History, theories, types of psychological problems, methods of assessment, factors of intervention, current developments. Pre: 100. DS

PSY 371 Abnormal Psychology (3) Nature and causes of psychoses; abnormalities of intelligence; psychotherapy. Pre: 100. Recommended: 270. DS

PSY 476 Health Psychology (3) Psychological principles for understanding and dealing with wellness and illness. Theories and research on stress-related disorders; prevention of stress through lifestyle and healthy behavior. Pre: 100 or consent. Recommended: 220 or 322. DS

PSY 477 Communication in Helping Relationships (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised: one of 100 and COMG 151, COMG 251 or COMG 301. (Cross-listed as COMG 490) DS

PSY 478 Teaching Personal Development (6)
Supervised experience in leading a seminar in personal development. Pre: 170 and 12 additional credits in PSY and written consent.

PSY 479 Advanced Topics in Adjustment/ Treatment/Prevention (3) Coverage in-depth of some areas of theory and research. Repeatable to six credit hours. Pre: 270, 371 or consent. DS

PSY 670 Introduction to Clinical Psychology (3) Preparation for becoming a clinical psychologist with emphasis on scientist-practitioner model, professional ethics, diversity and professional development. Pre: graduate student in psychology or consent of instructor.


PSY 672 Introduction to Assessment II (3) Administration and interpretation of cognitive-intellectual and personality assessment devices. A-F only. Pre: 670 and 671 or consent and enrollment in Clinical Psychology Program.

PSY 673 Advanced Assessment (3) Conceptual and methodological foundations of clinical applications of assessment. PSY majors only. A-F only. Pre: 671 and 672 and enrollment in Clinical Studies Program, or consent. Once a year.

PSY 675 Treatment Research (3) Idiographic and nomothetic approaches to clinical treatment research methods and findings. Pre: 670 (or concurrent) and 671 or consent.

PSY 676 Psychopathology (3) Comprehensive study of the mental disorders across the lifespan. A-F only. (Once a year).


PSY 679 Practicum in Clinical Psychology (V) Repeatable ten times. Pre: consent.

PSY 771 Child Treatment (3) Psychological interventions for youth, as well as parent training. Repeatable two times. Pre: 670 or consent.

PSY 772 Adult Treatment: Cognitive-Behavioral Therapy (3) Training in cognitive-behavioral strategies for treating adults. Repeatable one time. Enrolled in Clinical Studies Program only. PSY major only. Pre: 670 or consent.

PSY 773 Seminar in Psychopathology (3) Repeatable unlimited times.

PSY 774 Seminar in Clinical Psychology (V) Repeatable unlimited times.

PSY 775 Seminar in Psychological Therapies (3) Repeatable unlimited times.

PSY 776 Health Psychology: Behavioral and Biological Bases (3) Psychological and biological bases of health psychology and behavioral medicine. Overview of cognitive, behavioral, and psychophysiological mechanisms; theories and methods of prevention in physical disease. Pre: 670 or consent.

PSY 778 Internship in Clinical Psychology (1) Pre: consent of instructor and department chair.

PSY 779 Research in Clinical Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable 30 times. Pre: consent.

COMMUNITY AND CULTURAL PSYCHOLOGY (XX5)

PSY 280 Introduction to Community Psychology (3) Examination of human functioning in social and ecological context. Topics include stress, health, interpersonal relations, cultural, ethnic, social competence, and community empowerment. Pre: 100. DS

PSY 385 Consumer Behavior (3) Analysis of consumer behavior and motivation: principles of learning, personality, perception, and group influence, with emphasis upon mass communication effects. Pre: BUS 312 or consent. (Cross-listed as MKT 312) DS

PSY 489 Applied Psychology: Advanced Topics (3) Coverage in-depth of some areas of theory and research. Repeatable to six credit hours. Pre: 100. DS

PSY 680 Cultural Community Psychology (3) Graduate seminar on cultural considerations and issues in the history, methods, theories, interventions, and professions of community psychology. Small class size (up to 10). Open to graduate students.

PSY 682 Practicum: Behavioral Change and Community (3) Supervised experience in educational, mental health, social work, consulting, or community action agencies. Pre: consent.

PSY 781 Community Psychology Seminar (3) Repeatable unlimited times.

PSY 789 Community Psychology Research (3) Supervised research, discussion, research projects in areas of special interest. Repeatable unlimited times.

RESEARCH (XX5)

PSY 496 Special Topics in Psychology (3) Covers topics of current or special interest not covered in regular course offerings or advanced topics seminars. Repeatable two times. Pre: 100.

PSY 499 Directed Reading or Research (V) Repeatable. Pre: 100 and consent of instructor and department chair.

PSY 699 Directed Reading or Research (V) Repeatable unlimited times. Pre: consent.

Public Administration (PUBA)

PUBA 304 Governing, Politics, and Public Policy (3) Analysis and translation of what translate citizen preferences into public policy. A-F only. (Cross-listed as PCC 301)

PUBA 350 Research Methods for Policy Evaluation (3) Explores methodological approaches to the evaluation of public policies and strengths and weaknesses of various social science research methods. Students will learn how to employ them to determine the effectiveness of various public policies. Sophomore standing or higher. A-F only. Pre: 304, PLAN 310, or PPC 330.

PUBA 360 Foundations of Nonprofit Management (3) Broad overview of nonprofit organizations, including what it means to be a nonprofit, strategies of nonprofit organizations, and the management of nonprofits. Topics include advocacy, leadership, and evaluating success. Sophomore standing or higher. A-F only.

PUBA 424 Multicultural Leadership in Public Service (3) Develop students’ culturally agile leadership to allow them effectively lead in work on international, regional, and local projects and problems of community interest that cross cultures. Junior standing or higher. A-F only.

PUBA 495 Practicum and Internship (3) The practicum and internship in Peace and Conflict Resolution provides opportunity for students to apply the skills and concepts learned in earlier courses. Pre: any two other PACE courses or consent. (Cross-listed as PACE 495)

PUBA 499 Directed Reading and Research in Public Administration (V) Independent research and reading on topics in public administration, public service, and community development. Repeatable one time. Pre: consent.

PUBA 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.

PUBA 602 Introduction to Public Administration (3) Develop a comprehensive understanding of the history and foundation of public administration. Topics include economic, political, and social dynamics; decision-making and leadership theories, management challenges, human resources, budgeting, program evaluation, policy and leadership. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 603 Organizations: Theory and Change (3) Explores the organizational, human resources, political, and cultural frames of organizational theory. Focus on organizational change strategies and theories. Discusses how to use these frames and theories in everyday management of public service organizations. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 604 Leadership and Ethics (3) Applies leadership and ethical theories to public and nonprofit sectors, focusing on ethical leadership; emphasizes critical thinking to address values and ethical conflicts; and teaches professional ethical skill. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 605 Effective Communication in Public Administration (3) Knowledge and skills to effectively communicate in the public sector. Focus on communication foundations and skills, levels and contexts of public sector communication, and handling challenges such as ethical and cultural settings. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 606 Public Administration Personnel Management (3) Understand the pivotal role that effective human resource management (also known as personnel management) plays in improving organizational effectiveness. Topics include managing diversity, employment law and discrimination, performance appraisal, and labor-management relations. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 607 Public Administration Research Methods (3) Introduces methods for public administrators to understand the principles and methods used to conduct and analyze valid research. Examples are oriented to the field; theory and hands-on practice utilized. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 608 Public Budgeting (3) Institutions and issues related to public-sector budgeting at federal, state, and local levels. PUBA and PUBA Cert. majors only. A-F only. (Fall only)

PUBA 609 Policy Analysis and Implementation (3) Explore contemporary policy issues relating to public administration practice. Develop techniques and models of public-policy-making processes, administrative rules, and policy implementation strategies. Learn how social forces, political, and economic pressures influence policy orientation. PUBA majors only. A-F only. (Spring only)

PUBA 614 Policy Implementation and Program Evaluation (3) Implementation and evaluation in public policy analysis; philosophical and methodological issues; impact of policies and plans; use of evaluation research in program implementation. (Cross-listed as PLAN 654)

PUBA 620 Reforming Public Organizations (3) Looks at the challenges and opportunities for changing public organizations so that they may be more successful in meeting their public responsibilities and better places for people to work. Focus is on the creation of positive organizational and change strategies. A-F only. (Cross-listed as CEE 620)

PUBA 621 The Political Environment of Public Organizations (3) Seminar on the role of public managers in shaping public opinion and public policy. Using evidence from theory and practice presents students with tools for understanding management roles within a political context. Pre: graduate standing or consent.

PUBA 622 Strategies of Change: Leaders and Leadership (3) Explores the key elements of leadership in public settings by examining what leaders actually do, looking at popular media portrayals of leadership, and talking together with guests about the challenges of leadership, effective followership, and positive change. A-F only.

PUBA 623 Organizational Communication (3) Communication theory/research applied to formal organizations: assessments of strengths and weaknesses of organizational communications systems.

PUBA 624 Interpersonal Challenges in the Public Sector (3) Seminar on the role of public managers in shaping public opinion and public policy. Using evidence from theory and practice presents students with tools for understanding management roles within a political context. Pre: graduate standing or consent.

PUBA 625 Law, Economics, and Public
Administration (3) Explore U.S. law as applied to public institutions using economic lens. Rationale of property, contract, and tort law; evolution of administrative law, economic efficiency of common law system, effects of legal rules on economic behavior. A-F only.

PUBA 626 Collaborative Public Management (3) Theories, skills, and tools needed to effectively manage networks in government and nonprofit organizations; explores learning to administer, assess performance, and evaluate success in these dynamic new partnerships. Graduate students only or consent. A-F only.

PUBA 627 Managing Workplace Diversity and Inclusion (3) Examines dimensions, impacts, and various dimensions of diversity and inclusion beyond race and gender. Students learn and apply public management tools used to foster workplace diversity and inclusion. Pre: 606 (with a minimum grade of B) or consent.

PUBA 630 Nonprofit Management (3) Fundamental aspects of managing a nonprofit organization: overview of the nonprofit sector; mission and scope of nonprofit organizations; organizational structures and functions; resource and volunteer development; major management issues. A-F only. Pre: graduate standing or consent. (Fall only)

PUBA 631 Nonprofit Management Practices and Tools (3) Skills and tools needed by nonprofit managers. Topics include but are not limited to grantwriting, strategic planning, business practices, program evaluation, advocacy, and the like. A-F only. Pre: 630 or consent. (Spring only)

PUBA 640 International Perspectives on Public Administration (3) Key dimensions of public administration systems on a global scale; historic and contemporary forces shaping national systems; the dimensions that distinguish them, the opportunities and constraints for comparison and the transfer of knowledge and experience. A-F only. Pre: graduate standing or departmental approval.

PUBA 641 Indigenous Governance (3) Overview of indigenous governing systems, particularly in the Americas and the Pacific. Students will learn the legal frameworks and principles of these systems, and how services are provided to citizens. A-F only.

PUBA 667 Special Topics (3) Topics of current interest in the field of public service and public administration, taught by regular and visiting faculty. Repeatable for different topics up to six credit hours. A-F only. Pre: consent.

PUBA 690 MPA Practicum (3) Placement in public, private, and nonprofit organizations to observe and analyze organizational functions and processes while undertaking projects of use to the host agency. Repeatable one time. A-F only. Pre: with a minimum grade of B: 602, 603, and 604.

PUBA 691 Certificate Practicum (3) Students in the nonprofit section of the certificate will learn by doing and observing in a nonprofit organization selected in consultation with the student’s advisor. PUBA graduate certificate students only. A-F only.

PUBA 695 Capstone Planning Seminar (3) Develops topics, methods, objectives, and resources to guide work of capstone seminar. A-F only. Pre: 602, 603, 605, 606.

PUBA 696 Capstone Seminar (3) Culminates public administration core courses by incorporating theoretical, analytical, and practicum observations into examination of public issues of importance to Hawai‘i and the region. A-F only. Pre: 602, 603, 605, 607.

PUBA 699 Directed Reading (V) Repeatable unlimited times.

PUBA 700 Thesis Research (V) Repeatable unlimited times.

Public Health Sciences (PH) School of Social Work

The courses listed below are offered subject to student interest and faculty availability. The minimum required grade for prerequisites for undergraduate-level courses is C- or higher. New courses are not specified. All courses 600-level and above require graduate standing; individuals who are not public health students require instructor consent to enroll in graduate-level courses. The minimum required grade for prerequisites for graduate-level courses is B- or better, unless otherwise specified.

PH 201 Introduction to Public Health (3) Introduces public health concepts with an emphasis on principles and tools for population health, disease prevention, health professions and healthcare systems, and public health professions and systems. A-F only.

PH 202 Public Health Issues in Hawai‘i (3) Application of public health concepts and tools with broader public health issues as they relate to the State of Hawai‘i. A-F only. Pre: 201.

PH 203 Introduction to Global Health (3) Introduction to the basic principles of global PH. Topics include the application of these principles to global PH issues, exploration of links between health, economic, and social status, health disparities and global interventions. A-F only. Pre: 201.

PH 210 Quang for Public Health (3) Inductive and deductive reasoning; tabular, symbolic, verbal, and graphical forms of functions and relations; graphs and pictorial representations of data; interpretations of probabilistic data surveys and statistical studies as related to public health. PH majors only. A-F only. FQ

PH 301 Seminar in Public Health Issues (3) Seminar will explore current issues and case studies in epidemiology, with a focus on chronic and infectious diseases, how the environment interacts with health, and how social and behavioral factors affect health outcomes. A-F only. Pre: 201 and 202. (Spring only)

PH 310 Introduction to Epidemiology (3) Lecture/discussion on the fundamental principles of epidemiology, exploring patterns of disease, threats to health and EPI methods for prevention, control, and treatment. PH majors only. A-F only. Pre: 201, and 210 or MATH 140 or MATH 161 or higher.


PH 330 The United States Health Care System (3) Overview of the U.S. health care system. Topics will include health economics, health service expenditures, comparative health policy, and issues of cost containment, access, and quality of care. A-F only. Pre: 201.


PH 341 Public Health Biology and Pathophysiology (3) Explores the biological basis of human disease and the role public health measures play in reducing both the extent and impact of chronic and acute diseases on individuals and society. A-F only. Junior standing or higher. Pre: 201, and one of the following: BIOL 101 or BIOL 171 or BIOL 172 or PHYL 103 or PHYL 141 or FSHN 185. DB

PH 350 Introduction to Biostatistics (3) Basic biostatistical health and biomedical research. Topics covered include data collection, data analyses, and interpretation of statistical results. Sophomore standing or higher. A-F only.

PH 410 Advanced Epidemiology (3) Students will gain a deeper understanding of epidemiologic research and practice. Upon completion, students will have the knowledge and skills necessary to conduct an epidemiologic study. Junior standing or higher. Pre: 201 and 310, and one of the following: 350 or ECON 321 or DEEP 429 or NREM 310 or SOCS 225 or PSY 225.


PH 420 Social Behavioral Health I: Health Promotion for Individuals and Groups (3) Focus on the application of social and behavioral theory in health education, and how health promotion programs are constructed for various populations with an emphasis on cultural diversity and social determinants of health. Sophomore standing or higher. A-F only. Pre: 201 and PSY 100. (Fall only)

PH 422 Social Behavioral Health II: Health Promotion in Public Health (3) Introduction to health education and health promotion in public health, and to social/behavioral theories used to develop health interventions that affect communities, institutions, and policies. Introduction to common program planning models. A-F only. Pre: 420.

PH 430 Health Policy and Management (3) Examines the role that health policy and management plays in population-based public health practice, including the delivery, quality, and costs of health care and the structure, process, and outcomes of health services delivery. Sophomore standing or higher. A-F only. Pre: 201 and 202.

PH 435 Back to the Future: Aging in Today’s Society (3) By 2050, more than a quarter of the world’s population will be 60 years of age or older. Explores what we know about aging today to encourage a lifetime of aging well. A-F only. Pre: 201 or SW 360 or WS 305 or PSY 100 or HDFS 230 or NURS 200 or consent. (Cross-listed as SW 435)

PH 445 Introduction to Environmental Microbiology (3) Lecture/discussion. Will define the nature and biological activities of microorganisms in different environments and evaluate the effects of these microbes on human activities and health. Junior standing or higher. Pre: MICR 130 or MICR 351 or BIOL 171.

PH 460 Social Determinants of Indigenous Peoples’ Health (3) Examines indigenous peoples’ health inequities using social determinants of health framework. Considers this approach within the historical, political, cultural, and social context of Indigenous population’s health status to generate solutions. A-F only. Pre: 201.

PH 480 Application of Public Health Principles in Research and Practice (3) Introduction to a diverse range of public health projects and associated methods while working to develop an applied learning project proposal. PH majors only. Junior standing or higher. A-F only. Pre: 201 and 310.

PH 485 Public Health Applied Learning Experience (3) Allows students to execute an independent, mentor-supervised, applied learning project as implementation of an applied learning experience in a previous public health course work. Applied project is a required component of the public health undergraduate degree program. Pre: 480.

PH 489 Public Health Undergraduate Capstone Seminar (3) Integration of public health knowledge, skills, and practice acquired during the public health undergraduate degree. Students will also reflect on, finalize, and present their applied learning experience projects. Senior standing achieved. A-F only. Pre: completed public health applied learning experience and consent.

PH 492 (Alpha) Current Issues and Topics in Public Health (V) Current and emerging issues and varying topics related to public health. (B) biostatistics; (E) epidemiology; (H) health policy and management; (S) social and behavioral health sciences; (T) public health. Each alpha repeatable one time. Open to nonmajors. Sophomore standing and above. A-F only. Pre: 201.

PH 499 Directed Reading/Research (V) Repeatable up to six credits. PH majors only. Junior standing or higher.

PH 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.

PH 600 Public Health Foundations (V) Focus will provide a broad introduction to the field of public health and orientation to overarching issues in the field. A-F only. (Fall only)
PH 602 U.S. Health Care Services and Policy (3)
Overview of the historical, conceptual, ethical and political context for health care delivery in the U.S.
Explores current trends, practices and issues in the delivery of public health care services in both private and public sector.

PH 610 Public Health Biology (3)
Writing-intensive asynchronous computer-based course examining viral, bacterial, fungal and prion agents relevant to the public health professional. Topics include anatomical, pathological, molecular biological and public health; genetics, immunology, ethics; disease prevention, control, and management. (Once a year)
(Cross-listed as CMB 610)

PH 623 Introduction to Health Promotion Theory and Methods (3)
Individual and community health; implications for public health practice, individual and social development. Repeatable one time. -F only. (Cross-listed as CMB 623)

PH 626 Health Economics (3)
Integrated concepts in health economics and its application towards health policy issues; market failures in health care; factors affecting U.S. health care spending potential impact on equity/efficiency stemming from changes in health care delivery. A-F only. (Once a year)

PH 630 Cultural Competence in Health Care (3)
Prepares community health workers to provide culturally competent health care services to diverse populations. Emphasis on the need to understand the cultural and social context of health care delivery. A-F only. (Cross-listed as MED 630)

PH 635 Indigenous Health Seminar (2)
Addresses conceptual and methodological issues of public health relevance to indigenous and non-indigenous communities, and will apply them in context of working for and with indigenous communities to improve health and wellness. A-F only. (Cross-listed as MED 635)

PH 646 Grant Writing in Public Health (1)
Lecture/discussion on grant writing with public health focus. Includes basic components of grant proposals, assessing appropriate funding opportunities, data sources, writing skills, and the funder's perspective. Students will prepare a brief foundation grant proposal. A-F only. (Once a year)

PH 648 Program Planning, Management, Evaluation, and Leadership (3)
Foundation to inform, educate, and equip individuals to work for health in communities, and populations. Knowledge/acquisition of skills through program planning, management, evaluation and leadership that span the social/behavioral ecological framework from individual to population levels. Repeatable one time. A-F only. Pre: PH 602 or consent.

PH 651 Biostatistics I (3)
Introduction to statistical methods for public health sciences. Probability, experimental design, t tests and analysis of variance, 2X2 contingency tables, linear regression, introduction to life tables. A-F only. (Cross-listed as GHS 651)

PH 652 Biostatistics II (3)
Poisson distribution, Fisher's exact test, contrasts in ANOVA, two way ANOVA, multiple linear regression and analysis of covariance, logistic regression, method of maximum likelihood, likelihood ratio tests. Pre: 655, completion of one semester of calculus; or consent.

PH 658 Computer Applications in Public Health (3)
Applications of computers to problems common to public health. Emphasis on data analysis and processing using existing computer programs. Pre: statistics and consent. (Alternate years: fall) (Cross-listed as GHS 658)

PH 660 Application of Public Health Skills (V)
Application of public health skills and competencies acquired during the public health degree. Repeatable two times, excludes courses, concepts, models, frameworks, patterns and communication that occur in cross-cultural healthcare situations. A-F only.

PH 663 Principles of Epidemiology I (3)
Introduction to epidemiologic principles and methods. Topics covered include: outbreak investigation, measures of morbidity and mortality, measured and residual confounding, screening, measurements of error, sampling, statistical significance, study design, and association and causality. Pre: PH 664. A-F only. Pre: consent of instructor.

PH 664 Principles of Epidemiology II (3)
Lecture/discussion on: design and interpretation of experimental and observational studies; causation and casual inference; biases in study design; random error and statistical significance. Inference in epidemiological data analysis. A-F only. Pre: PH 665 and consent.

PH 665 Concepts in Immunology and Immune Pathogenesis (2) Introduction to immunological concepts relating to infectious diseases and host pathogen interactions. Repeatable one time. A-F only. Pre: MCR 461 (or equivalent) or consent. (Cross-listed as TRMD 665)

PH 666 Seminar in Infectious Disease Control (3)
Strategies for controlling important infectious diseases in the Pacific area. Emphasis on epidemiology, ecology, and public health principles. Pre: PH 665 (or consent) and one semester in microbiology, or consent.

PH 667 Infectious Disease Micro II (3) Cover different families of animal viruses of importance to human diseases. The genome, structure, replication, as well as host immune responses, epidemiology, clinical features, and animal models will be presented. Repeatable one time. A-F only. Pre: TRMD 604 and MCR 351, or consent. (Cross-listed as TRMD 605)

PH 669 Epidemiological Study Design Critique (2)
Critique of study design using published public health literature. Emphasis on interpretation, validity and alternative approaches; stresses epidemiology as science of public health. Repeatable unlimited times. A-F only. Pre: PH 663 or consent.

PH 671 Community and Public Health Practice (2) Community organization and development applicable to public health services. Understanding community dynamics, mobilizing community groups for effective health care practice and delivery. Pre: PH 647 or consent. (Cross-listed as SW 674)

PH 672 Leading and Managing Health Programs (3) Assess how to organize community partnerships to create and communicate a shared vision for a changing future; discuss solutions to organizational and community management obstacles to reach public health goals. A-F only. Pre: PH 664 or consent.

PH 673 Health Ethics, Law and Politics (3) Review theories and case studies concerning health care ethics. Examines law and its role in health care quality, public health, and health care policymakers, and the intersecting issues of policy and law with medicine, public health and ethics. A-F only. (Once a year)

PH 674 Advanced Native Hawaiian Health Determinants (3) Applications of evidence-based knowledge about the social determinants of health in the formation of research, policy, and program development for improving population health and reducing health disparities for Native Hawaiians. A-F only.

PH 675 Community Engaged Research and Practice (2) Explores creative and innovative approaches with communities in public health research and practice. With a focus on Indigenous Peoples' health, we delve into Indigenous knowledge and wisdom to evaluate, needs assessment, intervention, and health promotion. PH majors or consent. Graduate students only. Pre: PH 655 and 673.

PH 676 Hawai’i Public Health Policies on Infectious Diseases (3) Examination of the intersection of infectious disease eradication and infection of patients infected with Hanson’s disease. Focus on PH policies before 1823 and after; analysis of other infections in Hawai’i and the world to examine differences in policies and their effect on the public. Graduate students only. Repeatable one time. A-F only.

PH 677 Managing Global Health Service Delivery (3) Provides knowledge, skills, attitudes and resources that health managers require to maintain the quality of partnerships, facilities, programs, community services, people, drugs, and information in limited resources settings. PH majors only. A-F only. (Cross-listed as GHS 677)

PH 680 Health Emergencies in Large Populations (3) Health Emergencies in Large Populations is run by the Center for Excellence in Disaster Management and Humanitarian Assistance and the Red Cross. It provides knowledge, practical skills, and networking for global health practitioners. A-F only. (Cross-listed as GHS 680)

PH 681 Environmental Determinants of Health (3) Environmental factors in personal and community health; implications for public health practice. Consideration of major issues from local, U.S., and international perspectives.

PH 684 Building Wellness: Health and the Built Environment (3) History, concepts, and theories behind the relationship between health and the built environment stressing transdisciplinary understanding and collaboration through readings, discussion, and real-world-based exercises. PH or ARCH majors only. Graduate students only. A-F only.

PH 685 Global Nutrition (2) Examination of global food and nutrition problems, programs, issues, policies, and strategies for global health. Pre: statistics and consent. Pre: social/behavioral sciences or consent. Pre: PH 666 or consent. (Alternate years: fall) (Cross-listed as FSHN 683)

PH 688 Advanced Health Care Policy (3) Addreses the role of health care policymakers, and the intersecting issues of policy and law with medicine, public health and ethics. A-F only. (Once a year)

PH 689 Nutritional Epidemiology (3) Dietary, biochemical, anthropometric and clinical methods used for evaluating nutrition and diet in the etiology and epidemiology of disease. Pre: PH 647 and FSHN 685, or consent. (Cross-listed as FSHN 689)

PH 690 Global Health Challenges (3) Addresses critical, contemporary, and transnational issues best addressed by cooperative international action. Health
issues are examined in the context of intersecting effects of limited resources, socioeconomics, politics, and environmental change. A-F only. (Once a year) (Cross-listed as GHS 690).

PH 691 Fundamentals of Environmental Epidemiology (3) Examines complex relationships between environmental contaminants and human health. Emphasis on environmental epidemiology study design, environmental exposure monitoring and risk assessment, environmental exposure mapping, and spatial data analysis and modeling with GIS. A-F only. (Once a year)

PH 695 Promoting Physical Activity (3) Overview of the theoretical and applied study of physical activity epidemiology. Physical activity content includes benefits, factors that influence, levels, valid instruments to assess, and programs to promote physical activity. (Cross-listed as KRS 695)

PH 699 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

PH 700 Thesis Research (V) Repeatable unlimited times. Pre: consent.

PH 701 Health Communication (3) Skills-oriented qualitative courses on the basic structure of health communication strategies in different settings, selected elements of communication theory, the development of health communication material, and a practical training in motivational counseling skills. Pre: 623 or consent.

PH 702 Health Promotion Research (3) Focus on research methods commonly used in health promotion. Techniques for study design, quasi-experimental design, sampling, measurement, and correlational studies. Labwork will focus on the use of SPSS to analyze data for applied research problems. Pre: 656 and 658, or consent.

PH 704 Community-Based Participatory Research (3) Explores ways academic and lay communities collaborate on research, key theoretical perspectives in the development of CBPR, and the challenges in implementing CBPR. Format includes lectures, discussions, readings, writing assignments, and a fieldwork project. A-F only.

PH 728 Indigenous Applied Research Methods (3) (2 hr. Lab) Health disparities research methodologies and current topics in Indigenous health research. Special focus on statistical techniques for small data sets using quantitative and qualitative methods. PH majors only. A-F only. Pre: 655 and 663.

PH 729 Scientific Explorations in Social Justice for Indigenous People (V) Provides students with an advanced application of health disparities research methodologies to further understand health and social injustices faced by Indigenous people. Builds on previous courses to advance and produce scientific scholarship. PH majors only or consent. Graduate students only. A-F only. Pre: 655 or consent.

PH 742 Qualitative Research for Public Health Sciences (3) Provides a basic understanding of qualitative research approaches, methodologies, and techniques and for public health research and practice (needs assessment, program development, and evaluation strategies). Graduate students only.


PH 748 Chronic Disease Epidemiology (3) Will cover selected topics in chronic diseases with critical analysis of theologic literature. Methodologic issues, contemporary findings and recommendations for future research will be discussed. A-F only. Pre: 663 or consent.

PH 749 Epidemiology of Diabetes and Obesity (2) Provides an overview of the epidemiology and prevention of metabolic syndrome, diabetes, and associated complications. Discusses methodologic issues associated with these in epidemiologic studies. A-F only. Pre: 663 or consent. (Cross-listed as FSHN 749)

PH 750 Health Behavior Change (3) Provide an understanding of the relationship between health behaviors and outcomes including psychological, physiological, and quality of life aspects. It will also focus on the major theories of behavior and behavior change. Emphasis is placed on understanding concepts, principles, explanations, and how these are translated into practical interventions for adoption and maintaining behavior change. A-F only. Pre: 623 or consent.

PH 751 Social Epidemiology (3) Examine the epidemiologic study of the social distribution and social determinants of states of health, including the identification of social-environmental exposures and their related influences on mental and physical health outcomes. Repeatable one time. A-F only.

PH 752 Applied Longitudinal Data Analysis (3) Covers modern methods for longitudinal data analysis. Topics include mixed-effects models, non-linear curve models, generalized linear models for longitudinal data including generalized estimating equations, and generalized linear mixed models. A-F only. Pre: 656 and 658, or consent.

PH 753 Survival Analysis (3) Construction and interpretation of various types of life tables, treatment of censored data, proportional hazards, relative risk regression models, and parametric survival analysis. Pre: 655 or consent.

PH 754 Neuroepidemiology (3) Lecture/discussion providing an overview of the epidemiology of neurological and neurodegenerative diseases and their risk factors, and moderate for the study of these diseases. Pre: 663 or consent. (Fall only)

PH 755 Seminar in Tropical Medicine and Public Health (1) Weekly discussion and reports on current advances in tropical medicine and public health. Repeatable unlimited times. (Cross-listed as TRMD 690)

PH 756 Special Topics in Tropical Medicine (3) Advanced instruction in frontier's of tropical medicine and public health. Repeatable unlimited times. (Cross-listed as TRMD 705)

PH 757 Evolution, Epidemiology, and Public Health (2) Will explore several aspects of human health through the perspective of how natural selection and evolution influence disease risk, with the aim of improving treatment and prevention. Graduate students only. A-F only. Pre: 663 (with a minimum grade of B)

PH 759 Health Program Evaluation (3) Examines advanced principles of and frameworks for evaluation. Students integrate utilization-focused evaluation methods to improve program quality and outcomes, and impact to improve community and population health. A-F only.

PH 770 (Alpha) Doctoral Seminar in Translational Research (3) Required for students in the DrPH program. (C) biostatistics; (D) evidence-based public health; (E) topics in health policy; (F) leadership. A-F only. Pre: departmental approval.

PH 771 Teaching Practicum (V) Provide doctoral students with theoretical and practical teaching and course development experiences under the guidance of a faculty mentor. Students will have a portfolio documenting their accomplishments. Repeatable unlimited times. Graduate standing in PH required. A-F only. Pre: 602 and 655 or 663 and 681 and 770 (Alpha), or departmental approval.

PH 772 Research Practicum (V) Hands-on research experience with a faculty mentor. Meet in small groups, learn research related to research in public health. Final project will be submission of a publishable quality paper. Graduate standing in PH required. A-F only. Pre: 602 and 623 and 655 and 663 and 770 (Alpha), departmental approval and approval of the project.

PH 781 Environmental Health Lab Methods (2) Hands-on training for laboratory methods used in monitoring and detecting environmental health risk factors and disease. Emphasis on immunological-animal cell culture- and molecular biology-based techniques for studying environmental pathogens and toxic pollutants. A-F only. (Once a year)

PH 788 Seminar in Public Health Sciences (V) Topics related to recent developments in major areas; student and faculty research activities. Sections:

(1) biostatistics; (2) environmental health; (3) epidemiology; (4) public health nutrition. Repeatable unlimited times.

PH 789 Integrative Seminar (2) Integrative seminar in public health required as part of the student capstone experience to bring together key aspects of their courses, competencies, and practicum. A-F only. Pre: completed PH field practicum and consent.

PH 791 Advanced Public Health Practice (3) Orientation, study, and supervised practical work in student's area of specialization. A-F only. Pre: public health degree candidate and completion of 15 PH credit hours and consent.

PH 792 (Alpha) Current Issues and Topics in Public Health (V) Current and emerging issues and topics related to public health. (B) biostatistics; (D) environmental health; (E) epidemiology; (H) health policy and management; (I) Native Hawaiian and Indigenous Health; (S) social and behavioral health sciences; (U) public health. Repeatable unlimited times. PH majors only for (D) and (I).

PH 793 Special Practicum/Project (V) Supervised practical training beyond the required practicum in an area of particular interest. Provides additional opportunity to synthesize, integrate, and apply practical skills and knowledge in a public health work environment. Repeatable one time. A-F only. Pre: completion of practicum and consent.

PH 794 (Alpha) Exploration in Public Health (V) Investigation of emergent fields of inquiry in public health. (B) biostatistics; (D) environmental health; (E) epidemiology; (H) health policy and management; (I) Native Hawaiian and Indigenous Health; (S) social and behavioral health sciences; (U) public health. Repeatable unlimited times. PH majors only.

PH 800 Dissertation Research (V) Pre: consent.

Public Policy Center (PPC)

College of Social Sciences

PPC 301 Governing, Politics, and Public Policy (3) Analysis of the major processes that translate citizen preferences into public policy. A-F only. (Cross-listed as PUBA 304)

PPC 330 Survey of Public Policy and Analysis (3) Students will learn about the policy making process, the results of policy decisions and how public policy is assessed, analyzed, and responded to. Also discusses important policy issues that currently fill the political landscape. Junior standing or higher. A-F only.

PPC 340 Energy Technologies for Addressing Climate Change, Economic, Policy and Security Issues (3) Interdisciplinary course designed to describe the inter-relationships and dynamic interactions between energy systems, the environment (climate policy), security and technology. Junior standing or higher. A-F only.

PPC 495 Topics in Public Policy (3) Seminar on current issues in U.S. or international government policy. Topics vary and may include energy, long-term care, sustainability, etc. Repeatable unlimited times. Junior standing or higher. A-F only.

PPC 499 Directed Readings or Research (V) Requires the sponsorship of a faculty member. Together they will agree on the study topic and the work to be accomplished. Depending on the scope of the project, credits range from 1-3. Needs instructor consent. Repeatable two times up to six credits. Senior standing or higher. A-F only.

PPC 695 Topics in Public Policy (3) Seminar on current issues in U.S. or international government policy. Topics vary and may include energy, long-term care, sustainability, etc. Repeatable unlimited times. Junior standing or higher. A-F only.

PPC 699 Directed Readings or Research (V) Requires the sponsorship of a faculty member. Together they will agree on the study topic and the work to be accomplished. Depending on the scope of the project, credits range from 1-3. Needs instructor consent. Repeatable two times up to six credits. Senior standing or higher. A-F only.

Quantitative Health Sciences (QHS)

School of Medicine

QHS 601 Biomedical Statistics (3) Fundamental biomedical statistics concepts and tools will be
introduced, as well as their applications to biomedical data. Students will perform hands-on analysis using statistical software and learn to interpret and present the results. A-F only. (Fall only) (Cross-listed as TRMD 655).

QHS 602 Biomedical Statistics II (3) Advanced biomedical statistics principles and tools as well as their applications will be introduced. Topics include: model selection, hierarchical model, repeated measures, proportional hazard model, classification methods, structural equation modeling and multivariate analysis. A-F only. Pre: 601 (with a minimum grade of B) or consent.

QHS 610 Bioinformatics I (3) Fundamental concepts in bioinformatics with a strong emphasis on hands-on training. Covers topics such as molecular biology, sequence alignment, biological databases, phylogenetics, and genomics, including microarray and RNA-seq data analysis. A-F only. (Fall only)

QHS 611 Bioinformatics II (3) Focus on bioinformatics approaches for functional genomics related to DNA, RNA, and protein. It will provide of virus, bacteria, and human genome and bioinformatics approaches to human disease. A-F only. Pre: 610 (or equivalent) (with a minimum grade of B) or consent. (Spring only)

QHS 620 Introduction to Clinical Trials (2) Introduction to clinical trials. Topics include history, definitions/terminology, adverse events, FDA and government regulatory agencies, ethics; monitoring committees, research introduction to protocol development, research designs. A-F only. (Fall only)

QHS 621 Design and Analysis of Clinical Trials (2) Covers basic and advanced statistical methods utilized in clinical trials design, conduct, and data analysis. Topics cover statistician’s role in drug development and DSMB, statistical theory in phases I-IV clinical trial designs and analysis. A-F only. Pre: 601 (or equivalent) or consent. (Fall only)

QHS 650 Secondary Data Analysis (2) Will allow students who are new to using secondary data to become comfortable with accessing the data, forming hypotheses, and designing study proposals. Will introduce examples with basic and advanced techniques. A-F only. (Spring only)

QHS 651 Secondary Data Analysis Practicum (2) Introduces students to issues in working with complex data sets and adds the hands-on experience needed to conduct individual research using secondary databases. A-F only. Pre: (601 or equivalent) and 650) with a minimum grade of B, which can be taken concurrently. (Spring only)

QHS 670 Special Topics in Quantitative Health Sciences (V) Special topics in quantitative health sciences. Reflects special research interest of QHS faculty or guest lecturers. Repeatable unlimited times. A-F only.

QHS 699 Directed Research (V) Directed research in quantitative health sciences. Students will work closely with a QHS faculty member or mentor who will guide them through the process of conducting a research study. Repeatable two times, up to nine credits. A-F only.

Real Estate (RE)

Shidler College of Business

RE 300 Principles of Real Estate (3) Principles affecting the allocation and utilization of real estate resources, including legal, physical, economic elements; valuation; marketing; analysis; finance; investments, and public and private externalities affecting the allocation and utilization of real estate resources.

RE 310 Real Estate and Environmental Law (5) Property rights, land tenure, agency, contracts and negotiation theory, title conveying, and escrow, mortgage instruments, fair housing, state and federal environmental laws, torts, and real property law.

RE 330 Real Estate Appraisal/Analysis (3) Analysis of real property, including feasibility analysis, market analysis, income property capitalization, and general real estate valuation techniques.

RE 340 Real Property Assets (3) How business firms and investors manage their real property assets in terms of the legal, financial, and physical dimensions of real property. Case studies in hotels, condominiums, and office buildings in the environment in Hawai‘i. Business majors only.

RE 390 Current Topics in Real Estate Analysis (3) Consideration of various special concepts and problems in real estate. Repeatable unlimited times.

RE 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor. Repeatable unlimited times.

RE 420 Real Estate Finance and Investment (3) Financial and investment analysis used to evaluate real property and real estate security investments.

RE 674 Real Estate Investment Analysis (3) Development of strategic business plans for the optimization of a firm’s real property assets. Includes facilities utilization audits, contingency planning, and the impact of new technologies.

Religion (REL)

College of Arts and Humanities

REL 149 Introduction to the World’s Goddesses (3) Cross-cultural analysis of the religious narratives, beliefs, practices, iconography, and sacred sites related to female deities in the Americas, Polynesia, Asia, the Middle East, Africa, and Europe from prehistory to 1500 C.E. FGA

REL 150 Introduction to the World’s Major Religions (3) Buddhism, Christianity, Confucianism, Judaism, Islam, Hinduism, Shinto, and indigenous traditions of Hawai‘i and/or Oceania.

REL 151 Religion and the Meaning of Existence (3) Basic ideas and issues in contemporary religious thought about the meaning of existence. DH

REL 200 Understanding the Old Testament (Hebrew Bible) (3) Examines the Old Testament (Hebrew Bible) as an expression of the religious life, history, and thought of ancient Israel as a sacred text within the latest academic scholarship. DH

REL 201 Understanding the New Testament (3) Origin and development of early Christian message as set forth in the New Testament; special attention to Jesus and Paul. DH

REL 202 Understanding Indian Religions (3) Historical survey of the teachings and practices of major religious traditions of India. DH

REL 203 Understanding Chinese Religions (3) Taoist, Confucian, Buddhist, and folk beliefs and practices in their social and historical context. Repeatable one time. DH

REL 204 Understanding Japanese Religions (3) Broad survey, with primary focus on Shinto, Zen Buddhism, and folk religions of Japan, surveyed in relation to social and cultural themes of major historical periods. DH

REL 205 Understanding Hawaiian Religion (3) Major teachings and practices from ancient times to present, their cultural influence; analysis of religious texts; relation to other traditions of Oceania and to Christianity. DH

REL 207 Understanding Buddhism (3) Survey of major forms and movements. DH

REL 208 Understanding Judaism (3) Survey from origin to modern times; emphasis on Jewish thought in Talmudic and medieval periods. DH

REL 209 Understanding Islam (3) Historical survey of the beliefs and practices of Islam as a world religion, including the prophet Muhammad, scriptures, philosophy and science, theology, law, major sectarian movements, relations with other religious traditions, and fundamental patterns of thought. DH

REL 210 Understanding Christianity (3) History of ideas concentrating on events, persons, and issues with the greatest impact on the evolution of Christianity. DH

REL 300 The Study of Religion (3) Definitions and functions of religion; methodologies by which it is studied; relationship to other areas of human culture. Pre: 150 or consent. DH

REL 301 Biblical Hebrew I (3) Orthography and structure of Biblical Hebrew, history and development of Hebrew as the sacred language of Judaism, overview of religious and historical development of the Hebrew Bible. Pre: sophomore standing or consent. (Fall only) (Cross-listed as CLAS 301)

REL 302 Biblical Hebrew II (3) Reading of selected prose passages from the Hebrew Bible; analysis of literary forms, paying special attention to stories which have played an important role in the development of the Hebrew religious tradition. Prerequisite: 301/LLE 301. (Spring only) (Cross-listed as CLAS 302 and LLE 302)

REL 303 Creation and Evolution (5) An exploration of interactions between science and religion with a focus on cosmogonies. Pre: 150 or consent. DH

REL 308 Zen (Ch’an) Buddhist Masters (3) Study of lives, teaching, practices of Zen masters in China, Japan, Korea, and the West. Pre: one of 150, 203, 204, 207; or consent. DH

REL 310 Global Christianity (3) Christianity as a transcultural religion, through the study of Christian art, literature, ritual, and theology in diverse cultures; including the Near East, Africa, Latin America, and the Pacific. Pre: 150, 201, or 210; or consent. (Once a year) DH

REL 330 Cults and New Religions (3) Study of cults and new religious movements in America, the Pacific, and East Asia; examining types, causes, and functions of these movements. Pre: 150 or consent. DH

REL 345 Religion and Conflict in American History (3) Analyzes selected historical examples of religious conflicts in the US, with consideration of characteristic patterns of American religious discourse, and identifying the social structures, interests, and ethical principles at stake in conflicts about religion. Sophomore standing or higher. (Fall only) (Cross-listed as AMST 345) DH

REL 348 Religion, Politics, and Society (3) Exploration of the diverse approaches and perspectives that American religious groups embrace with respect to some of the more concrete elements of contemporary American life. Pre: 150 or 151, or consent. DH

REL 351 Christian Ethics in Modern Life (3) The meaning of Christian faith for moral living with reference to contemporary moral issues. Pre: 150 or 151, or consent. DH

REL 352 Sufism: Mystical Traditions of Islam (3) Introduction to the history, literature, and worldview of Sufism. Students will encounter the following topics in relation to Islamic mysticism: asceticism, monothepism, philosophy, love, union, sainthood, ecstatic experience, and spiritual uses of art. Pre: 209 or PHIL 330 or HIST 345, or consent. (Once a year) DH

REL 353 Witches and Witchcraft (3) Persecution of witches, witchcraft in Europe, 1500–1700, examined as crisis of church and state origins, effects on church and society. Pre: one of 201, HIST 151, HIST 152, PSY 100, or consent. DH

REL 354 Islam in History (3) Examination of the historical connections between Islam and other civilizations will focus on the role of Islam in world history. Pre: 150 or 209 or consent. DH

REL 356 Women and Religion (3) Examining roles of, and attitudes toward, women in major religious traditions through autobiographies, films, and primary texts. Pre: 150 or ANTH 152 or WS 151. (Cross-listed as WS 356) DH

REL 361 Love, Sex, and Religion (3) Love and sex as themes in religions of Asia and the West. Pre: 150 or consent. DH

REL 363 Religion and Art (3) The uses of art in religion are studied with historical examples. Pre: 150 or consent. DH

REL 371 Prophecies of the Last Days (3) In-depth look at ancient Judeo-Christian apocalyptic texts and the communities in which they originated, followed by a survey of the medieval and modern day heirs of apocalyptic traditions. Pre: 150 or consent. DH

REL 373 Vedic Hinduism (3) Study of major Hindu myths of the Vedic Sanskrit literature within the perspective of ancient Indian civilization. Literary sources will be tapped for understanding creation, cosmogony and celestial, atmospheric and
terrestrial divinities. Sophomore standing or higher, or consent. A-F only. (Fall only) (Cross-listed as IP 373)

REL 374 Classical Hindu Mythology (3) Study of major myths of Epic Sanskrit literature, primarily with focus of the Ramayana and Mahabharata. Literary sources will include excerpts from the EPAN (AN 445) DS and epics, especially with reference to dharma, karma, ways of life. Sophomore standing or consent. (Spring only) (Cross-listed as IP 374) DH

REL 383 Mysterious East and West (3) Mystic traditions of the West from desert monasticism to Renaissance mystics compared with those of South and East Asia. Pre: one of 150, 202, 203, 204; or consent. DH

REL 390 Hawaiian Gods (3) The traditions and practices related to one or more major indigenous gods, or class of gods, will be studied by the interpretation and analysis of primary texts. Repeatable one time. Pre: 205 or consent. DH

REL 394 On Death and Dying (3) Aspects of death and dying; relation to our culture and society, to understanding of each other and of ourselves. Pre: 150 or 151 or consent. DH

REL 399 Directed Reading (3) Pre: one 200-level REL course and consent.

REL 409 Life and Teachings of Jesus (3) Critical study of synoptic gospels and of extrabiblical sources. Prereq: 201 or 210, or consent. DH

REL 422 Anthropology of Religion (3) Cults, legends, millennial movements, myths, possession, rituals, sacred healing, shamanism, sorcery, spirits, symbolism, witchcraft, and other forms of religious and symbolic experience, from small scale to highly urban societies. Pre: ANTH 152. (Cross-listed as ANTH 422) DH

REL 431 Health/Medicine in Religion (3) Issues of health and disease in the light of religious beliefs and practices. A-F only. Pre: 150 or consent. DH

REL 443 Anthropology of Buddhism (3) Selected aspects of national, regional and local manifestations of Buddhism are explored through the perspective of anthropology. Emphasis on the daily lives of monks, nuns and lay persons in their socio-cultural contexts. Pre: 207, 422, 475, or consent. (Alt. years) (Cross-listed as ANTH 443) DS

REL 444 Spiritual Ecology (3) Lectures and seminars provide a cross-cultural survey of the relationships between religions, environment and environmentalism. Pre: junior standing or consent. (Alt. years) (Cross-listed as ANTH 444) DS

REL 445 Sacred Places (3) Lectures and seminars provide a cross-cultural survey of sites which societies recognize as sacred and their cultural, ecological and conservation aspects. Pre: junior standing or consent. (Alt. years) (Cross-listed as ANTH 445) DS

REL 452 Sociology of Religion (3) Seminar on sociological aspects of religious sectarianism, historical and current; special reference to Hawaii. Pre: SOC 300 or consent. (Cross-listed as SOC 455) DS

REL 475 Seminar on Buddhism (3) Selected historical, textual, and dialectical research topics in Buddhism; topics and geographical focus to be announced each semester. Pre: one of 202, 203, 204, 207, 308; or consent. DH

REL 476 Daoism: Philosophy and Religion (3) Seminar on religious Taoism, its historical development and role in the present-day context. Pre: consent. DH

REL 478 New World Rituals and Ideologies (3) Study of cross-cultural patterns in ritual behaviors and creolization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), Ancestral Christianity, spiritual conquest, conceptions of death, etc. Sophomore standing or higher. Minimum Core GPA of 2.0 for prerequisites. Pre: LAIS 360, or consent. (Fall only) (Cross-listed as ANTH 478 and LAIS 478) DH

REL 480 Field Methods in Religion (3) Introduction to ethnographical and methodological approaches to doing fieldwork in the study of religion. Application of these in studying Hawaii’s diverse religious environment. Pre: 300 or consent. DH

REL 490 Buddhism in Japan (3) Major features and trends in thought, institutions, and practices in the context of Japanese history and culture, 6th-20th century. Pre: 204 or 207, or consent. DH

REL 492 Polynesian Religions (3) Introduction to field, comparison of several traditions; beliefs and practices from New Zealand, Australia and the Pacific Islands. Pre: 150; or consent. DH

REL 495 Seminar in Religion (3) Topics pre- announced each semester. Pre: upper division standing or consent. Repeatable one time. DH

REL 499 Directed Reading or Research (V) Up to six credits. A-F only. Pre: consent of instructor and department chair. In addition to those specified for individual courses, prerequisites for all courses 500 and above are graduate standing and consent.

REL 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Satisfactory/Unsatisfactory only. Pre: master’s Plan B candidate with consent.

REL 600 History and Theory of the Study of Religion (3) Survey of development of history of religions; application of methodologies from anthropology, history, philosophy, political science, psychology, and sociology.

REL 625 Applied Methods in the Study of Religion (3) Practicum in methods of research, argument, and discourse in scholarly writing about selected topics in religious studies. Repeatable one time. A-F only. Pre: 600 and restricted to graduate students in Religion only; or consent.

REL 630 Practicum in Field Research in Religion (3) Independent field study of an Asian or Polynesian religion at an Asian or religious institution abroad or in Hawai‘i. Repeatable one time. A-F only. Pre: 600, 6 credits of area studies, and consent of graduate chair and instructor.

REL 650 Seminar on Western Religions (3) Historical, theoretical and methodological issues in the study of Western religious traditions. Repeatable two times. REL majors only. A-F only. Pre: 600 or consent.

REL 661 (Alpha) Seminar on East Asian Religions (3) Selected historical, thematic, and textual research topics in East Asian religions and traditions: (B) Chinese religions; (C) Japanese religions; (D) East Asian Buddhism. Repeatable up to six credits for (D), up to nine credits for (B) and (C). A-F only. Pre: 661B or 661C for (D).

REL 662 (Alpha) Seminar on South Asian Religions (3) Selected historical, thematic, and textual research topics in East Asian religions and traditions: (B) Indian religions; (D) Indian Buddhism. Repeatable two times, up to nine credits for (B). A-F only.

REL 663 (Alpha) Seminar in Polynesian Religions (3) Selected historical, thematic, and textual research topics in Polynesian and Hawaiian religious traditions: (B) Polynesian religions; (C) Hawaiian religion. Each alpha repeatable up to nine credits. A-F only.

REL 664 Seminar in Global Christianities (3) Examines a variety of topics in global Christianities, the conjunctions leading to Christianity as a worldwide religion, instantiations of Christianities throughout the centuries, and the trans-historical, theological, and sociological dynamics existing between adherents and communities. Repeatable two times. Graduate standing only. A-F only. Pre: 600 (with a minimum grade of B) or consent.

REL 680 (Alpha) Pedagogy in Religion (3) Theory, preparation, and practice in the teaching of religious studies at the community college level: (B) teaching religion; (C) teaching religion practicum. REL majors only. A-F only. Pre: 650 for (B); 600, 650 and (B) for (C).

REL 688 Plan B Research (3) Research for master’s degree Plan B. Restricted to students in the Religion Masters Program in Plan B. Enrollment must be approved under graduate program committee. A-F only. Pre: consent of committee.

REL 695 Topics in Religious Studies (3) Topics in the study of religion with special emphasis on theoretical, historical and contemporary concerns. Specific topics to be announced. Repeatable one time. Pre: 600 or consent. (Alt. years) DH

REL 699 Directed Reading and Research (V) Repeatable unlimited times.


Reproductive Biology (REPR)

School of Medicine

The minimum grade required for undergraduate prerequisites is a D or better, and graduate prerequisites is a C (not C-) or better.

REPR 499 Directed Reading/Research (V) Repeatable unlimited times.

REPR 611 Seminar in Biomedical Sciences (1) Presentation and discussion of current research topics in biomedical sciences. Repeatable nine times. Pre: consent. (Cross-listed as CMB 611)

REPR 699 Directed Research (V) Repeatable unlimited times.

REPR 700 Thesis Research (V) Repeatable unlimited times. Pre: admission to candidacy (master’s program).

REPR 705 Special Topics in Reproductive Biology (V) In-depth discussion of selected areas of reproductive biology, with special emphasis on recent research results and methodologies. May be retaken for credit. Pre: consent.

REPR 800 Dissertation Research (V) Repeatable unlimited times. Pre: admission to candidacy (PhD program).

Russian (RUS)

College of Language, Linguistics and Literature

All courses are conducted in Russian. A grade of C- or better in the prerequisite courses is required for continuation.

RUS 101 Elementary Russian (3) Conversation, reading, writing, grammar. HSL

RUS 102 Elementary Russian (3) Continuation of 101. Pre: 101 or consent. HSL

RUS 201 Intermediate Russian (3) Reading, conversation, grammar, composition. Pre: 102 or consent. HSL

RUS 202 Intermediate Russian (4) Continuation of 201. Pre: 201 or consent. HSL

RUS 308 Russian Phonetics (3) Basic theory of Russian sound system; practice in pronunciation, intonation, and fluency. Pre: 102 or 201 (or concurrent).

RUS 260 Intensive Intermediate Russian Abroad (4) Intensive course of formal instruction on the second-year level in Russian language and culture in Russia. Pre: 102. HSL


RUS 304 Advanced Russian (3) Continuation of 303.

RUS 306 Russian Structure (3) Advanced grammar; complexities of standard contemporary Russian; word formation and verb system. Pre: 202 or consent.

RUS 311 Readings in Russian Civilization and Literature (3) Mid-level readings in Russian civilization and literature of edited and adapted texts. Pre: 202. DL

RUS 312 Readings in Russian Civilization and Literature (3) Continuation of 311. Pre: 311. DL

RUS 360 Intensive Third-Level Russian Abroad (4) Intensive course of formal instruction on the third-year level in Russian language and culture in Russia. Pre: 202 or 260.

RUS 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times or up to six credits. A-F only. Pre: 202 and consent and departmental approval.

RUS 403 Advanced Conversation and Composition (3) Systematic practice on selected topics; vocabulary building and development of fluency; writing short reports, narratives. Pre: 304 or consent.

RUS 404 Advanced Conversation and Composition (3) Continuation of 403. Pre: 403.

RUS 418 Advanced Reading and Translation:

Key to symbols & abbreviations: see the first page of this section.
Modern Prose (3) Readings in various fields, emphasizing idiomatic usage. Pr: 312 or consent. 
RUS 419 Advanced Reading of Russian Press (3) Materials from Soviet/Russian newspapers and magazines. Pr: 311 or consent. 
RUS 431 Russian Folklore (3) Selected Russian folk narratives, bylines, songs, and proverb. Influence of folklore on major Russian authors. Pr: 312 or consent. 
RUS 441 Russian Short Story (3) Origin and development (19th and 20th century); the major writers. Pr: three years of Russian or consent. 
RUS 442 Russian Novel (3) Origin and development from 18th century to present. Pr: three years of Russian language or consent. 
RUS 451 Topics in 19th- and 20th-Century Russian Literature (3) Focus upon the selected writings of one major Russian writer of the 19th century (e.g., Pushkin, Gogol, Lermontov, Dostoeyevskiy, or Tolskoy) or 20th century (e.g., Bely, Blok, Bulgakov, Chekhov, Pasternak, Solzhenitsyn). Repeatable unlimited times with consent. Pr: 312, LLEA 351; or consent. 
RUS 452 Topics in 20th-Century Russian Literature (3) Continuation of 451. Pr: 312, LLEA 352, or consent. 
RUS 460 Intensive Fourth-Level Russian Abroad (V) Intensive advanced courses of formal instruction on the fourth level in Russian language and culture in Russia. Pr: 360 or equivalent. 
RUS 495 Seminar (3) Literary or linguistic topics, movements, genres, or their representatives. Repeatable unlimited times with consent. Pr: consent of chair. 
RUS 499 Directed Reading/Research (V) Independent study of approved reading with faculty supervision. Repeatable up to six credits. A-F only. Pr: 303 (or equivalent), consent or departmental approval. 

Samoan (SAM) 
College of Languages, Linguistics and Literature 
SAM 101 Elementary Samoan (4) Listening, speaking, reading, writing skills. Structural points introduced inductively. History and culture. Meets four hours weekly. 
SAM 201 Intermediate Samoan (4) Continuation of 102. Meets four hours weekly, three of four hours devoted to drill and practice. Pr: 102. 
SAM 227 Overview of Samoan Literature in English (3) Survey of major writers of Samoan literature in English; lectures, discussions, short paper. 
SAM 301 Third-Level Samoan: Traditional Culture (3) Continuation of 202. Advanced reading and composition with development of language structure integrated in a variety of communicative and creative activities based on selected traditional cultural topics. Meets three times weekly; additional lab work. Pr: 202 or consent. 
SAM 302 Third-Level Samoan: Contemporary Culture (3) Continuation of 202. Advanced reading and composition with development of language structure integrated in a variety of communicative and creative activities based on selected contemporary cultural topics. Pr: 202 or consent. 
SAM 321 Samoan Conversation: Traditional Context (3) Systematic practice on various topics for control of spoken Samoan in traditional contexts. Pr: 202 or equivalent; or consent. 
SAM 322 Samoan Conversation: Contemporary Context (3) Systematic practice on various topics for control of spoken Samoan in modern contexts. Pr: 202 or equivalent; or consent. 
SAM 421 Samoan Ceremonial Speech (3) Development of oratory skills in Samoan ceremonial speech. Emphasis on institutionalized applications such as the kava ceremony and formal specsmaking. Pr: 302 or 522, or consent. 
SAM 422 Samoan Ceremonial Speech (3) Continuation of 421. Pr: 421 or consent. 
SAM 431 Samoan Oral Traditions (3) Historical survey and analysis of the oral traditions and genealogies of Samoa with special emphasis on the relationship of these traditions with Samoan ceremonial speech. Pr: 302, or consent. 
SAM 432 Samoan Oral Traditions II (3) Continuation of 431. Pr: 431 or consent. 
SAM 452 Structure of Samoan (3) Study of modern Samoan grammar including some sociolinguistic background. Pr: 202 or LING 102, or Structural. 
SAM 461 Traditional Samoan Literature (3) A survey of the major genres of traditional Samoan literature. Taught in the Samoan language. Pr: 302 or consent. 

Sanskrit (SNSK) 
College of Languages, Linguistics and Literature 
SNSK 181 Introduction to Sanskrit (4) Introduction to basic Sanskrit grammar; reading and analysis of progressively difficult classical texts. HSL 
SNSK 182 Introduction to Sanskrit (4) Continuation of 181. HSL 
SNSK 281 Intermediate Sanskrit (3) Continuation of 282. Reading and analysis of classical texts with review of grammar. Pr: 182, HSL. 
SNSK 282 Intermediate Sanskrit (3) Continuation of 281. Pr: 281, HSL. 
SNSK 381 Third-Level Sanskrit (3) Continuation of 282. Reading and analysis of various classical texts. Pr: 282. 
SNSK 382 Third-Level Sanskrit (3) Continuation of 381. Introduction to Veda. Pr: 382. 
SNSK 481 Fourth-Level Sanskrit (3) Continuation of 382. Reading, analysis, and interpretation of various Vedic or Sanskrit texts selected according to students’ interests. Pr: 382. 
SNSK 482 Fourth-Level Sanskrit (3) Continuation of 481. 
SNSK 685 Advanced Readings in Sanskrit (3) Advanced study of Sanskrit literature (kavya) and systematic thought (sâstra), alongside reading and discussion of scholarship on these topics. Specific content will change each semester. Repeatable unlimited times for different topics. Pr: 282 (with a minimum grade of B). 

Second Language Studies (SLS) 
College of Languages, Linguistics and Literature 
Courses below 408 are not applicable toward the MA in Second Language Studies. 
The minimum grade required for undergraduate prerequisites is C (not C-), and the minimum for graduate prerequisites is B (not B-). 
SLS 130 Introduction toPidgin in Hawai‘i (3) Introduction to contemporary Pidgin in Hawai‘i; its origin, development (19th and 20th century); the major historical descriptive, pedagogical aspects; the pidgin and creole language variation. Work with actual language data. Laboratory work required. Pr: 302 (or concurrent), or LING 102, 320, 600 (or concurrent), or graduate standing; or consent. 
SLS 406 English Phonology (3) Basic course in English phonetics and phonology; emphasis on areas of interest to language teachers. Pr: 302 (or concurrent) or 600 (or concurrent). DH 
SLS 480 (Alpha) Topics in Second Language Studies (3) Variable topics in special areas of second language studies: (E) second language learning; (N) second language analysis; (P) second language pedagogy; (R) second language research; (U) second language use. Repeatable three times in different topics. Pr: 302 (or concurrent) for (E), (N), (R), (U); 303 (or concurrent) for (P). Not applicable toward graduate degrees offered within SLS. 
SLS 485 Professionalism in SLS (3) Capstone for SLS majors. Reflection on experiences via the major, articulation of professional values, exploration of disciplinary approaches to professional issues, and formal compilation of a professional portfolio. SLS majors only. Senior standing or higher. A-F only. Pr: 302 and 303. 
SLS 490 Second Language Testing (3) Measurement and evaluation of achievement and proficiency in second language learning. Pr: 302 (or concurrent), 441, LING 102, or 600 (or concurrent). 
SLS 499 Directed Reading/Research (V) For independent study. Pr: minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in major, or consent of department chair. Repeatable unlimited times. 
SLS 600 Introduction to Second Language Studies (3) Introduction to basic professional and research issues in second language studies; integration of theory, research, and practice for prospective second or foreign language teachers and researchers. Pr: graduate standing or consent. 
SLS 610 Introduction to Teaching Second Languages (3) Survey and analysis of second language teaching traditions and perspectives. Pr: graduate standing or consent. 
SLS 612 Alternative Approaches to Second Language Learning (3) Examination, comparison with conventional approaches; interpersonal relationships in language teaching. Pr: consent. 
SLS 613 Second Language Listening and Speaking 

Key to symbols & abbreviations: see the first page of this section. 

foundeditions for the learning and teaching of second/foreign languages. Includes an emphasis on instruction in writing. Pr: upper division standing. 
SLS 303 Second Language Teaching (3) Survey of methodology; basic concepts and practices. Pr: 302 (or concurrent). 
SLS 312 Techniques in Second Language Teaching: Reading and Writing (3) Methods and materials. Issues in teaching; survey of available materials and practice in their adaptation. Focus on emphasis on instruction and feedback in oral communication. Pr: 302 (or concurrent). 
SLS 313 Techniques in Second Language Teaching: Listening and Speaking (3) Methods and materials. Issues in teaching; survey of available materials and practice in their adaptation. Includes an emphasis on instruction and feedback in oral communication. Pr: 302 (or concurrent). 
SLS 408 Bilingual Education (3) Survey and analysis of current thinking and practices in bilingual/bicultural education; special emphasis on ESL/EFL. Includes an emphasis on instruction in writing. Pr: 302 (or concurrent) or 600 (or concurrent); or consent. 
DS 
SLS 418 Instructional Media (3) Theoretical foundation and practical applications of using electronic and audiovisual media in second language teaching. Pr: 303 (with minimum grade of C), or 600 (with minimum grade of B or concurrent); or consent. 
SLS 430 Pidgin and Creole English in Hawai‘i (3) Major historical descriptive, pedagogical aspects; the pidgin and creole language variation. Work with actual language data. Laboratory work required. Pr: 302 (or concurrent), or LING 102, 320, 600 (or concurrent), or graduate standing; or consent. 
SLS 441 Language Concepts for Second Language Learning and Teaching (3) Language analysis-phonology, syntax, semantics, discourse for teaching second languages. Pr: one of 302 (or concurrent), LING 102, LING 320, 600 (or concurrent), or graduate standing; or consent. 
DS 
SLS 460 English Phonology (3) Basic course in English phonetics and phonology; emphasis on areas of interest to language teachers. Pr: 302 (or concurrent) or 600 (or concurrent). DH
(3) Key issues; overview and critique of published materials; practice in developing syllabi and other materials. Pre: consent.


SLS 618 Language and Learning Technologies (3) A wide range of emerging technologies for language learning and teaching will be explored. Online/face-to-face discussions and hands-on experiential learning are integrated with learner’s goals, best practices, and theoretical foundations. Pre: consent. (Once a year)

SLS 620 Second Language Reading (3) Survey of research in reading process; teaching methodology; psycholinguistic investigations; comparison of reading in first and second languages. Pre: consent.

SLS 630 Second Language Program Development (3) Designing, implementing, and evaluating language programs; systems-based approach to program and curriculum development. Pre: consent.

SLS 640 English Grammar (3) Descriptive English grammar in relation to second language learning and teaching.

SLS 642 Comparative Grammar and Second Languages (3) Comparative study of two or more languages. Consideration of language transfer in second language learning, role of typological features. Pre: consent.

SLS 650 Second Language Acquisition (3) Survey of theories and research on second language learning by children and adults, learning naturally and in formal settings. Special attention will be paid in comparing and contrasting SLA and second language research. Pre: 441 or concurrent.

SLS 660 Sociolinguistics and Second Languages (3) Theoretical and applied aspects of language, culture, and society, and research methods in sociolinguistics, as they relate to second and foreign language issues. Pre: consent.

SLS 670 Second Language Quantitative Research (3) Quantitative research methods: design of research studies; techniques in collecting data; statistical inference; and analysis and interpretation of data. Pre: 490 and graduate standing; or consent.

SLS 671 Research in Language Testing (3) Advanced issues in language testing research including recent developments in the following areas: language testing hypotheses, item analysis, reliability, dependability, validity. Pre: 490 or consent.

SLS 672 Second Language Classroom Research (3) Survey of research on second language classrooms and analysis of methodological issues. Pre: consent.

SLS 673 Applied Psycholinguistics and Second Language Acquisition (3) Theory and research in psycholinguistics as related to second language perception, production, acquisition, and instruction. Pre: 441 or LING 422, or consent.

SLS 674 Survey Research Methods in Second Language Studies (3) Hands-on experience in language survey research including planning and creating survey instruments (both interviews and questionnaires), administering, compiling and analyzing survey data (quantitatively and qualitatively), and reporting the results. Pre: consent. (Once a year)

SLS 675 Second Language Qualitative Research (3) Philosophical and theoretical approaches, methodology, and ethics in second language qualitative research. Pre: 660 (or concurrent) or consent.

SLS 676 Interpretive Qualitative Inquiry (3) Explores a range of qualitative inquiry methods and theories. The interpretive research approach is used in the field, students will develop and carry out inquiry relevant to their own interests, immediate learning/teaching needs, and long term professional goals. Pre: 660 (or concurrent) or consent.

SLS 678 Discourse Analysis in Second Language Research (3) Survey of approaches to discourse; microanalytic qualitative research; theory and methodological development. Pre: consent.

SLS 680 (Alpha) Topics in Second Language Studies (3) Variable topics in special areas of second language studies: (E) second language learning; (N) second language analysis; (F) second language pedagogy; (R) second language research methodology; (U) second language use. Repeatable one time for different alphas. Pre: 650 for (E); consent for (N) and (F); 670 or 675 or 678, or consent for (R); 660 for (U).

SLS 690 ESL Teaching Practicum (3) Student teaching in ESL classroom. Pre: advancement to candidacy and consent.

SLS 695 Master’s Plan B/C Studies (1) Enrollment for first 12 credits. Repeatable unlimited times, but credit earned one time only. CR/NC only. Pre: master’s Plan B or C candidate and consent.

SLS 699 Directed Reading/Research (V) Individual reading in various fields of ESL. CR/NC only. Repeatable unlimited times. Pre: consent of graduate chair and instructor.

SLS 700 Thesis Research (V) Individual reading in various fields of ESL. Repeatable unlimited times. CR/NC only. Pre: consent of graduate chair and instructor.


SLS 775 Seminar in Second Language Qualitative Research (3) Qualitative research in second language and multilingual contexts. Repeatable unlimited times. Pre: consent.

SLS 799 Apprenticeship in Teaching (V) An experienced-based introduction to college-level teaching: graduate students serve as student teachers to professors; responsibilities include supervised teaching, and participation in planning and evaluation. Repeatable unlimited times. Pre: CR/NC only. Pre: graduate standing and consent.

SLS 800 Dissertation Research (V) Repeatable eight times, up to 12 credits. Satisfactory/Unsatisfactory only.

Social Sciences (SOCS)

College of Social Sciences

Two kinds of courses are available directly from the College of Social Sciences: interdisciplinary courses and courses on tools, techniques, theories, and methods shared by the social science disciplines. The broader perspective and opportunity for cross-disciplinary interaction make these courses attractive.

SOCS 101 First Year Experience (1) Brings together topics, discussion, and projects that increase success at UH Mānoa and the College of Social Sciences. The emphasis is on knowledge, skills, and behaviors leading to graduation and sharing the first-year experience.

SOCS 124 Leadership and Social Issues (3) Fosters understanding of key societal and community issues, social science perspectives on them, the qualities of effective leadership, and invites examination of personal responsibilities, intentions, and abilities to make a difference on those issues. A-F only.

SOCS 150 Street Science: Evaluating and Applying Evidence in Daily Life (3) Develops necessary tools for effective reasoning and problem-solving through use and application of analytic techniques, including question formation, understanding/interpreting data presented in the public sphere, and evaluating the validity of source arguments. Pre: 200 (complete with C or better) and majors only. Repeatable one time. Pre: OCN 331, GEOG 435, or consent. (Cross-listed as OEST 735)

SOCS 250 Introduction to Sustainability from Social Science Perspectives (3) Introduction to key concepts and theories in social sciences in relation to sustainability issues. (Cross-listed as SUST 250 and TAHR 250) DS

SOCS 251 Scientific Principles of Sustainability (3) Introduction to the scientific principles of sustainability, including the ecology of managed and natural ecosystems, global change biology, ecological principles of natural resource management, renewable energy technologies, and the environmental impacts of humans. (Cross-listed as NREM 251 and TPPS 251)

SOCS 385 Service Learning (1) Intended for students undertaking the service learning option in another course in the College of Social Sciences. Discussions on student’s experiences, types of learning occurring, and issues encountered in service learning activities in the community. Repeatable two times. CR/NC only.

SOCS 489 Social Sciences Internship (V) Internship in public, private, or non-profit organizations providing opportunity for hands-on application of knowledge and application of social sciences concepts and theories. Three to six credits per semester; repeatable two times, up to 12 credits. Consent of instructor. (Cross-listed as WWS 489)


SOCS 735 Ocean Policy and Management (3) Interdisciplinary approach to problems relating to humans and their interactions with the world’s oceans and coasts. Focus includes institutions for governing the world’s oceans and coasts at all scales and on the roles of scientific knowledge in marine and coastal resources. Repeatable one time. Pre: OCN 331, GEOG 435, or consent. (Cross-listed as. (Cross-listed as OEST 735)

Social Work (SW)

School of Social Work

SW 200 The Field of Social Work (3) Orientation to the profession of social work; historical development, values and philosophy, scope and aims. DS

SW 302 General Social Work Practice I (3) Orientation to practice principles, concepts, values, knowledge base, and their application. Pre: 200 (complete with C or better) and majors only. Repeatable unlimited times. Pre: 200 (complete with C or better) and majors only. Pre: consent.

SW 303 General Social Work Practice II (3) Introduction to practice skills with individuals, families, groups, and communities. A significant portion of class time is dedicated to writing instruction congruent with professional expectations. Pre: 302 (complete with C or better) and majors only. Pre: consent.

SW 325 History of Social Welfare (3) Historical development and implications of social welfare activities, institutions, and policies and European backgrounds; introduce social welfare developments in selected non-European countries. SW majors only. Recommended: 200.

SW 326 Social Welfare as a Social Institution (3) Study of U.S. social welfare institutions and policies as an expression of societal response to human needs; interrelationship of American value system to goals, objectives, and policies of welfare security programs; focus on examination of Hawai‘i’s social service programs. SW majors only. Pre: 325. DS

SW 360 Human Development and Behavior for Social Work Practice (3) Examination of social and cultural variables such as family, group, and community development and behavior; use of knowledge in these areas by social work practitioners. SW majors only. Recommended: 200. DS

SW 361 Sociocultural Content for Social Work
Practice (3) Examination of ethnicity, class, and sex statuses as they affect human development and behavior for social work practice. SW majors only. Prereq: 360 with a grade of C or better. Recommended: 200. DS

SW 380 Topics in Social Welfare (V) An examination of current trends in the field of social welfare. SW majors only. DS

SW 391 Junior Practicum (3) Introduction to field instruction and social work knowledge, skills, and values to field experience. CR/NC only. Prereq: 302, 325, 362 (or concurrent), 360, and 361 (or concurrent) complete with C or better; and majors only. Co-requisite: 440 and 491.

SW 402 General Social Work Practice III (3) Use of problem-solving process in practice with individuals, families, groups, and communities. Prereq: 303, 326, and 361 complete with C or better; and majors only. Co-requisite: 440 and 491.

SW 403 General Social Work Practice IV (3) Examination of practice methods and intervention models; identification and analysis of issues related to practice. A significant portion of class time is dedicated to writing instruction congruent with professional expectations. Prereq: 402 (C or better) and majors only. Co-requisite: 491.

SW 435 Back to the Future: Aging in Today’s Society By 2050, more than a quarter of the world’s population will be 60 years of age or older. Explores what we know about aging today to encourage a lived-in, participatory-F, Prereq: 201 or SW 360 or WS 305 or PSY 100 or HDFS 230 or NURS 200; or consent. (Cross-listed as PH 435)

SW 440 Research Development in Social Welfare (3) Introduction to and application of language of research; how to under operationalize construct; statistical knowledge, practical steps in research. SW majors only. Prereq: completion of required junior-level SW courses (i.e., 302, 303, 325, 326, 360, 361, and 391) with C or better; and majors only. Co-requisite: 402 and 490. DS

SW 475 Social Services with Children (3) Study of current social services for children in the U.S. with focus on familiarization of child welfare programs and services in Hawaii. Prereq: senior standing or consent.

SW 477 Social Welfare Concepts and Issues in Gerontology (3) Aging and its effect on the individual, family groups, associations, and communities. Impact of aging on social service delivery systems, public policy and role of social work. Prereq: senior standing or consent. DS

SW 480 Topics in Social Welfare (V) An examination of current trends and issues in social welfare. SW majors only.

SW 490 Senior Practicum (4) Field instruction, application, and integration of classroom knowledge with field experiences. Prereq: 391 complete with C or better, and majors only. Co-requisite: 402 and 440.

SW 491 Senior Practicum (4) Field instruction, application, and integration of classroom knowledge with field experiences. Prereq: 490 complete with C or better, and majors only. Co-requisite: 403.

SW 499 Directed Reading and Research (V) Planned in consultation with the faculty advisor.

SW 500 Master’s Plan B/C Studies (1)

SW 600 Social Practice with Individuals (3) Beginning practice course introduces students to the basic processes of social work and the roles and skills needed for generalist practice. Relevant theories of social work and students as individuals are explored for the efficacy with various problems and for their applicability to practice with various ethnecultures, social classes, and oppressed populations. Interviewing and interpersonal skill development are incorporated. A-F only. Prereq: admission to MSW program. (Fall only)

SW 607 Social Work Practice with Families and Groups (3) Practice course builds upon the generalist framework. Content presentation in 606. Special emphasis is given on models for assessment, intervention, and evaluation of practice with families and groups. Relevant theories of groups and the principles of group dynamics and group work methods are examined in regard to task, therapeutic, psychoeducational, and social development groups. Family content includes structural, behavioral, communication/experiential, and culturally-specific theories of intervention. A-F only. Prereq: 606.

SW 630 Social Welfare Policy and Services (3) Examinations in a historical and critical and evaluative framework the economic, social, political, organizational, and administrative factors influencing the development, formulation, and implementation of social welfare policies. Prereq: SW 360 and 361. A-F only. Prereq: graduate standing. (Fall only)

SW 631 Social Work Practice in Communities and Organizations (3) Community conceptualization; organized roles of developer, enabler, broker, mediator, and advocate in problem-solving technology; the special characteristics of the social worker as community organizer; matrix of structural objectives; sources and use of power; how to build an organization; and interorganizational negotiation. SW majors only. A-F only. Prereq: 606, graduate standing, and consent. (Spring only)

SW 635 Organization and Administration in Social Work (3) Introduction to formal organization theory. Social service administration examined and implications for service delivery systems developed. SW majors only. Prereq: graduate standing.

SW 636 Policies, Programs and Services on Aging (3) Examines the policies, programs, and service delivery for older adults. Students learn about the aging network, assess older adults’ needs, link older adults to appropriate services in the community, and track legislative bills that address older adults’ quality of life. Prereq: graduate standing or consent.

SW 637 Death and Dying (3) Physical, social, cultural, psychological, and spiritual dimensions of dying, death, and bereavement. Prereq: graduate standing or consent.

SW 639 Social and Cultural Aspects of Aging (3) Overview of aging from the biopsychosocial, economic and cultural perspectives. Explores common theories of aging. Emphasis on bridging the gap between the realms of concepts and theories, and the world of practice in gerontology. Prereq: graduate standing or consent.

SW 640 Introduction to Scientific Methods and Principles in Social Work (3) Understanding and interpreting results of nomothetic and idiographic research; design principles and statistical analyses and their applicability and to experience the use of concepts and principles in actual practice. A-F only. Prereq: 659. (Spring only)

SW 650 Research Designs and Data Analyses for the Evaluation of Practice Effectiveness (3) Extending the research methods introduced in 640. Covers the range of empirical research methods and data analytic procedures suitable for knowledge building and practice evaluation at all levels of intervention from case to program. A-F only. Prereq: 640. (Spring only)

SW 651 Quantitative Methods I (3) Introduction to quantitative methods in behavioral sciences. Introduction to general linear model as principle of research. Theoretical and practical aspects of statistical techniques and exercises. SW majors only. Prereq: 607 and 640. (Spring only)

Key to symbols & abbreviations: see the first page of this section.
SW 715 Therapeutic Strategies with the Older Adult (3) Focuses on interdisciplinary strategies with older adults: individual, family, and group therapy; eclectic mental health approaches; case management; and environmental interventions. Emphasis placed on the use of these strategies as preventive, as well as supportive, measures for the well, transition, and frail elderly. Meets seminar requirement. SW majors only. Pre: 726.

SW 731 Social Policy Analysis (3) Students pursue in-depth a specific topic in the areas of social planning, social policy analysis, evaluation of social programs, administration, supervision, and consultation. Selectively a comparative perspective is introduced and case studies used to illustrate concepts, principles, and techniques, with precedents from practice. Meets seminar requirement. SW majors only. Pre: 630 or consent.

SW 737 Social Work and the Law (3) Knowledge of legal principles relevant to social work practice in corrections, child-family welfare, health, and mental health. Skills for effective participation in the legal process are acquired in moot court and in practice for testifying. SW majors only. Pre: graduate standing.

SW 741 Review of Research in Social Work (3) In-depth study of research in a substantive area. Each seminar will be devoted to a particular topic e.g., foster care of children, effectiveness of social work intervention, etc. SW majors only. Pre: 650.

SW 743 Individual or Group Research Project—Plan B (V) Independent research (group of two to seven students or by an individual student) undertaken under the sponsorship of a faculty advisor. Elements are selected of a topic related to the practice of social work or knowledge relevant to that practice, utilization of empirical research in collecting and analyzing original data, and preparation of a scholarly paper. SW majors only. A-F only. Pre: 650.

SW 744 Individual or Group Research Project—Plan B (V) Same as 743. A-F only. Pre: 743.

SW 746 Individual or Group Research Project—Plan B (V) Same as 743. A-F only.

SW 750 Analysis and Development of Knowledge for Social Work (3) Focuses on developing an understanding of philosophy of science, theory development, sociologic and epidemiologic, and the analysis and development of knowledge for social work practice. A-F only. Pre: PhD candidate in social welfare or consent.

SW 751 Quantitative Methods II (3) Empirical research methodology with emphasis on design principles and measurement theory; design and measurement issues and problems in cross-cultural research. A-F only. Pre: PhD candidate in social welfare or consent.

SW 752 Qualitative Research: Philosophical, Methodological and Analytic Approaches (3) Theories and methods of qualitative research; problem formulation; research design, data collection and analysis utilizing qualitative approaches. Repeatable three times. A-F only. Pre: 640 or 651 or equivalents; departmental approval.

SW 755 Dissertation (3) Culminating experience in social welfare doctoral specialization: integration of PhD core and specialization course work. Pre: classified student in PhD social welfare program or consent.

SW 772 Seminar in International Social Work (3) Approaches to social problems and trends in the profession in international, cross-cultural perspectives. Emphasis on developmental aspects of social work. Political, economic, social, and cultural factors shaping social welfare in national development. Meets seminar requirement. SW majors only. Pre: graduate standing or consent.

SW 774 Cultural Factors in Work with Hawaiians (3) Hawaiian culture, past and present. Explores and examines possible approaches to working with Hawaiians and past-Hawaiians. Special emphasis on supporting and retaining a Hawaiian system that may promote maximal functioning for those Hawaiians experiencing problems in today’s society. Meets seminar requirement. A-F only. Pre: graduate standing.

SW 76 Seminar on Women and Health (3) Women’s health and women health professionals. Current literature and research regarding attitudes, roles, rights, and health care. Pre: graduate standing or consent. (Cross-listed as NURS 744)

SW 790 Second-Year Practicum (V) Instruction in the field is continued. The practicum of the second year provides an opportunity for the student to test out concepts, principles, theories, and alternate approaches in actual practice settings. SW majors only. A-F only. Pre: 691.

SW 791 Second-Year Practicum (V) Same as 790. A-F only.

SW 797 Advanced Social Welfare Policy Analysis and Change (3) Builds on 630 and emphasizes a more thorough and comprehensive examination of major policies, programs, with special populations central to a concentration (Health, Mental Health, Gerontology, Child and Family). Students learn a more focused and applied analysis of the relationship between social policy, research, and social work practice. SW majors only. A-F only. Pre: 606 and 607; 630 and 631; 640 and 650; 659 and 660; 690 and 691.

SW 800 Dissertation Research (V) Repeatable one time.

Sociology (SOC)

College of Social Sciences

In addition to the prerequisites specified below, all 300-level courses have at a prerequisite SOC 100 or a 200-level sociology course, or consent. In addition to the prerequisites specified below, all 400-level courses require SOC 300 or consent. All prerequisite courses require a minimum grade of C (not C-).

SOC 101 Introduction to Sociology (3) Basic social structures, social structures, and processes.

SOC 214 Introduction to Race and Ethnic Relations (3) Race and ethnic relations in world perspective; social, economic, and political problems associated with perception, existence, and accommodation of these groups within the wider society. (Cross-listed as ES 214) DS

SOC 218 Introduction to Social Problems (3) Theoretical and substantive survey of the nature and causes of social problems; selected topics: poverty, inequality, demography, etc. DS

SOC 231 Introduction to Juvenile Delinquency (3) Forms of juvenile deviance; conditions and processes that result in alienation and deviance of youth, juvenile corrections as institutionalized societal responses. DS

SOC 251 Introduction to Sociology of the Family (3) Family patterns, mate selection, parent-child interaction, socialization of roles, legal sanctions, trends in organization, functions. DS

SOC 300 Principles of Sociological Inquiry (4) (3 Lec, 2 50-min Lab) Basic methods of sociology for production and analysis of data. Foundations for understanding research and for advanced courses in methods and statistics. DS

SOC 300A Principles of Sociological Inquiry (4) (3 Lec, 2 50-min Lab) Basic methods of sociology for production and analysis of data. Foundations for understanding research and for advanced courses in methods and statistics. Restricted to students in the honors program and required for students taking the honors track in sociology. A-F only. DS

SOC 301 Survey of Urban Sociology (3) Urban processes and social problems, such as poverty, crime, racial segregation, homelessness, housing policy, urbanization, and neighborhood ethnic diversity. How places shape identity and community. How research methods applied to communities, places, and neighborhoods of Hawai‘i. (Cross-listed as PLAN 301) DS

SOC 305 Women and Health (3) Explores current issues in the conceptualization and delivery of health care for women. Pre: 100 or any 200-level SOC course, or WS 151 or WS 202, or POLS 110; or consent. (Cross-listed as W 305) DS

SOC 311 Survey of Social Inequality and Stratification (3) Introduction to social stratification theory and research; definition and measurement of socioeconomic status; racial, ethnic and gender inequality; differences in levels of prestige, influence, social mobility. DS

SOC 313 Survey of Sociology of Work (3) Work from viewpoint of individuals; meaningfulness versus productivity; how work, economics, and the industrial system affect individual goals. DS

SOC 316 Survey of Social Change (3) Causes, processes, and effects of social change, using single-
and multi-cause models in simple and complex industrialized societies. DS
SOC 318 Women and Social Policy (3) Social and economic policies affecting women in families, education, social services, government, health care, the economy; public policy implementation and development; policy impact on women. Pre: 100 or any 200-level SOC course, or WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 318) DS
SOC 321 Survey of Sociological Theory (3) Major theorists and their influences, from Comte to today. DS
SOC 332 Survey of Sociology Law (3) Law as public and political elements of the social order; how it is organized and operates; determinants of effectiveness; ways it adapts to and facilitates changing social conditions. DS
SOC 333 Survey of Criminology (3) Concepts used in crime, law enforcement, criminal justice, and corrections. Types of criminal behavior; costs and effects of control. DS
SOC 335 Survey of Drugs and Society (3) Use of mood- and mind-altering drugs in America among adults, youth, and cross-culturally, illicit drug culture, psychedelics, and perception; social norms and deviant behavior. DS
SOC 336 Deviant Behavior and Social Control (3) Interrelations of deviance, criminology, juvenile delinquency, corrections, social control, sociology of law. Key concepts, theories. DS
SOC 341 Survey of Social Psychology (3) Major principles, theories, concepts of conformity and change, person perception and attribution theory; social role, role conflict and role behavior, group structure, and behavior. DS
SOC 352 Survey of Sociology of Education (3) Formal education as one aspect of socialization. Emphasis on American system; business, military, and religious institutions. DS
SOC 353 Survey of Sociology of Aging (3) Aging as a social phenomenon; social impacts of growing elderly population and emerging social patterns among the elderly. Important theoretical perspectives and cross-national research. DS
SOC 354 Survey of Medical Sociology (3) Social factors in disease and treatment; illness behavior, roles of patients and healers; nature of healing professions; use of medical services; alternative systems of medical organizations. DS
SOC 356 Sociology of China (3) Social institutions, family, community, education, stratification, government, economy; impact of modernization and revolution on their contemporary transformation. A-F only. DS
SOC 357 Sociology of Japan (3) Japanese social institutions; growth of Japanese society and society; role of artist, audience, critic, patron, museum; Western and other societies; attitudes toward new styles. DS
SOC 358 Sociology of Korea (3) Social institutions, family, education, religion, cultural values, social classes, economic development, social movements, gender relations, North-South relations, and unification issues. A-F only. Pre: 100 or any 200-level SOC course, or consent. DS
SOC 362 Sociology of Gender (3) Effect of sex and gender roles (both traditional and nontraditional) on attitudes and behavior within the family and educational, economic, and governmental systems. Recommended: at least one WS course. Pre: 100 or any 200-level SOC course, or WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 362) DS
SOC 367 Sustainability, Technoscience, and Social Justice (3) Examines politics of sustainability and technoscience with an explicit attention to social justice and power relations in society. A-F only. Pre: 100 or any 200-level SOC course, or WS 151 or any 200- or 300-level WS course, or consent. (Fall only) (Cross-listed as SUST 367 and WS 367) DS
SOC 374 Law, Politics and Society (3) Relationships between law/government and society will be explored. Emphasis is placed on several dimensions of legality: legal ‘indeterminacy’ and some of the many things that law does for us and to us; law’s response to violence; the connections between law and social change; access to the law and its sociological dimensions; how/why law fails and what happens when it does. A-F only. Pre: 100 or any 200-level SOC course, or a 100 or 200-level POLS course, or consent. (Cross-listed as WS 374) DS
SOC 400 Food, Body, and Women: Analysis of Biopolitics (3) Explores how food, body, and other "matter of life" are imbedded in biopolitics from the feminist perspectives. A-F only. Pre: WS 151 or three credits of upper level English course, or consent. (Spring only). (Cross-listed as WS 400) DS
SOC 401 Analysis in Urban Sociology (3) Urbanization in developed and developing countries, the rural-urban continuum at the local, national, and cross of metropolitan regions, theories of urban location and growth, housing and urban renewal. DS
SOC 411 Analysis in Social Stratification (3) Approaches to research in social inequality: communicative, structural, cross-cultural analyses of poverty, working class, middle class, power structure, social mobility, etc. DS
SOC 412 Analysis in Population and Society (3) Global and U.S. patterns of population growth; composition and distribution, elementary demographic techniques; development issues and population policy. Pre: 300 or consent. (Cross-listed as CH 412) DS
SOC 413 Analysis in Economy and Society (3) Study of the dominant trend of economic change and its impact on society; globalization of economic activities and transformation of industrial society to postindustrial society; restructuring and downscaling and their impact on employment and income distribution; gender relations in workplaces; the impact of globalization on the newly industrializing countries. Pre: 300 or consent. DS
SOC 415 Technology and Society (3) Nature of technology, social forces that affect its adoption; impact on society; innovation, DS
SOC 418 Women and Work (3) Gender and race division of labor internationally; racial and gender differentials in wages, training, working conditions and unemployment; historical trends and future directions. Pre: 300, or any 300-level WS or ES course, or consent. (Cross-listed as ES 418 and WS 418) DS
SOC 419 Analysis in Formal Organizations (3) Schools, hospitals, industries, prisons, and government agencies analyzed in terms of self-actualization, alienation, human relations, communication, leadership, organizational conflicts. DS
SOC 431 Analysis in Criminology/Juvenile Delinquency (3) Research in systematic social deviation. Scale of delinquents/ criminals, official data, gangs, identification and measurement of delinquent/criminal value orientations, etc. DS
SOC 432 Analysis in Corrections (3) Behavioral assumptions of various correctional practices and modes of organization; current "in-community" approaches. DS
SOC 433 Analysis in Law and Social Change (3) Interrelationships between legal orders and other social institutions; use of "law" to change major status relationships, e.g., boss-worker, woman-man, child-adult. DS
SOC 435 Women and Crime (3) Women's relations with the criminal justice system; types of women's offenses; responses to women's crime; women as victims; women as workers in the criminal justice system. Recommended: at least one WS course. Pre: 300, or WS 151 or any 200- or 300-level WS course; or consent. ((Cross-listed as WS 435) DS
SOC 441 Social Structure and the Individual (3) Effects of social institutions on individuals. Role of socioeconomics, love, andCommandLine, family structure, peer group, schools, and occupational roles in socialization. DS
SOC 445 Analysis in Gender Violence (3) Historical and structural analysis of gender violence, including domestic and sexual abuse, prostitution, trafficking, cross-cultural perspectives, social policy and practices. Junior standing or graduate standing only. Pre: 300 or consent. (Repeatable 1 year). DS
SOC 446 Gender Violence Over the Lifecycle (3) Examines the problem of violence, particularly sexual violence, over the life cycle. Offers gendered perspective in activities aimed at prevention and treatment of violence, and cross cultural perspectives. Pre: 300, WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 446) DS
SOC 451 Analysis in Marriage and the Family (3) Theory and methods of studying social interaction in marriage and the family; examination of marriage, marriage, love, and family. Empirical research emphasizing Hawai‘i. DS
SOC 452 Marriage and Family: A Feminist Perspective (3) Sex-role socialization, motherhood, work-family conflicts. Alternative family structures in U.S. and other countries. Recommended: at least one WS course. Pre: 300, or WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 452) DS
SOC 453 Analysis in Sociology of Aging (3) Social and research issues significant to delivery of long-term care services to the elderly; cost, quality, availability of services, evaluation of programs, role of family, formal and informal care services. DS
SOC 454 Analysis in Medical Sociology (3) Application of sociological theories and concepts to medical social situations and behavior; problems of obtaining data for research and analysis. DS
SOC 455 Sociology of Religion (3) Seminar in research on sociological aspects of religious sectarianism; attention to Hawai‘i. Pre: 300 or consent. (Cross-listed as REL 455 and GHP 455) DS
SOC 456 Racism and Ethnicity in Hawai‘i (3) The historical and contemporary social processes involved in inter-ethnic relations in Hawai‘i. Pre: 300 or one ES 300 level course, or consent. (Cross-listed as ES 456) DS
SOC 457 Sociology of the Arts (3) Relation of art to society; role of artist, audience, critic, patron, museum; Western and other societies; attitudes toward new styles. DS
SOC 458 Analysis in Sports and Society (3) Critical perspectives on sports and society. Topics include power and inequality; mobility, status, and economics; youth development; globalization; gender and violence in sports and the wider society. Pre: 300 and 321. (Spring only) DS
SOC 459 Popular Culture (3) Popular culture as manifested in film, sports, TV, comics, magazines, etc.; relation to sociological theories and studies. DS
SOC 475 Analysis in Survey Research (3) Survey research design and analysis, including theory section instrument construction, sampling techniques, data collection, computerized data analysis, and writing up research reports of the student. DS
SOC 476 Social Statistics (3) Common statistical procedures emphasizing univariate and bivariate description; some attention to multivariate techniques and statistical inference, within context of research procedures. Pre: 300 or consent. Co-requisite: 476L. DS
SOC 476L Social Statistics Laboratory (1) Required lab for computer applications for analysis of sociological data. CR/NCR only. Co-requisite: 476. DS
SOC 478 Analysis in Field Research Methods (3) Techniques for collecting and analyzing qualitative data. Participant observation; small groups in natural settings; community studies. Grounded theory; thematic analysis of everyday life. DS
SOC 491 Discussion Group Leader-Freshman Seminar (6) Students lead a freshman seminar section of sociology and meet weekly with instructor for substantive background. DS
SOC 492 Politics of Multiculturalism (3) The development of ethnic relations and political approaches to multiculturalism in two multietnic nations: Canada and the U.S. A-F only. Pre: 300 or any 300-level ES course, or consent. (Cross-listed as ES 492) DS
SOC 495 Topics in Sociology (3) Topics course that explore current issues and try new ideas. Repeatable two times. Pre: 300. DS
SOC 496 Topics in Sociology: Student Projects (V) Students create their own study group and solicit an advisor from faculty. Consult department for assistance. DS
Key to symbols & abbreviations: see the first page of this section.
SOC 499 Directed Reading or Research (V) Repeatable unlimited times. Prec: 300 and consent of instructor. All graduate courses in the department require classified standing in sociology or consent. Additional prerequisites as noted.

SOC 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Prec: master’s Plan B or C candidate and consent.

SOC 605 Statistics for Regression Analysis (3) Dealing with the multiple linear regression and logistic regression models, focusing on modeling, i.e., specification of the explanatory variables to answer different research questions. Emphasis on applications using statistical package programs. SOC 605L is required.

SOC 605L Regression Analysis Laboratory (1) Lab for computer analysis skills is required for students taking SOC 605. CR/NC only. Corequisite: SOC 605.

SOC 606 Research Methods and Design (3) Emphasis on theory selection, theory construction, and choice of research strategies.

SOC 607 Seminar in Methods of Content Analysis (3) Content analysis combines quantitative and qualitative methods to analyze text systematically. Covers sampling and case selection; manual and computer-assisted methods of coding and analyzing textual data; selecting reports using content analysis data. Repeatable one time. (Once a year)

SOC 608 Survey Research Design and Analysis (3) Survey study designs, survey sampling, questionnaire construction, interviewing, pre-tests, pilot studies, logic of measurement, table construction, and elaboration models. Prec: consent. (Cross-listed as EDEA 608 and EDEP 602)

SOC 609 Seminar Qualitative Research (3) Advanced setting conducting fieldwork in natural social settings with emphasis on qualitative techniques, political and ethical considerations, data management and assessment, interpretation and reflexive writing. Repeatable unlimited times. Prec: Consent.

SOC 611 Classical Sociological Theory (3) Seminar offers a critical overview of major perspectives and representative works in sociological theory from 19th-century to the 1960s, including intellectual contexts and historical development. A-F only. Prec: graduate standing. (Fall only)

SOC 612 Contemporary Sociological Theory (3) Seminar offers a critical overview of major perspectives and representative works in sociological theory from the 1960s to the present, including intellectual contexts and historical development. A-F only. Prec: graduate standing. (Spring only)

SOC 613 Organizational Analysis (3) Theoretical approaches to analyzing organizational structure and process; organizational pathologies and effectiveness; the organization and its environment.

SOC 615 Medical Sociology (3) Covers the major paradigms for analyzing social epidemiology, the political economy of health systems, health service organizations, health and wellness behaviors illness perception and help-seeking, doctor-patient interaction, and adaptations to illness. Prec: graduate standing or consent.

SOC 616 Seminar in Stress and Health (3) Analysis of current theory and empirical research on relationship of stress and health; sociological, psychological, and community psychology models and current issues.

SOC 617 Sociology of Mental Health and Illness (3) Examines sociological research and theories about mental health and illness. A key question in medical sociology will be addressed: What is the relationship between society and mental health? Repeatable one time.

SOC 620 Seminar in Social Stratification (3) Classical theories of class, contemporary developments; crucial research issues, appropriate methodologies. Repeatable one time. Prec: classified graduate standing or consent.

SOC 625 Feminist Sociology (3) Key themes in feminist criminology are explored including focus on masculinities and crime, race and intersectionality, global criminality, and the ways in which the criminal justice system controls women and girls. (Cross-listed as WS 625)

SOC 631 Seminar in Criminology (3) Major current theories, history of their development, elaborations of typologies, implications for treatment modalities.

SOC 632 Criminal Justice System (3) Examination of the criminal justice system; the existence of discretion and limits placed upon it. Prec: consent.

SOC 638 American Punishment (3) Examines the history of American criminal punishment, from the birth of the legal punishment to the rise of the prison-industrial complex. A-F only. Prec: graduate standing. (Cross-listed as AMST 638)

SOC 651 Introduction to Human Population (3) Comparative analysis of quantitative and qualitative population data; life tables, different sizes, distribution, and composition; impact of population size and composition on society.

SOC 659 Methods of Demographic Analysis (3) Statistical evaluation and analysis of population data; data sources; population growth; composition; standardization of rates; mortality and the life table; nuptiality and fertility; distribution, migration, urbanization; projections and stable population theory. (Cross-listed as GPHS 659 and PH 659)

SOC 660 Teaching Seminar (3) Examines research on teaching, learning, and ethics, as well as practical skills for teaching at the university level. Syllabi and teaching philosophy are developed, which are useful for the academic job market. Graduate standing only.

SOC 670 Sociology of Sustainability (3) Analyses of sustainability, environmental, and technoscience issues from sociological perspectives. Graduates only. Prec: Consent. (Fall only) (Cross-listed as SUST 670)

SOC 699 Directed Reading/Research (V) Repeatable unlimited times.


SOC 701 Seminar in Evaluation Research (3) Research design, data collection, field problems and analysis in the evaluation of social programs. Examples from criminal justice, corrections, drug treatment, mental health.

SOC 705 Advanced Statistics (3) Dealing with advanced statistical methods beyond multiple linear regression, such as logit, event history analysis, and multi-level models. Emphasis is on applications of the techniques to social science research. Repeatable one time only.

SOC 706 Cultural Analysis (3) Contemporary issues in cultural sociology, covering key theoretical perspectives, analytic methods and substantive areas for empirical research. A-F only.

SOC 711 Seminar in Sociology of Knowledge (3) Sociological theory applied to bases of knowledge in everyday life, stereotypes, and the sciences. Research and theory-building activities of sociologists; ethnomethodology; construction of social structure, culture, and consciousness. Repeatable one time only.

SOC 715 Seminar in Current Issues in Sociology (3) Substantive areas that are of current interest and the focus of research, but not addressed in other courses. Repeatable two times.

SOC 716 Advanced Medical Sociology (3) Application of theoretical paradigms and methodologies to the examination of selected research topics in the field of medical sociology. Repeatable one time. Prec: Consent.

SOC 718 Seminar in Aging, Culture, and Health (3) Overview of the major theories, perspectives, and empirical findings relating to aging in various cultural contexts. SOC, PSY, NURS, SW, PH majors only. Prec: 606 (with a grade of B or better). A-F only. (Fall only) (Cross-listed as GPHS 718)

SOC 719 Comparative Family and Gender (3) Discusses the major perspectives on family and gender relations and examines related empirical research. Emphasis is on the cross-cultural comparisons across the U.S. and Asia in the context of globalizing economies and cultures. A-F only. (Alt. years) (Cross-listed as GPHS 719)

SOC 720 Comparative Study of East Asia (3) Comparative study of social organization, social processes, and change of both capitalist and communist countries of East Asia, with each other and other areas of the world. Repeatable one time. Prec: 611 or consent.

SOC 721 Social Change–Paciﬁc Islands (3) Analysis of social change; transformation from subsistence societies to commodiﬁed, wage-labor societies with participation in world economy.

SOC 722 Modern Japanese Society (3) Social and behavioral studies of Japanese values, social organization, and personality development. Problems of value conﬂict, political role, tradition, and social change. Repeatable one time only.

SOC 723 Seminar in Modern Chinese Society (3) Developmental policies, social change, and impact on modern Chinese social institutions. Includes China, Hong Kong, and Taiwan. Social and demographic change, population, social stratification, gender, and family problems. Repeatable one time.

SOC 725 (Alpha) Seminar in Race and Ethnicity (3) An examination of how ideas of “race” and “ethnicity” are constructed, and how this reﬂects and shapes social structures and relationships; (B) anti-racism studies; (C) ethnic identity and nationalism: cooperation and conﬂict; (D) race, place, and inequality. Repeatable up to two times in different alphas. Graduate students only. (Alt. years)

SOC 730 Conﬂict Analysis/Resolution (3) Seminar on the analysis of conﬂict resolution. Faculty from law, political science and sociology will present multidisciplinary analysis and intervention strategies on contemporary conﬂicts. A-F only. Prec: graduate standing or consent.

SOC 741 Seminar in Social Stratification and the Individual (3) Intensive study and individual research projects in a selected topic. Theoretical and methodological issues in relation to social and individual levels of analysis. Recommended: 612.

SOC 750 Seminar in Social Movements (3) Study of sociology of social movements, plus independent student research. Repeatable one time.

SOC 751 Development in Asia (3) Theories and available research methods examined for applicability to developing areas: specific examples from Asia. A-F only. Repeatable one time. Prec: graduate standing or consent.

SOC 753 Urban Sociology (3) Demographic trends in urban growth; nature and dimensions of urbanization and urbanism; ancient, American, and Third World cities; ecological theories of urban growth; lifestyle.

SOC 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.

Spanish (SPAN)

Spanish (SPAN) All courses are conducted in Spanish. A grade of C or better in the prerequisite courses is required for continuation.

SPAN 101 Elementary Spanish (3) Conversation, grammar, reading, HSL

SPAN 102 Elementary Spanish (3) Conversation, grammar, reading. Prec: 101, HSL

SPAN 103 Intensive Elementary Spanish (6) Course content of SPAN 101 and 102 covered in one semester. Three two-hour sessions per week. HSL

SPAN 201 Intermediate Spanish (3) Continuation of oral practice and grammar study; increasing emphasis on reading and written composition. Prec: 102 or 103. HSL

SPAN 202 Intermediate Spanish (3) Continuation of 201. Prec: 201. HSL

SPAN 203 Intermediate Spanish for Business (6) SPAN 201 and 202 content combined, oriented to business Spanish. Three 50-minute sessions per week plus online work. Prec: 102 or 103. HSL

SPAN 258 Intermediate Spanish abroad (3) Intensive course of full time formal instruction on the second-year level in Spanish language and culture in a Spanish-speaking country. Prec: 102 or 103. HSL

SPAN 259 Intermediate Spanish abroad (3) Continuation of 258. HSL

SPAN 300 Legends, Myths, and Current Events (3) Development of language skills through reading of literary and cultural texts. Prec: 202 or 205 or 259.

SPAN 301 Language and Writing (1)
Improvement of Spanish vocabulary, language accuracy, and expression of ideas in Spanish through writing. Pre: 202 or 203 or 259, or consent.

SPAN 302 Language and Writing II (3) Improvement of Spanish vocabulary, language accuracy, and expression of ideas in Spanish through writing. Pre: 301 or 310, or consent.

SPAN 303 Conversation I (3) Intensive practice in spoken Spanish, focusing on the preparation and completion of oral presentations. Pre: 301 (or concurrent), or consent.

SPAN 304 Conversation II (3) Continuation of 303. Pre: 303 or consent.

SPAN 305 Introduction to Spanish-English Translation (4) Technical introduction to Spanish-English translation with translations of texts from Spanish to English and the reverse. Pre: 301 or 310, or consent.

SPAN 306 Alpha Spanish for Professionals (3) Language in specific professions. (B) commercial Spanish; (C) medical Spanish. Sophomore standing or higher. Pre: 301 or 310, or consent.

SPAN 308 Introduction to Spanish-English Interpreting (3) Students will begin to develop the listening and memory skills for direct and inverse interpretation. Sophomore standing or higher. Pre: 301 or 310, or consent.

SPAN 310 Spanish for Heritage Speakers (3) Focuses on standard and academic varieties of Spanish for English-dominant heritage speakers in order to improve their literacy skills. Pre: placement exam. (Fall only)

SPAN 320 Gateway to Hispanic Literature (3) Introduction and development of Spanish skills for critical reading and writing, rhetoric, and vocabulary. Choices with particular emphasis on literary analysis and academic writing. Online course. Pre: 301 or 310 or consent. DL

SPAN 330 Phonetics and Pronunciation Practice (3) Analysis of the Spanish phonological system, in contrast with English. Practice in pronunciation. Pre: 301 or 310 or consent. DL

SPAN 351 Spanish Cultural Perspectives (3) Survey of the history and cultures of Spain. Pre: 301 or 310, or consent. DH

SPAN 352 Alpha Latin American Cultural Perspectives (3) Survey of the history and culture of Latin America. (B) Pre-Colombian and Colonial periods; (C) Independence, nationhood and current issues. Repeatable one time for other topics, but not for the same topic. Pre: 301 or 310, or consent. DH

SPAN 358 Third-Level Spanish Abroad (3) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 202 or 259 or equivalent.

SPAN 359 Third-Level Spanish Abroad (3) Continuation of 358.

SPAN 360 Intensive Third-Level Spanish Abroad (V) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 202 or equivalent.

SPAN 361 Spanish Literature I (3) Reading and discussion of representative works of Spanish literature: origins to 18th century. Pre: 301 or 310 or consent. DL

SPAN 362 Spanish Literature II (3) Reading and discussion of representative works of Spanish literature: 18th century to present. Pre: 301 or 310 or consent. DL

SPAN 371 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature. Modernism to the present. Pre: 301 or 310 or consent. DL

SPAN 372 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature. Modernism to the present. Pre: 301 or 310, or consent. DL

SPAN 396 Introduction to Hispanic Film (3) Introduction to the study and analysis of genres, techniques, and cinematic styles as used in Hispanic film. Pre: 301 or 310 or consent. DH

SPAN 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times. A-F only. Pre: 301 (or concurrent), consent and departmental approval.

SPAN 400 Spanish Language in Society (3) Explores issues in Spanish language in society (media, communication, advertising, government, technology). Introduction and examines current sociolinguistic and sociopragmatic issues. Pre: 330 or consent.

SPAN 403 Advanced Composition and Conversation (3) Advanced practice: emphasis on building academic vocabulary through classroom presentations. Pre: 301 or 310, or consent.

SPAN 405 Spanish-English Translation (3) Factors in the art of translation. Practice in translating material from Spanish to English and the reverse. Pre: 305 or consent. (Cross-listed as TI 404)

SPAN 410 History of Hispanic Linguistics (3) Evolution of Spanish from Latin; modern social and geographical dialects. Pre: 302 or 330, or consent.

SPAN 452 Introduction to Spanish Linguistics (3) Analysis of morphology, syntax, and semantics. Pre: 302 or 330, or consent.

SPAN 458 Fourth-Level Spanish Abroad (3) Intensive course of full-time formal instruction on the fourth-year level in Spanish linguistics, civilization, culture, and literature in a Spanish-speaking country. Pre: any two of 301, 302, 303, 358, 359, or 360.

SPAN 459 Fourth-Level Spanish Abroad (3) Continuation of 458.

SPAN 460 Intensive Fourth-Level Spanish Abroad (V) Intensive formal instruction on the fourth-year level in Spanish language and culture in a Spanish-speaking country. For semester programs only. Pre: 360 or equivalent.

SPAN 461 Spanish Neoclassicism/Romanticism (3) Representative works from Spanish Neoclassicism (18th century) and Romanticism (19th century). Genres: theater, poetry, essay, novel. Pre: 361 or 362, or consent. DL

SPAN 477 U.S. Latino Literature (3) Study of the literature of U.S. Hispanics written in Spanish or bilingually. Pre: 371 or 372, or consent. DL

SPAN 478 Hispanic Women's Literature (3) The feminine experience in Western literary and cultural traditions in Spain and Latin America. Pre: one of 361, 362, 371 or 372; or consent. DL

SPAN 480 Hispanic Theater (3) Study of representative authors and plays from Spain and Latin America. Repeatable one time. Pre: one of 361, 362, 371, or 372; or consent. DL

SPAN 495 (Alpha) Topics in Hispanic Scholarship (3) Study of representative writers from various regions or periods: Sor Juana, Bernal Díaz del Castillo. Pre: graduate standing or consent.

SPAN 496 Studies in Latin American and Iberian Film (3) Intensive study of selected topics in Latin American and/or Iberian cinemas; e.g. national or regional cinemas, periods, movements or issues, major filmmakers, film theory and criticism. Repeatable two times. Pre: one of 361, 362, 371, 372, or 396; or consent. DH

SPAN 499 Directed Reading and Research (V) Independent study of approved readings and research with faculty supervision. A-F only. Repeatable two times. Pre: consent of instructor and departmental approval.

SPAN 605 Spanish Translation Studies (3) Study of social, cultural, and pragmatic issues in Spanish Translation Studies. Graduate standing only. Pre: consent. (Alt. years)

SPAN 653 Spanish Dialectology (3) Introduction to the dialects of Spanish spoken around the world. Lectures and discussion; observation of the variation and change of Spanish phonology, lexicon, morphology, and syntax. Graduate students only. Pre: consent. (Alt. years)

SPAN 658 Seminar in Spanish Applied Linguistics (3) Repeatable unlimited times with consent. Pre: graduate standing or consent.

SPAN 659 Topics in Spanish Applied Linguistics (3) Supervised participation in online course at UNED University (Spain) relevant to student’s specialization for Second Language Studies or Spanish Applied Linguistics. Students also complete projects and meet with advisor to check progress. Repeatable two times for different topics. Graduate students only. Pre: Spanish Proficiency assessment: B- (CERFL) or Advanced Low (ACTFL).

SPAN 660 Medieval Spanish Literature (3) Representative readings in prose and poetry, from origins through 15th century. Pre: graduate standing or consent.

SPAN 665 (Alpha) Golden Age Literature (3) Spanish literature from the 16th and 17th centuries: (B) theater; (C) prose; (D) poetry; (E) Cervantes. Pre: graduate standing.

SPAN 667 Alpha (3) 20th-Century Spanish Literature (3) Representative works from 20th-century literature. Genres: poetry, theater, essay, novel. (B) generation of 1898; (C) pre-Civil War; (D) post-Civil War. Pre: graduate standing or consent.


SPAN 681 Colonial Spanish-American Literature (3) Spanish-American literature from period of discovery to independence. Representative authors such as Sor Juana, Bernal Díaz del Castillo. Pre: graduate standing or consent.

SPAN 682 Spanish-American Poetry (3) Study of representative poets from various periods: Martí, Darío, Mistral, Guillen, Neruda, etc. Pre: graduate standing or consent.

SPAN 683 Spanish-American Short Story and Essay (3) Study of representative writers from various periods: Sor Juana, Palma, Quiroga, Reyes, Borges, etc. Pre: graduate standing or consent.

SPAN 695 Seminar in Hispanic Literature (3) A period, author, genre, or region. Repeatable unlimited times with consent. Pre: graduate standing or consent.

SPAN 699 Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.

Key to symbols & abbreviations: see the first page of this section.

Special Education (SPED)

College of Education (SPED)

SPED 304 is a prerequisite course to the Post-Baccalaureate Special Education (PB-SPED) in mild/ moderate disabilities program; SPED 412 is a prerequisite course to the PB-SPED in severe/profound disabilities program. Students must complete all prerequisite courses prior to beginning program courses.

All field course work requires candidates to obtain current TB clearance, background check, and liability insurance.

SPED 201 Disability and Diversity in the Media (3) Explores the changing disability experience as described in film, literature, advertising, news, sports and dialogue with persons with disabilities in the Pacific region and around the world. A-F only. DS

SPED 304 Foundations of Inclusive Schooling (3) Foundations of "special education" exploring philosophies, diverse and historical viewpoints, laws, and service delivery. Students reflect upon texts, films and interviews with persons with disabilities, their families and professionals to understand the culture of disability. A-F only. DS

SPED 315 Field Training – Blended ECE (4) Students spend 15 hours per week in settings appropriate to concurrent coursework and supervised by participating teacher and college supervisor. Repeatable two times. A-F only. Pre: 304 and ITE 415 (with a minimum grade of B-), or consent. Cross listed as ETE 315.

SPED 332 Young Children with Communication Needs (3) Communication development of infants and young children, ages birth through age 8, with and without disabilities and intervention to support the development of communication skills in inclusive community and school environments. A-F only. Pre: HDFS 331 (with a minimum grade of B-) or consent.

SPED 390 Alpha (3) Study of graduate in Special Education (V) Full-time supervised experience in school. (B) elementary/special education; (C)
early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only. Pre: 400 (with a minimum grade of B) and requirements for registration listed under "student teaching." Co-requisite: 391B for (B); 391C for (C); 391D for (D).

SPED 391 (Alpha) Seminar for Student Teachers in Special Education (V) Seminar relating current educational theories with experiences. (B) elementary/ secondary education/special education; (C) early childhood education/ special education; (D) unclassified. Repeatable one time per alpha. A-F only. Pre: requirements for registration listed under "student teaching." Co-require: 390B for (B); 390C for (C); 390D for (D).

SPED 392 Student Teaching in Special Education Modified (V) Modified student teaching for students from another institution completing student teaching at UH or for students who have prior extraneous teaching experience. A-F only. Pre: requirements for registration listed under "Student Teaching," approval of review committee and consent.

SPED 400 Field Training in Special Education (V) Students participate in classroom settings appropriate to concurrently enrolled courses; supervision provided by participating teacher and college supervisor. Repeatable up to 10 credits. A-F only. Pre: 304 (for concurrent enrollment). Co-requisite: one of 461, 462, or 485; or consent.

SPED 402 Writing for Educational Professionals (S) Instruction on learning to write as professional educators. Strategies for developing and enhancing professional writing for the field of education. Peer and instructor feedback on writing throughout course. Technologies used to assist with writing. Repeatable one time. A-F only.

SPED 412 Individuals with Severe Disabilities/ Autism (3) Etiology, characteristics, and development of individuals with severe disabilities and autism; historical, theoretical, and legal issues affecting the individuals with severe disabilities and autism; multicultural, family, and consumer issues; professional and ethical issues in providing services. A-F only.

SPED 414 Education of Gifted Students (3) Characteristics and educational provisions for gifted children and youth with particular attention to psychological aspects of creativity.

SPED 414 Education Program for the Gifted/ Talented (3) Utilization and evaluation of teaching/ learning models for gifted/talented students, including consideration of roles, expectations for learning, and organization of classroom 414 or concurrent.

SPED 421 (Alpha) Strategies for Reading Difficulties (V) Overview of methods, programs, and strategies for reading instruction designed to improve the performance of elementary students, grades K-6, who experience reading acquisition, fluency, and comprehension. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only.

SPED 425 (Alpha) Partnerships with Families and Professionals (V) Knowledge and skills for relating effectively with families and professionals on behalf of the children and youth with and without disabilities. Coverage of the rights of family members and school personnel interact. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only.

SPED 443 Disability and Diversity in Physical Activity (4) (3 Lec, 1 1-hr. Lab) Participants will explore issues of socio-cultural, sexual orientation, religion, and individual exceptionalities, and how these affect a student’s learning and behavior in the physical education setting. Required field experience. Repeatable one time. A-F only. (Cross-listed as KINES 443).

SPED 444 Educating Exceptional Students in Regular Classrooms–Elementary (3) Teaching elementary students with disabilities and those who are gifted/talented. Meeting academic/social needs, classroom management, motivation, peer interaction. Collaboration with regular educators. Includes an emphasis on instruction in writing.

SPED 445 Educating Exceptional Students in Regular Classrooms–Secondary (3) Teaching secondary students with disabilities and those who are gifted/talented. Meeting academic/social needs, classroom management, motivation, peer interaction. Collaboration with regular educators. Includes an emphasis on instruction in writing.

SPED 446 Seminar in Special Education (3) Study of issues, trends, and research into special education programming and service delivery. Repeatable two times. Pre: 390B (B); 391B (C); 391C (D).

SPED 451 Programs for Infants/Toddlers (3) Examination of current theory, research, issues, and models in programs for infants and toddlers including criteria for evaluation and planning. A-F only. Pre: HDFS 230 (or concurrent) and HDFS 331 (or concurrent), or consent. (Cross-listed as EDCS 451)

SPED 452 Preschool Children–Special Needs (3) Examination of application of current research and practices for serving preschool children with special needs. Pre: HDFS 230 (or concurrent), or consent.

SPED 461 (Alpha) Assessment, Planning, and Instruction for Students with Mild/Moderate Disabilities (V) Techniques in the assessment, planning, and instructional process appropriate for students with mild/moderate disabilities. Stress on program development to facilitate inclusion of students with mild/moderate disabilities in general education setting. (B) elementary/special education, V credits; (C) early childhood elementary/special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 462 (Alpha) Assessment, Planning, and Instruction for Students with Severe Disabilities/ Autism (V) Techniques in the assessment, planning, and instructional process appropriate for students with severe disabilities. Focus on program development to facilitate the inclusion of students with disabilities into general education settings. (B) elementary/special education, V credits; (C) early childhood special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 480 (Alpha) Instructional and Assistive Technology (V) Addresses instructional and assistive technologies for special education and general education settings; technology-based instructional strategies that support inclusion and address academic and behavioral objectives; and application of Universal Design for Learning to support access to the general curriculum for diverse students in the PreK-12 classroom. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha; repeatable up to six credits for (B). A-F only.

SPED 485 (Alpha) Classroom Organization and Management (3) Knowledge and skills related to basic organizational management of an inclusive classroom, including scheduling, grouping, and stress management and management of behavior that applies to students with disabilities. Explored behavior management, emphasizing behavior change and practical implementation of learning principles. (B) elementary/special education, V credits; (C) early childhood education/special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 486 Theoretical Basis for Teaching Special-Needs Students (3) Survey of biophysical, behavioral, social, educational, and affective characteristics of students who are at-risk for school failure and strategies to work with such students. A-F only.

SPED 499 Directed Reading/Research (V) Individual reading, research, and/or projects under direct supervision of instructor. Individual research, presentation, and evaluation of work. A-F only. Pre: consent of instructor or department chair.

SPED 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B candidate and consent.

SPED 501 Post-Baccalaureate in Special Education Program Seminar (1) Mandatory program seminar for Post-Baccalaureate in Special Education (PB-SPED) teacher candidates; access to tools and skills necessary for distance education program success; Introduction to the Special Education teaching profession. Post-Bac in SPED majors only. CR/NC only. Pre: consent.

SPED 526 Field Experience in Special Education-Post Baccalaureate (2) Supervision of 100 hours over a minimum of 11 weeks in settings appropriate to SPED-PCert program emphasis (mild/ moderate or severe/autism); supervision provided by participating teacher and college supervisor. Repeatable two times. Post-Baccalaurate in Special Education only. A-F only. Pre: 304 or 412.

SPED 527 Student Teaching in Special Education-Post Baccalaureate Programs (6) Supervised student teaching for master teacher in PreK-12 educational settings appropriate to SPED-PCert emphasis (mild/ moderate, severe/autism); minimum 280 hours in minimum 11 weeks. Supervision by master teacher and university supervisor. Repeatable two times.

SPED 581 (Alpha) Practicum in Special Education (1) For in-service school/community personnel to present new ideas, approaches, instructional methods, materials for teaching exceptional individuals. (B–E) general SPED; (F–G) secondary programming/SPED; (H–D) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/special needs; (Q–R) arts/ sports/vocational/other special needs; (S–T) aptitude/special needs; (U–W) computer training/special needs; (X–Y) consultant skills/special needs; (Z) Ho'okoho. Repeatable nine times. CR/NC only. Pre: teaching or related work experience.

SPED 582 (Alpha) Practicum in Special Education (2) For in-service school/community personnel to present new ideas, approaches, instructional methods, materials for teaching exceptional individuals. (B–E) general SPED; (F–G) secondary programming/SPED; (H–D) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/special needs; (Q–R) arts/ sports/vocational/other special needs; (S–T) aptitude/special needs; (U–W) computer training/special needs; (X–Y) consultant skills/special needs; (Z) Ho'okoho. Repeatable eight times. CR/NC only. Pre: teaching or related work experience.

SPED 583 (Alpha) Practicum in Special Education (3) For in-service school/community personnel to present new ideas, approaches, instructional methods, materials for teaching exceptional individuals. (B–E) general SPED; (F–G) secondary programming/SPED; (H–D) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/special needs; (Q–R) arts/ sports/vocational/other special needs; (S–T) aptitude/special needs; (U–W) computer training/special needs; (X–Y) consultant skills/special needs; (Z) Ho'okoho. Repeatable eight times. CR/NC only. Pre: teaching or related work experience.

SPED 590 Internship, Special Education (6) Supervised field activities involving the programming and instruction of special-needs students within training programs in Hawai'i and the Pacific Basin. Pre: consent.

SPED 600 Foundations of Exceptionality (3) Theoretical, legal and multicultural foundations for assessing, teaching and developing individual service plans across age and disability groups for persons with disabilities. A-F only. Pre: consent.

SPED 601 Technology for Diverse Learners: Access, Accommodations, and Universal Design (3) Strategies for using assistive technologies, multimedia technology, and telecommunication to design engaging learning environments that promote inclusion and give voice to diverse learners. Emerging technologies for access, accommodations, and universal design are explored. Pre: one of 480, LTEC 414, or LTEC 442.
SPED 602 Special Education Law and Compliance (3) Examination of the federal, state, and local government roles in special education with special emphasis on case and regulatory law. Focus on understanding of education law necessary in providing services to students with disabilities in a variety of placements. Appropriate for special/general education teachers, administrators, or related service providers. Pre: consent.

SPED 603 Principles of Behavior (3) Principles and laws governing behavior and methods that can be used to accomplish educationally relevant changes in student performance. Emphasis on the conceptual basis for changing behavior, and use of technologies for changing behavior in school and community settings. A-F only. Pre: consent.

SPED 605 Collaboration in School and Community Settings (3) Collaborative skills necessary to function as team members and to ensure the success of students with disabilities in inclusive school and community settings. A-F only. Pre: consent.

SPED 606 Language Development for Deaf Children (3) General theories of first and second language development applied to deaf children and English in deaf children. Relationship of theory to educational practice and taught in ASL and English. Repeatable one time. A-F only. Pre: admission into Deaf Education program or consent. (Alt. years)

SPED 607 Audiology and Spoken English for Deaf Students (3) Audiology principles and techniques of audiology and speech (i.e., spoken English) will be used to examine assessment procedures and intervention strategies appropriate to deaf students in a variety of educational placements. Classroom applications will be presented. Taught in ASL and English. Repeatable one time. A-F only. Pre: admission into Deaf Education program or consent. (Alt. years)

SPED 608 Literacy Development for Deaf Students (6) Basic concepts related to language, language development and recognition of language-related learning problems of deaf students; strategies for teaching reading and writing to deaf students. Repeatable one time. A-F only. Pre: 461 and 606, or consent. (Alt. years)

SPED 609 Seminar in Bilingual Deaf Education (3) Study of issues, trends and methods in ASL/English bilingual education for deaf students. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 610 Advanced Assessment and Curriculum Development (3) Assessment methods and techniques used with deaf students that emphasize the bond between curriculum-based assessment and curriculum-based programming through planning and providing cyclical instructional across content areas based on diagnostic assessment. Taught in ASL and English. Repeatable one time. A-F only. Pre: 609 or consent. (Alt. years)

SPED 611 Methods and Strategies for Students with Mild/Moderate Disabilities (3) Techniques for providing effective instruction including: best instructional practice, lesson planning, teacher-directed and student-mediated instructional strategies, and curriculum areas for working with students with mild/moderate disabilities. A-F only. Pre: 304 or consent.

SPED 613 Advanced Assessment and Curriculum Development (3) Assessment methods and techniques that emphasize the relationship between curriculum-based assessment and curriculum-based programming. Planning and cyclical instruction across content areas based on ongoing diagnostic assessment. SPED majors only. A-F only. Pre: 461 and 606, or consent.

SPED 614 Assessment and Instruction—Severe Disabilities and Autism (3) Basic principles of assessment, instruction, and curriculum development; application of formal and informal assessment procedures for goal selection, formulating instructional plans, and adapting instructional materials to accommodate learning needs of students with severe disabilities and autism. A-F only. Pre: consent.

SPED 615 Family-Centered Approaches in Deaf Education (1) Prepare teachers to deliver family-centered home-based services to families of deaf children using the SKI-HI model. Course will be taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 616 Collaboration—Working with Deaf Students in Inclusive Settings (3) Collaboration skills for working with general education teachers, specialists, paraprofessionals, families and community members to support the success of deaf students in inclusive settings. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 617 Transition Strategies for Deaf Students (1) Collaborative model for facilitating the transition of deaf and hard-of-hearing students to develop appropriate transition plans. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 618 Adapting and Special Procedures—Students with Severe Disabilities/Autism (3) Adaptation and special intervention procedures to support the participation of individuals with severe motor, communication, and/or adaptive behavior disabilities in inclusive school and community settings. Includes lab work. SPED majors only. A-F only. Pre: consent.

SPED 620 Strategies Across Content Area (3) Strategies for teaching math, science, and social sciences to students with mild/moderate disabilities; selection of appropriate materials, teaching techniques, curriculum development. Pre: 611 or consent.

SPED 621 Language Arts Strategies: Students with Mild/Moderate Disabilities (3) Basic concepts related to language, language development, and recognition of language-related learning problems of students with mild/moderate disabilities; strategies for teaching language arts curriculum (listening, speaking, reading, writing) to students of all ages with learning problems. A-F only. Pre: 304 or consent.

SPED 622 Children’s Literature for Deaf Students (3) Introduction to translated introductions to American Sign Language (ASL) including discussion of ASL literature genres, the importance of translation, selection of literature; story reading, book reading, and retelling. Taught in ASL. Repeatable one time. A-F only. Pre: 609 or consent. (Alt. years)

SPED 625 Teaching Skills for Social Competence (3) Issues in social development, self-determination, and social skills competence training for children and youth with disabilities; experience in group social skills training and development of individualized programs. Pre: either 485 or 630, and either 611 or 614; or consent.

SPED 626 Field Experiences in Special Education (3) Students spend a minimum of nine hours per week in settings appropriate to concurrently enrolled courses; supervision provided by participating teacher and college supervisor. Repeatable three times. A-F only. Pre: consent.

SPED 627 Advanced Practicum (6) Supervised education/community experiences; minimum of 20 hours weekly with special populations (MR, LD, SD, SED, SMH); pre-school through postsecondary settings (public/private). Related seminar or equivalent and completion of SPED core required. Repeatable one time. Pre: consent.

SPED 628 Internship (3) Supervised education/community experiences with special needs populations (MR, LD, SED, SMH), preschool through postsecondary settings. Completion of SPED core required. Repeatable two times. A-F only. Pre: consent.

SPED 629 Clinical Practice Special Projects (V) Development and implementation of a field-based research professional development project under the direction of the student's advisor; limited to students enrolled in the interdisciplinary program. Repeatable up to 12 credits. A-F only. Pre: advisor’s approval.


SPED 631 Early Intervention for Special Populations (3) Issues important to early childhood special education. Early screening and assessment, working with families, curriculum options/models, program evaluation. Pre: consent.


SPED 633 Motor Development/Intervention for Students with Severe Disabilities (3) Normal/abnormal motor development; description/etiology of physically disabling conditions influencing motor development; analysis of intervention strategies to promote motor development; positioning and handling skills. Pre: 614 (or concurrent) or consent.

SPED 634 Inclusive Physical Activity (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and exceptionalities, and how these influence instruction, engagement, and behavior in physical activity settings across the lifespan. A-F only. Pre: consent. (Cross-listed as KRS 612)

SPED 635 Procedures for Early Childhood Special Education (3) Assessment and intervention strategies to promote behavior change with young children with disabilities. Promoting positive behavior, intervention strategies to promote motor development in students with disabilities. Repeatable one time. A-F only.

SPED 638 Fundamentals of Language and Literacy (3) Introduction of foundational knowledge of language and literacy development. Current topics and issues in language and literacy development in students with Dyslexia and related reading difficulties. Repeatable one time. A-F only.

SPED 640 Seminar in Mild/Moderate Disabilities (3) Study of issues, research, program development in the area of mild/moderate disabilities. Repeatable two times. Pre: consent.

SPED 641 Workshop (1-3) Seminar in Issues in Special Education (3) Seminar on issues, trends, research, and program development in the field of special education. (B) current issues and trends; (C) technology; (D) foundation of developmental disabilities; (F) cultural and linguistic diversity; (G) evidence-based practices. Repeatable one time per alpha. A-F only.

SPED 642 Seminar on Applied Research/Special Education (3) Study and development of applied research topics in special education. Repeatable two times. Pre: consent.

SPED 644 Seminar on Severe/Multiple Disabilities (3) Research, program development trends/issues in the area of severe/multiple disabilities (birth through adulthood). College of Education majors only. Pre: consent.

SPED 645 Seminar in Early Childhood Special Education (3) Study of issues/trends. Research and program development in the field of special education during the first five years of life. A-F only.

SPED 650 Seminar on Universal Design for Learning (3) Seminar on issues of research and practice on the application of universal design for learning in K-12 and higher education settings. Focus on culturally and linguistically diverse students diversity, non-traditional students and students with disabilities. Repeatable one time. A-F only.

SPED 652 Transition/Supported Employment (3) Transition planning for youth with disabilities in 2018-2019 Courses 513

Key to symbols & abbreviations: see the first page of this section.
Surgery (SURG)

School of Medicine


SURG 532 Surgery Longitudinal Clerkship (5) A clinically based, year-long, introductory in general surgery and selected subspecialties. Outpatient/conducted one day per week for six months in a community-based, ambulatory care facility. Repeatable one time. Pre: third-year standing.

SURG 541 Emergency Medical Care (6) Clinical experiences in management of medical, surgical, and psychiatric problems requiring urgent care. Pre: SURG 531 and patient acceptance. Repeatable one time.

SURG 545 (Alpha) Electives in Surgery (V) Advanced clinical experience in: (B) urology; (C) ophthalmology; (D) otolaryngology; (E) plastic surgery; (F) neurosurgery; (G) orthopedics; (H) anesthesia; (I) surgical intensive care; (J)Sub-I–general surgery; (K) Sub-I–pediatric surgery; (M) diagnostic radiology; (N) radiation oncology; (O) EM Sub-I; (P) elecru transm surg; (Q) Sub-I–cardiovascular; (R) surgical research; (S) surgical anatomy; (T) preceptorship in Asia; (U) biomedical technology design; (X) transplant surgery; (Y) bedside ultrasound; (Z) relevance in skills. Repeatable one time for all except (U), (X), (Y), and (Z); repeatable two times for (U) and (X), Medical students only for (U), (X), (Y), and (Z). CR/NC only. Pre: 531 or 532 for all except (M), and consent for (R) and (S); admission into JABSOM for (U) and (Y).

Sustainability (SUST)

SUST 112 Introduction to the Environment and Sustainability (3) Introductory mathematical approaches to quantifying key aspects of global and environmental change. Includes data analysis, graphical representation and modeling of population growth, greenhouse gas emissions, renewable resource utilization, and sea level change. A-F only. Pre: 332 or 333. (Spring only) (Cross-listed as GC 102) DB

SUST 113 Quantifying Global and Environmental Change (3) Introductory mathematical approaches to quantifying key aspects of global and environmental change. Includes data analysis, graphical representation and modeling of population growth, greenhouse gas emissions, renewable resource utilization, and sea level change. A-F only. Pre: 332 or 333. (Spring only) (Cross-listed as GC 102) DB

SUST 114 Sustainable Cities (3) How do we plan and design cities to meet our long-term economic and social needs? Students will learn how sustainability applies to key urban issues like energy, transportation, land, and food. A-F only. Pre: SURG 532. (Cross-listed as PLAL 512) DB

SUST 115 Sustainability in a Changing World (3) Environmentally sustainable and non-sustainable practices, and the impacts of climate change, on the development and spread of human societies from prehistory to the 1500s in Asia, Africa, Europe, the Americas, and Hawai’i/Oceania. Active learning environment. (Cross-listed as GC 105) FGA

SUST 120 Chemistry in a Sustainable World (3) Introduction to chemistry for non-science majors. Discussion of role of natural and man-made chemicals in everyday life, with an emphasis on sustainable and environmentally-sensitive use of chemicals to improve our world. A-F only. Pre: CHEM 110. (Cross-listed as CHEM 110) DP

SUST 156 Sustainable Food and Energy Field Course (V) Examines the nexus of food, energy, and water in Hawai’i for sustainable development. Repeatable two times, up to nine credits. (Cross-listed as TPSS 156) DB

SUST 210 Introduction to Environmental Science (3) Analysis of our environment with emphasis on understanding relationships and interactions of physical, biological, technological, and political components using a scientific method of inquiry. Food supply and safety, water quality, pollution control, biodiversity, environmental policy. Open to nonmajors. (Cross-listed as NREM 210 and PEPS 210) DB

SUST 211 Agriculture, Environment, and Society (3) Relationship of plants, soils, and the environment, and how they relate to cultural practices and society in an agronomic context within Hawai’i as a model system. (Cross-listed as TPSS 210) DB

SUST 217 Hawaiian Perspectives in Ahupua’a (3) Examination of the ahupua’a system as it was conceptualized by the ancient Hawaiians, and exploration of its relevance in modern society. An introductory class to the mālama ‘aina track designed to build critical writing skills. A-F only. Pre: 107. (Cross-listed as DP 217) DB

SUST 220 Agricultural and Resource Economics (3) Introduction to basic economics concepts, including demand, supply, exchange, market price and market failure. Economic evaluation and policy for the uses of non-renewable resources, especially in production agriculture, is included. A-F only. (Cross-listed as NREM 220) DB

SUST 221 Organic Food Crop Production (2) Combined lecture/lab on the theory and practice of certified organic food production. Field visits to organic farms/markets included. Open to nonmajors. (Fall only) (Cross-listed as TPSS 222) DB

SUST 250 Introduction to Sustainability from Social Science Perspectives (3) Introduction to key concepts and theories in social sciences in relation to sustainability issues. (Cross-listed as SOCS 250 and TAHR 250) DS

SUST 311 Natural Resources Management (3) Biological and physical science aspects of natural resource management at local, national, and global scales. Topics covered include resource management of soil, water, forests, wetlands, and coastal landscape. A-F only. Pre: NREM/TPSS 251 or 210; CHEM 151 or higher; and BIOL 172; or consent. (Spring only) (Cross-listed as NREM 301) DS

SUST 310 Conservation Ethics (1) Introduction to and discussion of ethical issues associated with biodiversity, ecology, and conservation biology. Repeatable one time. Pre: any SURG course or consent. (Once a year) (Cross-listed as BOT 300)

SUST 312 Natural Resource and Environmental Policy (3) Introduction to American government policy in natural resources and environmental protection at federal, Hawai’i’s state and county levels. Policy principles, legal structure, governmental agencies, major statutes and programs, analytical techniques, program assessments. A-F only. Pre: SURG 531 or SURG 532 or SURG 533 or PEPS 210 or (BIOL 172 or PEPS 210) or GEOG 101 or (GG 101 or higher); and 220/NREM 220 or one ECON course or two DS courses. (Cross-listed as NREM 362) DS

SUST 313 Plant Conservation Biology (3) Introduction to the concepts and principles of plant conservation biology and to plant conservation-in-practice in Hawai’i and elsewhere. A-F only. Pre: BOT 202/202L, or consent. Co-requisite: SUST 301. (Once a year) (Cross-listed as BOT 301) DS

SUST 315 Cultural Change (3) Past, Present, and Future (3) Past, present, and future of human societies; and their place in the environment. Explores the premise that all people have a right to a life-affirming environment. Will examine environmental racism, and the geographical dimensions of race and immigration policy. Nonmajors. A-F only. Pre: BOT 202/202L, or consent. Co-requisite: SUST 301. (Fall only) (Cross-listed as SOCS 300) DS

SUST 316 Social Studies (3) Application of traditional moral theories to environmental issues. Development and evaluation of specific environmental ethical theories. Application of ethical theories to environmental decision-making. A-F only. Pre: BOT 210 or GEOG 101 or PHIL 101 or PHIL 103. (Alt. years) (Cross-listed as NREM 366)

SUST 317 Race, Indigeneity, and Environmental Justice (3) Introduction to the concepts and principles of plant conservation biology and to plant conservation-in-practice in Hawai’i and elsewhere. A-F only. Pre: BOT 202/202L, or consent. Co-requisite: SUST 301. (Once a year) (Cross-listed as BOT 301) DS

SUST 320 Environment and Agriculture (3) Overview of environmental issues and impacts associated with agriculture, specifically pest management issues, and options for environmentally responsible management and amelioration of these impacts. (Cross-listed as SURG 310)

SUST 324 Global Environmental Politics (3) Evolution of international environmental policies and decision-making on a variety of environmental concerns: from endangered species to pollution to climate change. Interaction of population, development, and environment in global governance. (Cross-listed as POLS 324) DS

SUST 332 Economics of Global Climate Change (3) Nature and causes of global climate change and economic solutions. Topics covered include climate change impacts, energy solutions, environmental implications, societal adaptation, and international cooperation. A-F only. Pre: 120 or 130 or 131, or consent. (Once a year) (Cross-listed as ECON 332) DS

SUST 333 Climate Change and Cultural Response: Past, Present, and Future (3) Climate change is a reality, yet there is much uncertainty about how it will affect our lives. Investigating cultural response to climate change, using studies of the past to plan for the future. (Alt. years: spring) (Cross-listed as ANTH 333) DS.
SUST 336 Energy Economics (3) Analysis of economic and policy aspects of energy use, and interactions of markets for various nonrenewable and renewable energy options. Evaluations of policies to develop local energy sources. Pre: 120 or 130 or 131. (Cross-listed as ECON 336) DS

SUST 340 Human Values and the Environment (3) Examination of nature-culture dynamic over a range of contexts–literary ecology, systems ecology, political ecology, eco-feminism, environmental ethics–in order to articulate new possibilities for interdisciplinary understanding of the human place in nature. A-F only. Pre: BIOL 101 or PHIL or GEOG course, or consent. (Once a year) (Cross-listed as IS 340) DS

SUST 350 Sustainable Development (3) Transdisciplinary introduction to sustainable development. Interactions between environment, economy, and society–especially in Hawai‘i. Topics include: curse of paradise, global warming, energy use, health, poverty, population, water resources, traffic congestion, biodiversity, pollution controls. Pre: 120 or 130 or 131, or consent. (Once a year) (Cross-listed as ECON 350) DS

SUST 358 Basic Environmental Benefit Cost Analysis (3) Fundamentals of benefit-cost analysis with environmental impacts of projects; case studies. Pre: 220/NREM 220 or ECON 130 or consent. (Cross-listed as NREM 358) DS

SUST 367 Sustainability, Technoscience, and Social Justice (3) Examines politics of sustainability and technology in relation to social justice and power relations in society. A-F only. Pre: 151 or any 200- or 300-level WS course, or 100 or any 200-level SOC course, or consent. (Fall only) (Cross-listed as SOC 367 and WS 367) DS

SUST 371 Genetics Theory to Application (3) Fundamentals of genetic theory using traditional breeding and biotechnological procedures in insect and plant pathogen management for sustainable agricultural systems. Pre: one 100-level A-F only. (Cross-listed as PEPS 371 and TPSS 371) DS

SUST 380 Environmental Law and Politics (3) Focuses on theories, laws, policies, ethics, and sustainable futures of Hawai‘i and the U.S. Sophomore standing or higher. Pre: any 100 or 200 level POLS course, or consent. (Alt. years) (Cross-listed as POLS 380) DS

SUST 387 Politics of the Ocean (3) Study of the ocean as a political place. Engagement with theories, policies, and lived-experiences of the ocean through a political lens, including literature and experiential learning projects. Pre: any 100-level or higher. A-F only. Pre: any 100 or 200-level POLS course, or consent. (Cross-listed as POLS 387) DS

SUST 410 Sustainable Soil and Plant Health Management (2) Provides knowledge and understanding of sustainable soil and plant health management, and prepares students for applied research in various tropical cropping systems. A-F only. (Alt. years: spring) (Cross-listed at PEPS 410 and TPSS 410) DS

SUST 411 Methods in Wildlife Management & Conservation (4) Introduces fundamental techniques for wildlife management and conservation. In addition to hands-on training, students will learn underlying biological and ecological principles, as well as quantitative skills, with an emphasis on sustainable management. Repeatable one time. A-F only. Pre: BIOL 101 or equivalent or any 100-level (cross-listed as NREM 410) DS

SUST 412 The Ocean Economy (3) Examination of society’s interaction with the ocean. Topics include: ocean recreation, shipping, boat building, ports, offshore energy production, aquaculture, fishing, coastal construction, and other coastal processes. Pre: 120 or 130, or consent. (Once a year) (Cross-listed as ECON 409) DS

SUST 415 Nature-Based Tourism Management (3) Principles and practices of nature-based tourism, including the social, environmental, and economic impacts of tourism. Pre: any social science course. (Cross-listed as NREM 415) DS

SUST 420 Community and Natural Resource Management (3) Theory and tools for working with groups and communities in the management of natural resources is presented using a participatory format. Topics include sustainable development, extension programming, participatory learning and communication, evaluation, and conflict management. Pre: two social science courses or consent. (Fall only) (Cross-listed as NREM 420) DS

SUST 421 Sustainable Tourism Policies and Practices (3) Seminar examining the social, environmental, economic factors of sustainable tourism, including methods and processes and the role of stakeholders (government, industry, host community, tourists). Group projects. A-F only. Pre: 101 and departmental approval. (Cross-listed as NREM 421) DS

SUST 425 Environmental Geochemistry (3) Theory and applications of contaminant/pollutant distribution in the hydrosphere-geosphere-biosphere-atmosphere system, remediation methods, prevention, industrial/ agricultural best practices. Pre: Junior standing. A-F only. (Cross-listed as GG 425) DP

SUST 433 Interdisciplinary Science Curriculum (3) Conceptual schemes and processes for integrating science curricula within the sciences and with subject areas. Methods and models of curricular integration such as interdisciplinary, culturally relevant, place and community-based learning. Repeatable one time. (Cross-listed as EDCS 433) DS

SUST 436 Use, Re-use, and Radical Re-use (3) Explores the evolutionary re-use, and radical re-use through an exploration of new applications of traditional fiber techniques and contexts of making. A-F only. Pre: ART 115 and one 200-level or above A-F only. Pre: ART 436 course, or consent. (Cross-listed as ART 436) DA

SUST 440 Vulnerability & Adaptation on Coastal Infrastructure (3) Assessing vulnerability of coastal communities to climate change stressors and providing technical guidance and adaptation, nicipal standing or higher. (Spring only) (Cross-listed as CEE 440) DS

SUST 441 Principles of Sustainability Analysis (3) Introduction to methods and applications of sustainability analysis through execution of Life Cycle Analysis applied to products, processes, or systems. LCA and the evaluation of environmental impact will be presented. Pre: CHEM 161 and PHYS 170 with a minimum grade of C- or equivalent. (Fall only) (Cross-listed as CEE 441 and OCN 441) DS

SUST 444 Infrastructure: Project Impacts, Policy and Sustainability (3) Evaluation of infrastructure projects, impacts, mitigation, effects of environmental and other policies on infrastructure. Infrastructure relations to sustainability. Energy consumption, transportation efficiency and infrastructure recycling. Lectures and presentations by experts and enrolled students. Pre: senior standing or higher. A-F only. Pre: senior standing, open to engineering, science, urban planning, and economics majors. (Cross-listed as CEE 444) DS

SUST 445 Ethnoecology and Conservation (3) Ecological implications of cultural uses of plants. Examines the biological basis for, and ecological effects of traditional and local resource management systems. Pre: BOT 202/202L or equivalent or any 200-level or higher. Pre: TIM 101 or GEOG/TIM 324. (Cross-listed as GEOG 445 and TIM 445) DS

SUST 447 Hawaiian Ethnobotany (3) (2 Lec, 1 3-hr Lab) Methods and techniques of handling and identifying plant materials used by early Hawaiians and modern Hawaiians for house and canoe construction, clothing, household and fishing items, medicine, and food preparation. Reading, laboratory, and fieldwork. Pre: BOT 440 or consent. (Cross-listed as BOT 444) DS

SUST 449 Climate Modeling, Data Analysis and Applications (3) Introduction to regional and global climate modeling for environmental scientists and engineers. Pre: any 200-level application of research and analytical methods, and application to case studies. Focus on student teamwork and oral communications. Pre: any 200-level or higher. Pre: 301 or equivalent. Pre: consent. (Fall only) (Cross-listed as NREM 494) DS

SUST 457 Anna Mauihuli: Hawaiian Ecosystems (3) A semester-long introduction to modern and resource management practices. Rigorous overview of the dominant physical and biological processes from the uplands to the oceans in Hawai‘i. Pre: BOT 105 and HIST 107, and junior standing or consent. (Cross-listed as BOT 457 and HIST 457) DS

SUST 458 Project Evaluation and Resource Management (3) Principles of project evaluation and policy analysis. Shadow income and cost of taxes and tariffs; public policy for exhaustible, renewable, and environmental resources. Pre: 301. (Cross-listed as ECON 458) DS

SUST 461 Environmental Problem Solving (3) (2 Lec, 1 3-hr Lab) Senior-level capstone for NREM and related majors. Ecosystem management within problem-solving context. Applications of research and analytical methods, management tools to case studies. Focus on student teamwork and oral communications. Pre: any 200-level or higher. Pre: 301 or equivalent. Pre: consent. (Once a year) (Cross-listed as NREM 494) DS

SUST 465 Seminar in Water in History (3) Explores how various forms of salt, fresh, and brackish water have played transformative roles in the evolution of human communities throughout history. (Cross-listed as HIST 608) DS

SUST 610 Resource and Environmental Policy Analysis (3) Exploration of institutional and policy dimensions of natural resource development, management, markets, and pricing, focusing on their environmental impacts. Emphasis on policy analysis using case studies and empirical findings. Original paper required. Pre: any 200-level or higher. Pre: consent. (Fall only) (Cross-listed as NREM 611) DS

SUST 612 Predicting and Controlling Degradation in Human-Dominated Terrestrial Ecosystems (3) Integrates biological, ecological, and social understanding and managing human-dominated ecosystems; predicting, measuring and mitigating degradation especially in terrestrial ecosystems with a focus on small volcanic islands in tropical settings. A-F only. Pre: any 200-level or higher. Pre: NREM 301/SUST 311 (or equivalent), NREM 302/SUST 312 (or equivalent), or consent. (Once a year) (Cross-listed as NREM 612) DS

SUST 620 Environmental Planning and Policy (3) Overview of urbanization and environmental change. An examination of environmental laws, policies, planning, and urban design in order to minimize and mitigate urban impacts. Repeatable one time. A-F only. (Cross-listed as PLAN 620) DS

SUST 625 Climate Change, Energy and Food Security in the Asia/Pacific Region (3) Analysis of how existing responses to climate change and related environmental problems. Part of the Asia/Pacific Initiative taught in collaboration with universities throughout the region via video-conferencing. (Cross-listed as NREM 625) DS

SUST 628 Urban Environmental Problems (3) Seminar that examines environmental problems in urban settings. Key to symbols & abbreviations: see the first page of this section.

Key to symbols & abbreviations: see the first page of this section.
THAI 102 Second-Level Thai I (4) Continuation of 101. Pre: 201 or consent. HSL
THAI 202 Second-Level Thai II (4) Continuation of 201. Pre: 201 or consent. HSL
THAI 212 Intensive Intermediate Thai (10) HSL
THAI 301 Third-Level Thai I (3) Continuation of 202. Advanced conversation and reading, emphasis on modern written texts. Regular on-line lab work. Pre: 202 or equivalent or consent.
THAI 302 Third-Level Thai II (3) Continuation of 301. Pre: 301 or equivalent.
THAI 303 Accelerated Third-Level Thai (6) Continuation of 202. Meets six hours a week. Advanced conversation and reading; emphasis on modern written texts. Lab work. Pre: 202 or equivalent.
THAI 401 Fourth-Level Thai I (3) Continuation of 302/303. Advanced conversation and reading of specialized, scholarly texts. Pre: 302 or 303 or consent.
THAI 402 Fourth-Level Thai II (3) Continuation of 401. Pre: 401.
THAI 415 Thai Language in the Media (3) Development of reading and aural comprehension of authentic Thai language used in print and broadcast media through reading Thai newspapers, viewing and listening to Thai television and radio programs. Oral and written reports. Repeatable one time. Pre: 402, 404 (or equivalent), or consent.
THAI 451 Structure of Thai (3) Introduction to information structure of Thai as a basis for developing reading skills. Analysis of syntactical, semantic, and morphological structure from different types of written texts. Pre: 402 or consent. DH
THAI 452 Structure of Thai (3) Continuation of 451. Pre: 451 or consent.
THAI 461 (Alpha) Readings in Thai Contemporary Prose Literature: the Short Story (3) Selected readings in Thai short stories from early 1930s to present. Oral and written reviews (B) 1930-1960; (C) 1970-present. Repeatable one time with consent. Pre: 402 or consent. DL
THAI 462 (Alpha) Readings in Thai Contemporary Prose Literature: the Novel (3) Selected readings in Thai novels from early 1930s to present. Oral and written reviews. (B) 1930-1960; (C) 1970-present. Repeatable one time with consent. Pre: 402, 461(B) or 461(C), or consent. DL

Theatre (THEA)

College of Arts and Humanities

THEA 101 Introduction to World Drama and Theatre (3) (2 Lec, 1 1-hr Lab) Performance traditions of Africa, Asia, Australia, Europe, North America, and the Pacific from the 5th century B.C. to the present. Repeatable one time. (Spring only) (Cross-listed as DH 152) DH
THEA 200 (Alpha) Beginning Theatre Practicum (1) Beginning workshop experience in the practical application of theatre skills. (B) acting; (C) stagecraft; (D) costume; (E) theatre management. Repeatable up to four credits in each alpha. Pre: for 200B, audition and performance of role in Department of Theatre and Dance production; for 200E theatre majors only or consent.
THEA 201 Introduction to the Art of the Film (3) Introduction to the aesthetics of silent and sound movies. Technical subjects analyzed only as they relate to theme and style. DH
THEA 205 Introduction to Long-Form Improvisation (1) Introduction to long-form improvisation as developed by companies such as Second City and IO Chicago. Focus will be on games, situations, creating characters, and forming narratives.
from those elements. Repeatable two times. DA
THEA 214 Development of the Sound Film (3) Growth and changes in aesthetics of the sound film from 1929 to present; films by Renoir, Welles, Eisenstein, et al. Pre: 211 (Alt. yrs) DH
THEA 220 Beginning Voice and Movement (3) Introduction to vocal and movement techniques to increase self-awareness and potential for self-expression. Repeatable one time. Pre: consent. DA
THEA 221 Introduction to Acting (3) Concentration on technique, body awareness, and freedom from self-consciousness through theatre games, improvisations, monologues, and exercises. Emphasis on written work through self-awareness journals and performance evaluations. Repeatable one time with consent. DA
THEA 222 Acting I: Foundations and Techniques (3) Fundamentals of contemporary acting styles, including methodology, and technical work. Repeatable one time with consent. Pre: 221 or consent or THEA major. DA
THEA 224 Pidgin/HCE Drama (3) Introduction to Hawaiian Creole English (HCE) multicultural comedy and drama in Hawai'i. Emphasis on acting exercises, local dialects, and the performance of Pidgin/HCE plays. Repeatable one time with consent. (Alt. yrs) DA
THEA 240 Introduction to Stage Production (3) Survey class introducing theatre management, lighting, costing, scenery, and other aspects of theatre that relate to producing stage performances. (Cross-listed as DNCE 240) DA
THEA 240L Theatre Production Lab (1) Lab observations and projects illustrating basic principles of theatrical production. A-F only. Co-requisite: 240. DA
THEA 241 Film/TV Production Process (3) Entry-level course details three phases of the production process for film and video projects: pre-production, production, and post-production. A-F only. Pre: consent. DA
THEA 245 Design Principles for Performance (3) Introduction to visual design principles as applied to theatre. Will introduce the language and tools of visual literacy and visual communications via individual projects and collaboration. Repeatable two times. (Cross-listed as DNCE 245) DA
THEA 311 World Theatre I: Script Analysis (3) Script analysis methods for world drama. Required of all majors. Pre: 101 or 221 or 240 or consent. DL
THEA 312 World Theatre II: Myth to Drama (3) Myth to drama, 1000 BCE-1700 CE. Development of secular drama from sacred and ritual beginnings. Required of all majors. Pre: 311 and consent. Alt. yrs. DL
THEA 318 Playwriting (3) One-set plays; practice in writing in dramatic form. Repeatable one time. Pre: grade of B or better in composition or consent. DA
THEA 319 Screenplay Writing (3) Characterization, structure, theme, image, and other components of writing for film. Pre: 201 and grade of B or better in composition or consent. (Alt. yrs) DA
THEA 321 Auditioning (3) Preparation of material from different audition situations, including monologues, cold readings, dance, singing, and TV/ film. Repeatable one time with consent. Pre: 221 or 222 or consent. DA
THEA 322 Acting II: Advanced Scene Study (3) Further exploration of character development and dramatic technique utilizing previous analysis. Repeatable one time with consent. Pre: 222 and consent. DA
THEA 323 Film/TV Acting (3) Acting techniques for film and TV production. Students appear in scenes from TV or film scenes from their choices from one time. Pre: 101 or 221 or COM 201 or consent. DA
THEA 324 Advanced Film/TV Acting (3) Advanced acting techniques for film and TV production. Taping/filming of scenes and full-length scripts. Repeatable one time. Pre: consent. DA
THEA 325 Introduction to Asian Acting Styles (3) Principles of acting based on traditional Asian models. Voice, movement exercises. Pre: 222. DA
THEA 334 Taiji (Tai Chi) for Actors I (3) Basic Taijiquan (Tai Chi Ch'uan) movement training. Repeatable two times. Pre: sophomore standing or higher, or consent. (Cross-listed as DNCE 334) DA
THEA 335 Taiji Round Form for Actors (3) Introduction to basic Asian movement skills through learning the Wu-style taijiquan round form, a faster and more fluid version of the full 108 taiji sequence of forms. Open to two times. Open to: Pre: sophomore standing or higher, or consent. DA
THEA 343 (Alpha) Topics in Theatre Production (3) Workshop in principles, techniques, and applications of costuming, scenic, and prop production practices. (B) entertainment electric: lighting, sound, special effects, projections, and related areas; (C) technical production: technical direction, technical design, construction, rigging, and related areas; (D) scenic and prop production: drafting, model-making, scenic art, painting, craftsmanship, and related areas. Repeatable one time for different alphabets; each alpha can be taken one time. Pre: any course in THEA or DNCE, or production experience; or consent. (Alt. yrs) DA
THEA 345 Lighting I: Beginning Lighting Design (3) Basic principles of lighting design and associated technologies. Includes functions and properties of light, lighting and control equipment, working procedures, and drafting and paperwork techniques. Pre: THEA/DNCE 240 or consent. (Once a year) (Cross-listed as DNCE 345) DA
THEA 353 Scene I: Beginning Scenic Design (3) Workshop introducing the basic principles and approaches of scenic design for theatre and dance, with emphasis on theatrical applications. Pre: a course in THEA or DNCE, theatre production experience, or consent. (Consent required for production experience option) (Cross-listed as DNCE 353) DA
THEA 354 Introduction to Costume Construction (3) Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as DNCE 354) DA
THEA 356 Costumes I: Beginning Costume Design (3) Basic principles and approaches to costume design for theatre and dance. Visual communication methods, creative process, historical research and costume evaluation practices. Repeatable one time. Pre: 240, DNCE 250, or consent. (Cross-listed as DNCE 356) DA
THEA 357 Stage Makeup Workshop (3) Western and traditional Asian makeup theory and application practice. Western corrective, period, and old age makeup. Asian may include Jingju, Kabuki, Wayang. Repeatable one time. Pre: 240 or consent. DA
THEA 380 Beginning Directing (3) Basic practical and theoretical methods will direct scenes. Emphasis on writing direction. THEA and DNCE majors only. Pre: upper division theatre majors or consent. DA
THEA 400 (Alpha) Advanced Theatre Practicum (1) Advanced writing experience in the practical application of theatre skills. (B) acting; (C) stagecraft; (D) costume; (E) theatre management. Repeatable up to four credits per alpha. Pre: audition and performance of role in a Department of Theatre and Dance production for (B); consent for (C) and (D); theatre majors only or for (E). DA
THEA 411 World Theatre III: Elite and Popular (3) Presentational acting in comedy and tragedy; emphasis on performance styles in Elizabethan, Restoration, and 18th-century drama. Repeatable one time with consent. Pre: 322 or consent. DA
THEA 423 Acting Shakespeare (3) Techniques for acting in Shakespearean and heightened language texts. Repeatable one time. Pre: 321 or consent. DA
THEA 424 Hawaiian Acting Workshop (3) Training in skills and techniques for selected traditional Hawaiian performance forms and Hawaiian medium theatre. Emphasis on movement and vocal technique. Repeatable one time. Pre: 222 or consent. (Alt. yrs) DA
THEA 426 South/Southeast Asian Acting Workshop (3) Training in skills and techniques for selected traditional south and southeast Asian theatre forms. Emphasis on movement and vocal technique. Repeatable one time. A-F only. Pre: 222 or consent. (Alt. yrs) DA
THEA 427 Chinese Acting Workshop (V) Training in skills and techniques for selected traditional Chinese theatre forms. Emphasis on movement and vocal technique. Repeatable to six credits. Pre: 222 or consent. (Alt. yrs) DA
THEA 428 Japanese Acting Workshop (V) Training in skills and techniques for selected traditional Japanese theatre forms. Emphasis on movement and vocal technique. Repeatable to six credits. Pre: 222 or consent. (Alt. yrs) DA
THEA 429 Contemporary Performance Practices (3) Focus on individual training in the skills and techniques of contemporary experimental theatre including acting, directing, and self-scripting. Repeatable two times. Pre: one of 222, 318, 380, or consent. DA
THEA 432 Stage Combat (3) Techniques for performing unarmed and armed stage combat. Repeatable one time. Pre: 321 or consent. DA
THEA 433 Movement Workshop (V) Special workshops in movement relating to specific departments and/or disciplines. Focus on the scope of movement taught in 437 and 438. Repeatable one time. THEA majors only. Pre: one of 435, DNCE 455, or consent. (Alt. yrs) (Cross-listed as DNCE 435) DA
THEA 434 Taiji (Tai Chi) for Actors II (3) Intermediate-level Taijiquan (Tai Chi Ch’uan) movement training. Repeatable two times. Pre: 334 or consent. (Cross-listed as DNCE 434) DA
THEA 435 Movement for Actors (3) Training actors to discover experientially the sources of movement; to teach skills for analyzing movement for its mechanical, anatomical, spatial, and dynamic content; and to apply these skills in a role. Pre: 222 or consent. (Cross-listed as DNCE 435) DA
THEA 436 Advanced Movement for Actors (3) Detailed development of material presented in 435. Focus on Bartenieff fundamentals and movement analysis as it applies to the physical interpretation of theatrical roles. Pre: one of 435, DNCE 435, or consent. (Alt. yrs) (Cross-listed as DNCE 436) DA
THEA 437 Period Movement Styles, 1450-1650 (3) Movement styles and techniques of European societies in the Renaissance and early Baroque periods. Pre: one of 435 or DNCE 435, or one semester of a 100-level dance technique class. (Alt. yrs) (Cross-listed as DNCE 437) DA
THEA 438 Period Movement Styles, 1650–1800 (3) Movement styles and social development of the Baroque and pre-Romantic periods in Europe and the American Colonies. Pre: one of 435, DNCE 435, one semester of a 100-level dance technique class, or
THEA 445 Lighting II: Intermediate Lighting Design (3) Workshop in intermediate techniques and skills of lighting design; storytelling, analysis, research, investigation, questioning, problem solving and the execution of successful design projects. Pre: 345. DA
THEA 446 Topics in Costume Construction (3) Costume production techniques, both Western and Asian, for theatre and dance. Topic rotation includes: undergarments, armatures, partnering, tailoring, dyeing, fabric modification, millinery and crafts, within the context of current industry practice. Repeatable two times. Pre: 354, 356, or consent. (Cross-listed as DNCE 446) DA
THEA 447 Stage Management (3) Business, organization and management for theatre and dance productions. Pre: junior standing or consent. DA
THEA 448 Introduction to Computer-Aided Design for the Theatre (3) Basic concepts and techniques of 2D computer-aided design. Lecture/ workshop covers language and commands common to most CAD software. Focus on drafting specific to theatre. A laptop with Vectorworks installed is required. Pre: 343 or consent. (Once a year)
THEA 450 Costumes I: Intermediate Costume Design (3) Advanced costume design for theatre and dance. Laboratory and collaborative process in costume. Intensive work on rendering skills, applied to various design problems. Cost analysis and organizational techniques. Pre: 356 or consent. (Cross-listed as DNCE 450) DA
THEA 462 Drama and Theatre of Oceania (3) Survey of the contemporary drama and theatre of Oceania that combines island and Western traditions. Includes Indonesia, New Guinea, Hawaii, Fiji, Samoa, Australia, New Zealand. Pre: 301 or ANTH 350, or consent. (Cross-listed as PACS 462) DH
THEA 464 Drama and Theatre of Southeast Asia and India (3) Court, folk, popular traditions, and the manner of their production. Pre: consent. DH
THEA 465 Drama and Theatre of China (3) Yuan, southern, spoken drama; Beijing opera and the manner of their production. Pre: consent. DH
THEA 466 Drama and Theatre of Japan (3) No, Kyogen, Noh, Bunraku, Nankanbutsu, modern dramatic and the manner of their production. Pre: junior standing. DH
THEA 468 Drama and Theatre of Hawaii (3) Survey of indigenous theatre forms of Hawai'i, Native Hawaiian, and other ethnic playwrights, and contemporary multicultural landscape of drama and theatre in Hawai'i. Junior standing or higher. Pre: 101 (with a minimum grade of B), or consent. (Alt. years: fall) DH
THEA 470 Creative Drama (3) Dramatic activities for young people. For teachers, group workers, recreation majors, and others dealing with children. Supervised field activities. Pre: junior standing or consent. DA
THEA 473 Storytelling (3) Storytelling development through focused activities on personal artistic practice, story content, and public performative techniques. Repeatable one time. Junior standing or higher. Pre: 221 or consent. DA
THEA 474 Theatre for Young Audiences (3) Theories and principles of formal theatre for young audiences. Study of and practice in the selection, direction, and performance of plays. Pre: junior standing or, higher or consent. DA
THEA 475 Puppetry for Young Children (3) Methods of constructing puppets and stages with and for children 3 to 8 years of age. Use of puppets in the creative process. Fieldwork. Pre: junior standing or consent. DA
THEA 476 Puppets (3) History and scope of puppetry, construction and presentation of puppets for adult and child audiences. Repeatable one time. Pre: junior standing or, above, or consent. DA
THEA 477 Masks and Giant Puppets (3) History, construction, and performance techniques for masks and large puppets. For teachers, recreation directors, and others working with students aged 10 to 18 and adults. Pre: junior standing or, above, or consent. DA
THEA 478 Hula Ku'i: Hawaiian Puppetry and Image Dancing (3) History, techniques, construction, and performance of Hawaiian puppetry and traditional image dancing. Repeatable one time. Junior standing or higher. DA
THEA 480 Intermediate Directing (3) Workshop; students direct one-act plays. Repeatable one time with consent. Pre: 301, 303 (with a grade of B) or consent. DA
THEA 490 Experimental Theatre Studio (3) Working collectively, students research, write, design, develop, and perform a full-length production. Repeatable two times. Pre: 6 credits above the 200 level in scenic directing, playwriting, dancing, or consent. DA
THEA 492 (Alpha) Topics in Drama and Theatre (3) (B) Topics in Asian Theatre; (D) topics in Western theatre. Repeatable two times. Pre: junior standing or consent for (B) and (D). DA
THEA 499 Directed Work (V) Individual projects; tutorial. Repeatable two times. Pre: consent.
THEA 500 Master's Plan B/C Studies (1) Enrollment for degree completion. Pre: master's Plan B or C candidate and consent.
THEA 600 Seminar in Theatre Research (3) Bibliography and research methods; preparation for thesis and dissertation writing. Required of many graduate theatre majors. DA
THEA 611 Seminar in Major Dramatic Theory (3) Major theories of Western drama from Aristotle to Roland Barthes. Repeatable one time with consent. Pre: 412 or consent. (Alt. years) DA
THEA 612 History of Western Theatre I (3) Theatre as a cultural and social institution in the West, from ancient Greece to Restoration England. Pre: one of 311, 312, 411, 412, or consent. (Alt. years) DA
THEA 613 History of Western Theatre II (3) Theatre as a cultural and social institution in the West, from the 18th century to the present: one of 311, 312, 411, or consent. (Alt. years) DA
THEA 614 (Alpha) Topics in Dramaturgy (3) (B) role of the dramaturg; theory, and practice; (C) dramaturgy workshop; accompanies specific Kennedy Theatre productions. Repeatable one time per alpha. Pre: consent. (Alt. years) DA
THEA 615 Performance Theory (3) Introduction to key texts and concepts of performance studies. Pre: consent.
THEA 616 Script Analysis (3) Study of dramatic texts in a scene format; analysis of Western and Asian classical to post-modern plays. Pre: 312 or consent.
THEA 617 Seminar in Performance Studies (3) Special topics. Repeatable up to two times when topics change. Pre: 615 or consent. (Cross-listed as DNCE 617)
THEA 619 Advanced Topics: Playwriting and Dramatic Theory (3) Readings, research, writing, and seminar discussions. Pre: 418, 611, and consent. DA
THEA 620 Advanced Voice for the Actor (3) Training as an actor and vocal skills and techniques in preparation for a solo performance. Repeatable one time. A-F only. Pre: 420 or consent. (Alt. years) DA
THEA 621 Great Roles in Acting (3) Great roles from the Western theatre repertory; focus on the individual actor and performance styles. Repeatable one time with consent. Pre: graduate standing or consent.
THEA 625 Experimental Asian Acting (3) Integration of movement, vocal technique, and concepts of traditional Asian genres into the actor's repertory. Exploration of application to contemporary Asian and non-Asian plays. Repeatable one time. Pre: thea and DNCE majors only. Pre: consent.
THEA 626 Advanced Topics in Theatre Acting (1) Readings, discussion, workshop, and performance work and scene work. Repeatable eight times. MAJORS only. Pre: consent.
THEA 634 Taiji Weapons for Actors (3) Advanced level Taijiquan (T’ai Chi Ch’uan) weapons training. Repeatable two times. Pre: 334 or 434, or consent.
THEA 640 Problems in Design and Production (3) Workshop dealing with special topics in lighting design, sound design, technical design, production stage management, and special effects. Repeatable three times with consent. Pre: 343 or 443 or consent.
THEA 645 Lighting II: Intermediate Lighting Design (3) Workshop in intermediate techniques and skills of lighting design; storytelling, analysis, research, envisioning, and communicating a design plan, execution of successful design projects. Use of communication tools such as mini-plots, light renderings, LightWright, and VectorWorks. Repeatable one time. Pre: 345 (with a minimum grade of B) or consent.
THEA 645 Lighting III: Advanced Lighting Design (3) Workshop dealing with special topics in theatrical lighting design and related skills. Repeatable two times. Pre: THEA or DNCE majors only. Pre: 445. DA
THEA 650 Professional Advancement in Entertainment Design (1) Directed study designed to help MFA candidates in Design acquire the tools helpful in obtaining future employment. Portfolios, resumes, and related applications will be developed along with other necessary skills. Must be current MFA candidate in theatre. Repeatable six times. Pre: THEA majors only. Graduate students only. DA
THEA 652 Scene IV: Intermediate Scene Design (3) Workshop in advanced scenic design for set and related skills. Introduction to scenic design; research, presentation, rendering, drafting, and model making. Pre: 353 (with a minimum grade of B) or consent.
THEA 653 Scene V: Advanced Scene Design (3) Workshop dealing with special topics in scenic design, related skills, and portfolio preparation. Repeatable two times with consent. Pre: 453 or consent. (Alt. years)
THEA 654 Advanced Topics in Costume Construction (3) Western and Asian theatre and dance costume production techniques. Topics may include corset building, draping, patterning, tailoring, dying, fabric manipulation, millinery, leatherwork, and crafts. Topics presented within the context of current entertainment industry practice. Repeatable three times for different topics. Pre: 354 (with a minimum grade of B) or consent.
THEA 656 Costumes III: Advanced Costume Design (3) Workshop dealing with special topics in costume design and related skills. Repeatable one time with consent. Pre: 453 or consent. DA
THEA 657 Seminar in Design (3) Research, design, and discussion exploring collaborative design problems and solutions. Repeatable two times. A-F only. Pre: 445, 453, 456, or consent.
THEA 660 Asian Theatre Field Research (3) Goals and methods. Interview, questionnaire, observation, and performance study as research techniques. Practical application by designing a research project. Pre: consent.
THEA 663 (Alpha) Topics in Asian Theatre (3) Comparative and cross-cultural examination. (B) origins; (C) theories and systems; (D) modern Asian drama. Repeatable one time. Pre: consent.
THEA 670 Seminar in Advanced Creative Dramatics (3) Advanced applied methods and theories of creative dramatics. Repeatable one time. Pre: THEA or DNCE majors only. DA
THEA 678 (Alpha) Topics in Theatre for Young Audiences (3) Creative theatre for children: puppetry, and theatre/dance; (B) production concepts. Repeatable when topics change. Pre: one of 470, 474, 475, 476, 477, DNCE 490; or consent.
THEA 680 Directing Asian Theatre (3) Directing traditional Asian theatrical repertoire; working with actors who have performed with Asian techniques; development of new performance styles based on Asian examples; directing of scenes and one-act plays. Repeatable one time with consent. Pre: graduate theatre major and one Asian theatre course, or consent.
THEA 681 Directing Topics in Theatre Directing (1) Readings, discussion, research, and/or performance of plays. Repeatable eight times. MAJORS only. Pre: consent.
THEA 682 Graduate Workshop in Directing (3)
Direction of scenes and major one-act plays. Pre-thesis production. Repeatable one time with consent. Pre: 600 or consent.

THEA 683 Workshop in Directing Process (3)
Methods class in theatre production for the director. Covers organization and techniques such as rehearsal planning, scheduling, and execution. Repeatable one time.

THEA 685 Directing Western Styles (3)
Students direct classics in non-realistic western theatre styles or genres. Repeatable one time with consent. THEA majors only. A-F only. Pre: graduate student in theatre program, or consent. (Alt. years)

THEA 690 Graduate Theatre Workshop (V)
Practical and supervisory theatre work pertinent to professional degree objectives on productions being done in Kennedy Theatre or in other venues, by approval. Repeatable eight times, up to 9 credits. THEA majors only. Pre: consent.

THEA 691 Seminar in Teaching Dance/Theatre (3)
Pedagogy and classroom experience in teaching technique and theory. (Alt. years) (Cross-listed as DANCE 691)

THEA 692 Practicum in Teaching (V)
Supervised teaching experience at the introductory or undergraduate level. Students will reach an appropriate level course in their field of expertise under faculty supervision. Repeatable up to nine credits. THEA or DANCE majors only. (Cross-listed as DANCE 692)

THEA 693 Internship: Theatre/Dance (V)
Supervised work in the arts in theatre/dance program with children. Students spend nine hours per week in supervised setting and three hours in weekly class meeting. Pre: one of 470, 476, or DANCE 490; or consent. (Cross-listed as DANCE 693)

THEA 695 Creative Projects (V)
MFA play or dance productions, design projects, original full-length plays. Repeatable unlimited times.

THEA 699 Directed Research (V)
Research or creative work in particular areas of theatrical production. Repeatable unlimited times. Pre: consent.

THEA 700 Thesis Research (V)
Repeatable unlimited times.

THEA 705 Seminar in Western Drama and Theatre (3)
Special topics. Repeatable when topics change. Pre: consent.

THEA 763 (Alpha) Seminar in Asian Theatre (3)
(B) Southeast Asia and India; (C) China; (D) Japan. Repeatable two times. Pre: one of 464, 465, 466, or consent.

THEA 779 Seminar in Theatre for Young Audiences (3)
Theories and methods applied in theatre experiences with and for young audiences: creative movement/drama, puppetry, and theatre/dance. Pre: one of 470, 474, 475, 476, or DANCE 472. Pre: consent.

THEA 800 Dissertation Research (V) Repeatable unlimited times.

Tongan (TONG)

College of Languages, Linguistics and Literature

Students choosing Tongan for the language requirement should realize it may not be offered if demand is limited.

TONG 101 (4) Listening, speaking, reading, and writing skills. Structural points introduced inductively. History and culture. Meets four (4) hours weekly. HSL.

TONG 102 Beginning Tongan (4) Continuation of 101. Pre: consent. HSL.

TONG 201 Intermediate Tongan (4) Listening, speaking, reading, and writing skills. History and culture. Meets four (4) hours weekly. Pre: 102 or consent. HSL.

TONG 202 Intermediate Tongan (4) Continuation of 201. Pre: 201 or consent. HSL.

Translation and Interpretation (TI)

College of Languages, Linguistics and Literature
Some courses require a language exam before being allowed to enroll. Please check the website at cits.hawaii.edu for current courses offered and further details.

TI 401 Principles of Translation (3)
Student awareness of the translation process and the criteria for evaluating translations. Includes readings and discussions of the translation process, terminology research as well as intensive practice in precise writing, paraphrasing, and summarizing. Pre: at least 300-level proficiency in a second language.

TI 403 Introduction to Interpretation (3)
Develop an awareness of the principles and the basic skills involved in the field of simultaneous interpreting: simultaneous and consecutive interpreting and sight translation. Repeatable one time. Pre: at least 300-level proficiency in a second language.

TI 404 Spanish-English Translation (3)
Factors in the art of translating: language from Spanish to English and the reverse. Pre: SPAN 305 or consent. (Cross-listed as SPAN 405)

TI 405 Court Interpreting I (3)
Introduction to the legal system, a guide to legal vocabulary, practical techniques, and current issues surrounding the practice and profession of court and other legal interpreting. Repeatable one time.

TI 406 Community Interpreting (3)
Basic principles, ethics and skills involved in community interpreting in medical, legal, and social service settings; practical information about the community interpreter's role and profession; practice of various community interpreting situations and techniques. Repeatable one time.


TI 409 Professional Orientation and Internship (A) A three-part course consisting of business models for interpreters, a language-specific practicum lab, and an internship. Repeatable one time. Pre: 403 or 406. (Spring only)

TI 412 (Alpha) Technical Translation (3) Translation of nonfiction texts into English. Emphasis on editing target version and producing camera-ready copy. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. Pre: 411, senior or graduate standing, and pass CITS screening exam. Co-requisite: 405.


TI 415 (Alpha) Simultaneous Interpretation (3) Training in techniques for interpreting. Skills for delivering messages in a natural, fluent manner. Pre: at least 300-level proficiency in a second language.

TI 422 Computer-Assisted Translation (3) (1 Lec. 1 1.5-hr Lab) The use of computers as aids in the translation process. Basic desktop publishing and technical writing, terminology and glossary building. Repeatable one time. Pre: 421, senior or graduate standing, and pass CITS screening exam. Co-requisites: 405, 402, 412, 452.

TI 424 English to Japanese Translation (3) Training in techniques of translating English into Japanese. Pre: JPN 407D or JPN 407E, or consent. (Cross-listed as CHIN 421(Alpha))

TI 425 Japanese to English Translation (3) Training in techniques of translating Japanese into English. Pre: JPN 407D or JPN 407E, or consent. (Cross-listed as CHIN 422(Alpha))

TI 432 (Alpha) Consecutive Interpretation (3) Extensive note-taking and note-reading in a bilingual context. Focuses on the translation of numbers, acronyms, initials, and economic and financial information. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 442 (Alpha) Simultaneous Interpretation (3) Simultaneous interpretation of speeches. Focus on the study of formulaic and frozen language characteristically used in international meetings. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 452 (Alpha) Sight Translation (3) Focus on the ability to translate orally information from one written text. Emphasis on improving linguistic (discourse analysis) and communicative (public speaking) skills. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 499 Directed Reading/Studies (V) Independent study of approved readings and research with faculty supervision. Repeatable two times, up to nine credits. A-F only.

Travel Industry Management (TIM)

School of Travel Industry Management
Students should check with the department for grade requirements for prerequisites.

TIM 099 International Exchange Programs (V)
UH Mānoa School of Travel Industry Management majors participating in approved international exchange programs. CR/NC only.

TIM 100 Internship I (2) Introduction to travel industry. Discussion of various strategies, TIM internship requirements, career and academic planning. CR/NC only.

TIM 101 Introduction to Travel Industry Management (3) Overview of travel industry and related major business components. Analysis of links between hotel, food, transportation, recreation, and other industries comprising tourism.

TIM 102 Food and World Cultures (3) An integrated cross-cultural approach to the study of foods and cultures. Examine history, concepts, principles of cultures and cuisines, the background of food tradition including habitat, social status, religious beliefs, gender, and other environmental considerations. A-F only. FGB

TIM 200 Internship II (2) A minimum of four hundred hours of travel industry experience. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM major, 100, and 101.

TIM 300 Internship III (2) A minimum of four hundred hours of travel industry experience. Position must be different from Internship I position and of a more responsible nature or in a different organization. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM major and 200.

TIM 301 Legal Environment of the Travel Industry (3) Origin, development, and principles of common, statutory, constitutional, international, and maritime law relating to hospitality industry. TIM majors only. Pre: 101. Recommended: BLAW 200.

TIM 302 Information Systems Technology (3) Computer applications in the travel industry; operation and evaluation of specific travel industry systems and applied business systems. TIM majors only. Pre: 101 and ICS 101.

TIM 303 Management of Service Enterprises (3) Principles and philosophies of management with special emphasis on those principles and theories that are most relevant to management in service-based industries. Students may not earn credit for 303 and BUS 315. TIM majors only. Pre: 101 or consent.

TIM 304 Principles of Travel Industry Marketing (3) Concepts, problems, processes of marketing within the travel industry; development of marketing strategies including product, place, promotion, and price for travel institutions. Students may not earn credit for 304 and BUS 312. TIM majors only. Pre: 101.

TIM 305 Financial Management for the Travel Industry (3) Cash flow determination and management strategies for hospitality ventures and expansion. Determining the financial viability of proposed and existing operations through traditional and state-of-the-art techniques. TIM
TIA 301 Organizational Behavior in Tourism (3) (also listed as SUST 301) Theoretical and practical aspects of organizational behavior in the travel industry. Focus on the importance of understanding the behavior of individuals, teams, and groups in the context of hospitality organizations. Recommended: 101 or 303.

TIA 302 Introduction to Hospitality Management (3) (also listed as SUST 302) A broad overview of the hospitality industry, including the role of management in the industry. Recommended: 101 or 303.

TIA 303 Financial Management (3) (also listed as SUST 303) Principles of financial management and its application to the hospitality industry. Recommended: 101 or 303.

TIA 304 Event Management and Marketing (3) (also listed as SUST 304) A study of event management and marketing in the hospitality industry. Recommended: 101 or 303.

TIA 305 Principles of Logistics (4) (also listed as SUST 305) Principles of logistics management and their application to the hospitality industry. Recommended: 101 or 303.

TIA 306 Human Resource Management: Travel Industry (3) (also listed as SUST 306) Principles and practices of human resource management in the travel industry. Recommended: 101 or 303.

TIA 308 Hospitality Operations Management (3) (also listed as SUST 308) A study of the management of hospitality operations. Recommended: 101 or 303.

TIA 310 Hospitality Service Management (3) Critical and essential aspects of managing customer service in the travel industry. Recommended: 101 or 303.

TIA 311 Club Management (3) (also listed as SUST 311) A study of club management in the hospitality industry. Recommended: 101 or 303.

TIA 312 Hotel Management (3) (also listed as SUST 312) A study of hotel management in the hospitality industry. Recommended: 101 or 303.

TIA 313 Foodservice Management (3) Critical and essential aspects of managing foodservice operations in the hospitality industry. Recommended: 101 or 303.

TIA 314 Food Purchasing (3) (also listed as SUST 314) A study of the process of purchasing food in the hospitality industry. Recommended: 101 or 303.

TIA 315 Quality Food Management (3) (also listed as SUST 315) A study of the management of quality food in the hospitality industry. Recommended: 101 or 303.

TIA 316 Events Planning and Marketing (3) (also listed as SUST 316) A study of the planning and marketing of events in the hospitality industry. Recommended: 101 or 303.

TIA 317 Service Operations Management (3) (also listed as SUST 317) A study of the management of service operations in the hospitality industry. Recommended: 101 or 303.

TIA 318 Cost Accounting in Hospitality (3) (also listed as SUST 318) A study of cost accounting in the hospitality industry. Recommended: 101 or 303.

TIA 319 Quantity Foods and Institutional Purchasing (4) (also listed as SUST 319) A study of the purchase and management of quantity foods in the hospitality industry. Recommended: 101 or 303.

TIA 320 Introduction to Tourism Economics (3) A study of the economic principles and theories that underlie the travel industry. Recommended: 101 or 303.

TIA 321 Sociocultural Issues in Tourism (3) Issues arising from the impacts of tourism on societies and cultures. Recommended: 101 or 303.

TIA 322 Geography of Global Tourism (3) A study of the geographic distribution of tourism. Recommended: 101 or 303.

TIA 323 Travel Distribution Management (3) Study of travel distribution organizations and their impact on the travel industry. Recommended: 101 or 303.

TIA 324 Travel Distribution Management (3) Study of travel distribution organizations and their impact on the travel industry. Recommended: 101 or 303.

TIA 325 Introduction to Tourism Transportation (3) (also listed as SUST 325) A study of the transportation systems used in the travel industry. Recommended: 101 or 303.

TIA 326 Air Transportation Management (3) A study of the management of air transportation in the travel industry. Recommended: 101 or 303.

TIA 327 Hotel/Restaurant Facilities and Design (3) (also listed as SUST 327) A study of the design and management of hotel and restaurant facilities. Recommended: 101 or 303.

TIA 328 Human Resource Management in Hotel/Restaurant (3) A study of human resource management in the hotel and restaurant industry. Recommended: 101 or 303.

TIA 329 Hospitality Leadership (3) A study of leadership in the hospitality industry. Recommended: 101 or 303.

TIA 330 Service Quality in Tourism (3) A study of service quality in the tourism industry. Recommended: 101 or 303.

TIA 331 Hospitality Information Management (3) A study of the management of information systems in the hospitality industry. Recommended: 101 or 303.

TIA 332 Hospitality Information Technology (3) A study of the use of information technology in the hospitality industry. Recommended: 101 or 303.

TIA 333 Hotel/Resort Facilities and Design (3) A study of the design and management of hotel and resort facilities. Recommended: 101 or 303.

TIA 334 Hotel and Convention Sales (3) A study of the sales and marketing of hotels and convention facilities. Recommended: 101 or 303.

TIA 335 Introduction to Tourism Transportation (3) A study of the transportation systems used in the travel industry. Recommended: 101 or 303.

TIA 336 Economics in Travel Industry (3) A study of the economic principles and theories that underlie the travel industry. Recommended: 101 or 303.

TIA 337 Hotel and Restaurant Management (3) A study of the management of hotels and restaurants. Recommended: 101 or 303.

TIA 338 Hotel and Restaurant Management (3) A study of the management of hotels and restaurants. Recommended: 101 or 303.

TIA 339 Revenue Management in Travel Industry (3) A study of the principles and strategies of revenue management in the travel industry. Recommended: 101 or 303.


TIA 341 Hospitality Service Management (3) A study of the management of service operations in the hospitality industry. Recommended: 101 or 303.

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TIA 369 Hospitality Service Management (3) A study of the management of service operations in the hospitality industry. Recommended: 101 or 303.
appropriate for research in travel industry management. Survey of the literature of applied techniques and approaches including exploratory approaches. Familiarization with research design and implementation of development of research proposals. Pre: graduate standing or consent.

TAM 602 Strategic Travel Marketing (3) In-depth study of marketing principles and problems related to travel industry. Emphasis on strategic marketing. Research applications, international and domestic marketing of travel industry services. Pre: graduate standing or consent.

TAM 603 Information Technology, E-Commerce, and Travel Industry (3) Planning, implementation, management, evaluation, and impact of information and electronic communication technologies, including e-commerce applications in the travel industry. Analysis of technology use in the area of research and strategic application. Pre: graduate standing or consent.

TAM 604 Managerial Accounting for Travel Industry (3) Advanced study of management accounting within travel industry: responsibility accounting, pricing decisions, concepts and application of central systems, financial planning, price level impact, and performance evaluation. Pre: graduate standing or consent.

TAM 605 Hospitality Management (3) Advanced human relations and operating issues; use of accounting, behavioral, financial, marketing, and informational technology in managing hospitality organizations. Pre: graduate standing or consent.

TAM 606 Transportation Economics and Management (3) Advanced study of economics of passenger transportation systems serving the travel industry. Emphasis on topics such as government policy, transport economics, marketing, and management, and the relationships between transportation systems and tourism development. Pre: graduate standing or consent.

TAM 640 Financial Management for the Travel Industry (3) Applications of financial analysis to both the domestic and international travel industry. TAM majors only. A-F only. Pre: graduate standing or consent.

TAM 645 Tourism Field Studies (3) Integration of concepts and application of knowledge and skills from other courses to a selected field study project. Pre: any two 500-level TAM courses completed and a third concurrent or consent.

TAM 694 Professional Paper (3) Independent project or paper under faculty supervision in lieu of Plan A, TAM 700 thesis. Requires proposal approved by supervisor and graduate chair prior to registration. A-F only. Pre: three 600-level TAM courses completed or consent.

TAM 695 Seminar: Travel Industry Management Policy (1) Preparation of learning through analysis of policy issues, trends, and problems in the travel industry. A-F only. Pre: three 600-level TAM courses completed or consent.

TAM 699 Directed Study (V) Independent study of approved, advanced reading with faculty supervision. Requires proposal prepared by student and approved by supervisor and graduate chair before registration. Repeatable one time.

TAM 700 Thesis Research (V) Independent supervised research. Formal and oral written presentation of research findings. Repeatable up to six credits.

Tropical Agriculture and Human Resources (TAHR)

Tropical Medicine and Medical Microbiology (TRMD)

*School of Medicine*

TRMD 431 Principles of Medical Parasitology (2) Epidemiology, pathogenesis, immunobiology and diagnostic aspects of human parasitic infections; principles of host-pathogen interactions; public health aspects of parasitic infections. Repeatable one time, A-F only. Pre: MICR 351 with a grade of B or higher or equivalent. (Spring only)

TRMD 441 International Training in Biosciences Research (3) Combines weekly lectures by faculty for discussion of the 9 Steps of Research and completion of training courses for working with human subjects, including respiratory safety, blood-borne pathogens, and principles of health disparity. MHIRT cohort only. A-F only. (Summer only)

TRMD 442 Research Abroad (5) Hands-on research experience at assigned international sites. Students learn research and analytical skills in the field and laboratory settings, and their faculty upon completion of the training. MHIRT cohort only. A-F only. (Summer only)

TRMD 499 Reading and Research (V) Directed reading and research in laboratory; diagnostic aspects of bacterial, parasitic, and viral infections. Repeatable unlimited times. Pre: consent.

TRMD 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Repeatable unlimited times. Pre: master’s Plan B or C candidate and consent.

TRMD 545 Topics in Tropical Medicine (V) Elective for fourth-year medical students for advanced study of selected topics within the field of tropical medicine and medical microbiology. Pre: fourth-year standing or MD degree.

TRMD 590 Selected Topics in Tropical Medicine and Infectious Diseases (V) Elective for medical students in Tropical Medicine and Infectious Diseases. Repeatable six times, up to 12 credits. Medical students only. CR/NC only. Pre: consent.

TRMD 595 (Alpha) Selected Topics in Infectious Diseases (V) Elective for medical students: (B) infectious diseases; (C) parasitology; (D) epidemiology; (E) immunology. MD majors only. CR/NC only. Pre: MDED 574 or consent. (Fall only)

TRMD 599 (Alpha) Selected Research Topics in Infectious Diseases elective for medical students: (B) infectious diseases; (C) parasitology; (D) epidemiology; (E) immunology. MD majors only. CR/NC only. Pre: MDED 574 or consent. (Fall only)

TRMD 601 Tropical Medicine Journal Club (1) Students gain exposure to the presentation and discussion of topics of current interest in the fields of tropical medicine and infectious diseases. Repeatable unlimited times. Graduate students only.

TRMD 602 Laboratory Methods in Tropical Medicine (2) Microbiological methods and techniques for identification of pathogenic viruses, bacterial, and parasitic organisms including specimen handling, culture, and identification. Repeatable one time. Graduate standing only. A-F only. (Fall only)

TRMD 603 Infectious Disease Microbiology I: Medical Parasitology (3) Epidemiology, pathogenesis, immunobiology and diagnostic aspects of human parasitic infections; principles of host-pathogen interactions; public health aspects of parasitic infections. Repeatable one time. A-F only. Pre: MICR 351 or equivalent. (Cross-listed as PH 665)

TRMD 604 Concepts in Immunology and Immunopathogenesis (2) Immunological concepts relating to infectious diseases and host pathogen interactions. Repeatable one time. A-F only. Pre: MICR 461 (or equivalent) or consent. (Cross-listed as PH 665)

TRMD 605 Infectious Disease Micro II (3) Will cover different families of animal viruses of importance to human disease. The genome, structure, replication, as well as host immune responses, epidemiology, clinical features, and animal models will be presented. Repeatable one time. A-F only. Pre: 604 and MICR 351 or consent. (Cross-listed PH 667)

TRMD 606 Tropical Medicine Laboratory Rotations (V) Practical experience in use of equipment and procedures in infectious disease and immunology research; introduction to research in tropical medicine. Repeatable unlimited times. Pre: 604 (or concurrent), or consent.

TRMD 607 Neurovirology (2) Seminar on neuroinvasive viruses giving basics of viruses causing nervous system diseases. Will cover recent advances in the research field of neurovirology. Pre: MICR 351 or equivalent; or consent. (Fall only)

TRMD 608 Infectious Disease Microbiology III (3) Basic structure, physiology, epidemiology, and genetics of pathogenic organisms and the host response to these organisms. Correlation of these characteristics to disease pathogenesis in humans and animal models. A-F only. Pre: 604 or consent. (Spring only)

TRMD 609 Advances In Medical Immunology (3) Presentations/discussions of current literature concerning recent advances in immunology relevant to disease and to disease processes. Pre: consent. (Alt. years: spring)

TRMD 610 Infection and Immunity (3) Combined lecture/discussion of interactions of pathogens with the innate and acquired immune systems. Topics will include the role of novel receptors in pathogen detection, inflammation in disease pathogenesis, pathogen immune evasion, and neuroimmunology. Repeatable two times. A-F only. Pre: 604, MICR 461, or consent. (Alt. years: fall)

TRMD 650 Ecological Epidemiology (2) Applications of population biology, pathogen/host life history, and population genetics to infectious disease epidemiology, including vector biology, macroparasites, and implications to disease control and prevention of strategies. A-F only. Pre: consent. (Alt. years: spring) (Cross-listed as PH 650)

TRMD 651 Vaccinology (2) History/evolution of vaccines, current and next generation vaccines, vaccine immunology, adjuvants, vaccine strategies, vaccines for viral, bacterial, and parasitic diseases, vaccine-proof-of-concept and downstream developmental studies; vaccine safety production processes. Repeatable one time. Graduate students only. A-F only. Pre: (604 and 605) with a minimum grade of B. (Spring only)

TRMD 652 Advanced Genetics and Evolution of Infectious Diseases (3) Elective for medical students in Tropical Medicine and Infectious Diseases. Will cover different families of animal viruses of importance to human disease. The genome, structure, replication, as well as host immune responses, epidemiology, clinical features, and animal models will be presented. Repeatable one time, but credit earned one time only. Open to nonmajors. A-F only. Pre: (604 (or concurrent) and 605 (or concurrent) or consent. (Alt. years: spring)

TRMD 654 Advances in Bioinformatics and Molecular Evolution (3) Combined lecture/computer lab on bioinformatic tools used in genomics, including sequence assembly, search algorithms, alignment, phylogenetics, and molecular evolution/epidemiology. Focus will be on infectious disease examples. Repeatable one time, but credit earned one time only. Open to nonmajors. A-F only. Pre: (604 (or concurrent) and 605 (or concurrent) or consent. (Alt. years: spring)

TRMD 658 Advanced Virology I: History of HIV, basic biology and virology, epidemiology, HIV pathogenesis and immunology, clinical features, and co-morbidities. Treatment and prevention of HIV/
AIDS, including research methods, statistics, cultural competence, genetics, pathophysiology, drug and vaccine development. Repeatable unlimited times. A-F only. Pre: 604 and 605, or consent. (Fall only)

TRMD 626 Biomedical Statistics (3) Fundamental biomedical statistics concepts and tools will be introduced, as well as their applications to biomedical data. Students will perform hands-on analysis using statistical software and learn to interpret and present the results. A-F only. (Fall only) (Cross-listed as QHS 601)

TRMD 671 Advanced Medical Parasitology (2) Consideration of ultrastructure, physiology, biochemistry of parasitic diseases as it relates to tropical medicine. Lecture/seminar format. A-F only. Pre: TRMD graduate standing or consent. (Spring only)

TRMD 690 Seminar in Tropical Medicine and Public Health (1) Presentations and reports on current advances in tropical medicine and public health. Repeatable unlimited times. (Cross-listed as PH 755)

TRMD 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing in TRMD.

TRMD 696 Independent Research (V) Directed research in medical microbiology (bacteriology, parasitology, virology). Repeatable unlimited times. Pre: consent.

TRMD 700 Thesis Research (V) Research for master’s thesis. Approval of department faculty required. Repeatable unlimited times.


TRMD 800 Dissertation Research (V) Research for doctoral thesis. Approval of department faculty is required. Repeatable unlimited times.


TPSS 156L Natural History Field Trips on Hawai‘i Island (1) Field trips for Natural History and Conservation Education Hawai‘i Island. A-F only. Co-requisite: 156. (Summer only) DY

TPSS 200 Agriculture, Environment, and Society (3) Relationship of plants, soils, and the environment, and how human practices and society operate in agroecosystems with an emphasis on Hawai‘i as a model system. (Cross-listed as SUST 211) DB

TPSS 220 Organic Food Crop Production (2) Combined lecture/lab on the theory and practice of certified organic food production. Field visits to organic farms/markets included. Open to nonmajors. (Fall only) (Cross-listed at SUST 221) DY

TPSS 251 Scientific Principles of Sustainability (3) Introduction to the scientific principles of sustainability, including the ecology of managed and natural ecosystems, ecology of tropical agriculture, ecological principles of natural resource management, renewable energy technologies, and the environmental impacts of humans. (Cross-listed as NREM 251 and SOCS 251) DS

TPSS 300 Tropical Production Systems (4) (3 Lec, 1 hr-Lab) Comparisons and contrasts of crop management systems, techniques, and technologies in protected and open field production of tropical crops. Pre: 200/SUST 211 or consent. DB

TPSS 304 Fundamentals of Soil Science (3) Origin, development, properties, management of tropical soils; classification of Hawaiian soils. A-F only. Minimum prerequisite grade of C or consent. Pre: CHEM 161 and 161L, or both. Co-requisite: 304L. (Fall only) (Cross-listed as NREM 304) DP

TPSS 304L Fundamentals of Soil Science Laboratory (1) Field and analytical methods for exploring the origin, development, properties, and management of tropical soils: comparison of tropical and Hawaiian soils. A-F only. Pre: CHEM 161 and CHEM 161L. Co-requisite: 304L. (Fall only) (Cross-listed as NREM 304L) FY

TPSS 311 Current Topics in Plant Science (1) Undergraduate seminar that provides the presentation and discussion of topical current relevance to students preparing for careers in applied plant sciences. Oral final examination. A-F only. Pre: 200/SUST 211 or NREM 210, or consent. (Cross-listed as NREM 311)

TPSS 322 Farm & Food Marketing (3) Problems, agencies, functions, costs, prices, regulations affecting marketing, promotion, and distribution of organic produce: ECON 130, NREM/SUST 220; or consent. (Alt. years) DS

TPSS 336 Renewable Energy and Society (3) Combined lecture/discussion regarding the ability of renewable energy technologies to meet local, regional, and global energy demands and their potential impacts on the environment and society. Pre: consent.

TPSS 341 Managerial Accounting (3) Principles and methods of agricultural accounting. Preparing and interpreting financial statements. Sources and costs of credit, capital budgeting, tax management, estate planning. Repeatable one time. A-F only. Pre: ECON 130, NREM/SUST 220, or consent. (Cross-listed as NREM 341) DS

TPSS 350 Tropical Landscape Practices (3) (2 Lec, 1 hr-Lab) Concepts and techniques of landscape installation and management in the tropics. Pre: 200/SUST 211 and 304L or consent.

TPSS 351 Enterprise Management (3) Introduction of practical concepts and methods used in business management. Introduce broad range of business strategies. Understand the critical role each strategy plays. Facilitate student’s practice of analytical and critical thinking through case studies. (Cross-listed as NREM 351)

TPSS 352 Landscape Architecture History (3) Survey of the historical development of landscape architecture from Mesopotamia to present. Review of the physical, cultural, social, economic, and political factors, as well as the environmental concerns, horticultural techniques, and technological innovations of historic landscapes. A-F only. (Spring only) (Cross-listed as ARCH 352) DH

TPSS 353 Landscape Graphics Studies (4) Basic skills of landscape communication through a creative process of free hand and technical drafting techniques to creative effective landscape graphics. Pre: consent. (Alt. years) (Cross-listed as ARCH 353) DA

TPSS 354 Tropical Landscape Planting Design Studio (4) Students will develop basic skills of residential landscape design and design processes in order to clearly articulate the ability to think, analyze, and present landscape designs to the proper clients. Repeatable one time. A-F only. (Alt. years) (Cross-listed as ARCH 354) DA

TPSS 364 Horticultural Practices (2) (1 Lec, 1 3-hr Lab) Techniques of culture and management of horticulture crops. Pre: 200/SUST 211 (or concurrent). DB

TPSS 369 Ornamental Plant Materials (3) (2 Lec, 1 3-hr Lab) Identification, origin, use, and cultural requirement of trees, shrubs, vines, and groundcovers used in Hawaiian landscapes. Pre: 200/SUST 211 or DB

TPSS 371 Genetics: Theory to Application (3) Fundamentals of genetic theory using traditional breeding and biotechnological procedures in insect and plant pathogen management for sustainable agricultural production. Repeatable one time. A-F only. (Cross-listed as PPS 371 and SUST 371)

TPSS 401 Vegetable Crop Production (2) (1 Lec, 1 3-hr Lab) Crop biology, requirements, and production techniques for commercial vegetable production in Hawai‘i will be stressed. Pre: 300 or consent. DB

TPSS 402 Flower and Foliage Crop Production (4) Biology and production of cut flowers, blooming potted plants, foliage plants under field and protected cultivation in Hawai‘i and globally. Pre: 300 or consent. DB

TPSS 403 Tropical Fruit Production (5) (2 Lec, 1 3-hr Lab) Botanical, agronomic, and management practices of selected tropical and subtropical fruit crops, with emphasis on small scale commercial production in Hawai‘i. Pre: 300 or consent. DB

TPSS 405 Turfgrass Management (4) (3 Lec, 1 3-hr Lab) Adaptability and selection, establishment, and cultural practices of grasses for various types of turf. Pre: 200/SUST 211 or consent. DB

TPSS 409 Plant Biocultural Diversity (3) Evolution of human societies and plants over the last 10,000 years. Foraging, farming, and urban societies; spread and modification of selected plants; issues of preservation of genetic resources and traditional plant knowledge; the consumption of gardens. Pre: junior standing or higher, or consent. (Cross-listed as GEOG 409) DS

TPSS 410 Sustainable Soil and Plant Health Management (2) Provides knowledge and understanding of soils, agroecology, and sustainable approaches for plant health management, and prepares students for applied research in various tropical cropping systems. A-F only. (Alt. years: spring) (Cross-listed as PEPS 410 and SUST 410)

TPSS 416 Introduction to Social, Ethical and Political Issues Associated with Biotechnology (3) Introduces conceptual and technological, fundamental issues associated with the use of this technology, with special emphasis on agricultural biotechnology. A-F only. Pre: 200/SUST 211 or BIOL 171 or NREM 210, or consent.

TPSS 418 Turfgrass Pest Management (3) Provides students with knowledge and real world experience on common turfgrass pests and management strategies in Hawai‘i, with emphasis on integrated pest management. Common cool-season turfgrass and pest management are also discussed. A-F only. (Fall only) (Cross-listed as PEPS 418)

TPSS 420 Plant Propagation (3) (2 Lec, 1 3-hr Lab) Theoretical and applied aspects of seed and vegetative propagation technology involving flowering plants, fruits, vegetables, and landscape plants. Pre: 200/SUST 211 or consent. DB

TPSS 421 Tropical Seed Science (3) (2 Lec, 1 3-hr Lab) Principles of seed science, seed physiology, seed production, and genetic modification. Hawai‘i’s seed industry and biotechnology. A-F only. Pre: 200/SUST 211 or consent. DB

TPSS 429 Spreadsheet Modeling for Business and Economic Analysis (3) Introduction to quantitative decision-making methods for effective agribusiness management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, formulation and solution, and interpretation and presentation of results. Pre: ECON 130 or NREM/SUST 220, and ECON 521 or NREM 510, or consent. (Once a year) (Cross-listed as ECON 429 and NREM 429) DS

TPSS 430 Nursery Management (3) (2 Lec, 1
3-hr Lab) Management practices in production and operations of commercial nurseries in Hawaii. Pre: 200/SUST 211 and 364; or consent. DB
TPSS 431 Indigenous Crops/Food Systems (1) Schemes for managing sequences and combinations of crops and crop production activities. Ecosystem and social determinants. Multiple cropping. Analysis of alternative cropping systems. Repeatable unlimited times, but credit earned one time only. Pre: 200/SUST 211 or consent as ANTH 451
TPSS 435 Environmental Soil Chemistry (3) Study of soil chemical processes such as weathering, adsorption, precipitation, and ion exchange; causes of soil acidification, and salinity and reactions between soils and fertilizers, pesticides, or heavy metals. Management strategies to minimize environmental contamination by nitrate, phosphate, and trace elements such as As, Pb, and Sc. A-F only. Pre: 304 or consent. (Fall only) DB
TPSS 440 Tissue Culture/Transformation (3) (2 Lec, 1 3-hr Lab) Application of plant tissue culture for plant scientists; study of the growth and development of plant tissues in culture influenced by chemical and environmental factors, and the regeneration of plants following plant transformation by biolistics and other molecular approaches. Pre: 420 or consent. Recommended: BOT 411
DB
TPSS 450 Sustainable Nutrient Management in Agroecosystems (4) (3 Lec, 1 3-hr Lab) Biological, chemical, and physical processes governing the cycling of nutrients in agroecosystems, crop and livestock production, and the effects on surrounding unmanaged ecosystems. Pre: 304 and CHEM 161, or consent. (Cross-listed as NREM 460) DB
TPSS 453 Plant Breeding and Genetics (3) (2 Lec, 1 3-hr Lab) Unique aspects of plant genetics and applications to crop improvement, with emphasis on breeding plants in Hawaii. Pre: BIOL 375 (or concurrent) or consent. DB
TPSS 460 Soil Plant Environment (3) (2 Lec, 1 3-hr Lab) Bio-physical processes in the soil-plant-atmosphere continuum that influence crop growth and development. Methods to estimate the impact of soil and climate on crop performance. Use of crop models to simulate effects of planting date, plant spacing and density, fertilizer rate, rainfall or irrigation, and daily weather on crop yield and farm income. Pre: 304 and either PHYS 151 or PHYS 170, or consent. DB
TPSS 463 Irrigation and Water Management (3) Basic water-plant relationships, irrigation water requirements, irrigation efficiencies, different methods of irrigation, planning, design, and management of an irrigation system, water erosion, and impact of irrigation on soil and water quality. Pre: NREM 203 (or equivalent) and NREM/TPSS 304 (or equivalent), or consent. Alt. year. (Cross-listed as NREM 463) DB
TPSS 470 Plant Physiology (3) Integration of form and function from cellular to whole plant levels in processes from seed germination, through photosynthesis, growth, and morphogenesis, to flowering and senescence. A-F only. Pre: BIOL 171 or consent. DB
TPSS 470L Principles of Plant Physiology Lab (1) (1 3-hr Lab) Principles of experimentation in plant physiology, includes individual investigations. A-F only. Pre: consent. DB
TPSS 473 Post-Harvest Physiology (3) Comparative physiological and biochemical processes during growth, maturation, ripening, and senescence in fruits, vegetables, and flowers, and applied to changes in quality and storage life. Tropical commodities emphasized. A-F only. Pre: 200/SUST 211, BIOL 171, or BOT 201; CHEM 152; or consent. DB
TPSS 475 Plant Nutrient Diagnosis in the Tropics (3) Designed for students to identify essential nutrients required by plants; diagnose nutrient disorders in plants; and propose environmentally sound solutions to correct disorders. Pre: 304/NREM 304 (or concurrent) or consent as NREM 475
TPSS 481 Weed Science (3) (2 Lec, 1 3-hr Lab) Weed classification, identification, adaptations for weed control, principles of weed control; properties, uses, and action of herbicides. Lab: pesticide application equipment and techniques, no-till farming, greenhouse and field experiments. A-F only. Pre: 200/SUST 211 and CHEM 152, or consent. (Fall only) (Cross-listed as PEP 481) DB
TPSS 491 Experimental Topics (V) Study and discussion of significant topics, problems. Offered by visiting faculty and/or for extension programs. Repeatable. Pre: consent. DB
TPSS 492 Internship (1) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Pre: consent.
TPSS 492L Internship Experience (3) Internship field experience for TPSS majors. TPSS majors only. A-F only. Pre: 200/SUST 211 (or concurrent) or consent.
TPSS 499 Directed Studies (V) Supervised individual instruction in field laboratory and library. Repeatable up to six credits. CR/NC only. Pre: 364 or consent.
TPSS 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate or consent.
TPSS 601 Crop Modeling (3) (2 Lec, 1 3-hr Lab) Principles of modeling crop growth and development, model types, techniques, simulation. Modeling influence of climate/environment on phenology, growth, development of horticultural crops. Pre: BOT 470 and NREM 460 DB
TPSS 603 Experimental Design (4) (3 Lec, 1 3-hr Lab) Design of experiments and variance analyses in biological and agricultural research. Pre: graduate standing or consent. Recommended: ZOOL 632. (Cross-listed as NREM 603)
TPSS 604 Advanced Soil Microbiology (4) (3 Lec, 1 3-hr Lab) Study of biochemical and biogeochemical transformations mediated by soil microorganisms, emphasis on processes important to plant growth, productivity and environmental quality. Pre: 304 and MICR 351, or consent.
TPSS 610 Nutrition of Tropical Crops (3) (2 Lec, 1 3-hr Lab) Mineral nutrition of plants in relation to plant metabolism and transport, long-distance transport of solutes, and interactions at the root-soil interface. Special emphasis on problems associated with tropical crops. Pre: 450 and 470, or consent. (Alt. year) DB
TPSS 614 Molecular Genetics of Crops (3) (2 Lec, 1 3-hr Lab) Applications of molecular genetics to crop improvement. Pre: 453 and MBBE 402; or consent. DB
TPSS 615 Quantitative Genomics and Evolution (3) Overview of the use of exploratory theory and methods to understand genome evolution and adaptation; focus will be on a range of organisms. Pre: 453 and 603, or consent. (Cross-listed as PEP 655) DB
TPSS 634 Landscape Design (3) Introduction to the identification, recognition, and use of plants in landscape design and built environment applications. Students will be introduced to a variety of landscape plants commonly used in Hawai‘i and the tropics. TPSS and ARCH majors only. A-F only. (Cross-listed as ARCH 634)
TPSS 640 Advanced Soil Chemistry (3) (2 Lec, 1 3-hr Lab) Phyto-chemical processes in soils and soil solutions, with emphasis on ionic equilibria, mineral stability, organic complexation, and surface sorption of major plant nutrients and heavy metals. A-F only. Pre: 453 and CHEM 152, or consent.
TPSS 650 Soil Plant Nutrient Relations (4) (2 Lec, 2 3-hr Lab) Soil-plant interactions, emphasis on characteristics of tropical soils and plants influencing nutrient uptake by plants. Diagnostic methods to identify nutrient deficiencies and element toxicity. Pre: 450 or consent.
TPSS 652 Information Research Skills (1) Key to symbols & abbreviations: see the first page of this section.
TPSS 656 Environmental and Cultural Landscape Studio (4) Exploring, understanding, and implementing Hawaiian and Western cultural and environmental landscape design principles. A course designed at least in part to allow students to create and respecting a sense of place through landscape design. A-F only. (Cross-listed with ARCH 656)
TPSS 657 Grant Writing for Graduate Students (1) (2 Lec, 1 3-hr Lab) Grantsmanship and grant writing. Designed to introduce graduate students to grants and grant proposal writing through lectures, class discussion, writing assignments, and peer review. Open only to CTAHR graduate students only; others with consent. (Cross-listed as ANSC 657 and FSHN 657)
TPSS 658 Environmental Landscape Technologies and Systems (3) Understanding the science and art of green landscape technologies, with a comprehensive understanding of LID (low impact design) principles and practices; to increase knowledge to help produce more viable and enduring built landscapes. A-F only. (Cross-listed as CTH 658)
TPSS 664 Orichology (3) (2 Lec, 1 3-hr Lab) Classification, culture, cytogenetics, breeding of orchids. Pre: consent. Recommended: 200/SUST 211 and 402.
TPSS 667 Graduate Seminar (1) Presentation of research reports; reviews of current literature in plant and soil sciences. Repeatable four times. Pre: graduate standing or consent.
TPSS 670 Interdisciplinary Methods for Agrarian Systems (3) Interdisciplinary methodologies for conducting research and impact analyses on agrarian systems, sustainable development, and resource management. Repeatable one time. Pre: consent. (Cross-listed as NREM 670) (Alt. years: fall)
TPSS 674 Plant Growth and Development (3) Contemporary literature is used as the basis for understanding the physiology for whole plant growth and development. Aspects covered include vegetative and reproductive development, seed dormancy, senescence, abscission, and relevant biochemical and molecular processes. Pre: 470 and MBBE 402, or consent.
TPSS 680 Geospatial Analysis of Natural Resource Data (3) The application of geostatistics to estimate spatial dependence to improve soil and regional sampling; provide insight into underlying soil, geographic, and geologic process, and to provide quantitative scaling of up to measurement points to fields, regions, and watersheds. State-space modeling also will be included. A-F only. Pre: GEOG 388 or ZOOL 413; or consent. Recommended: GEOG 680
TPSS 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing in TPSS. DB
TPSS 699 Directed Research (V) In-depth study of specialized problems. Repeatable unlimited times. CR/NC only. Pre: consent.
TPSS 700 Thesis Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.
TPSS 711 Special Topics (V) Specialized topics from various areas of plant and soil research such as experimental techniques, growth regulation, microgenesis, CHEM 152, or consent.
TPSS 711L Special Topics Lab (1) (1 3-hr Lab) Specialized investigations in support of specialized research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as ANSC 652, FSHN 657, and NREM 652)
TPSS 765 Communications in the Sciences (1) (3-hr Lab/Lecture combination) Laboratory-type course for improving communication abilities in the sciences and engineering. Presentations to lay audiences are emphasized. Hands-on experience in techniques and methods is provided.
Univ 327 Metacognitive Strategies for College Success (3) Theories of the memory processes and the application of the Information Processing Systems in developing metacognitive strategies for college classroom success. Sophomore standing or higher. A-F only.
UNIV 421 Passages (3) Interactive course develops mentoring skills and relationships with peers, mentors, and “elders.” Sophomore standing or higher. A-F only. (Summer only)

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University (UNIV)
STUDENT ATHLETE ACADEMIC SERVICES (XXX)

UNIV 131 Academic and Personal Exploration (1) Seminar introduces students to goal setting, time management, major exploration, academic planning, service-learning and student/faculty meetings, financial literacy, and encourages frequent self-reflection. Instructor approval required. A-F only. Pre: 310.

UNIV 132 Academic and Career Exploration (1) Seminar introduces exploratory students to major and career exploration resources, guides students in developing personal, academic, and career goals and plans, and encourages frequent self-reflection. Instructor approval required. A-F only. (Spring only)

EXPLORATORY (XAX)

UNIV 240 Fresh-More Experience (1) Seminar provides fresh and sophomores with the knowledge and skills to thrive in college and beyond. Topics include major, career, and graduate school exploration. May not be taken concurrently or after UNIV 340. Freshmen and sophomores only. Exploratory designations only. A-F only.

UNIV 340 Academic Exploration Through Advising (5) Students explore personal, career, and educational goals and the impact of these goals on the decision-making process. Emphasis on self-reflection and decision-making will serve as the core. A-F only.

MĀNOA PEER (XXX)

UNIV 350 Mānoa Peer Advisor Training Course (6) Intensive course designed for peer advisor trainees to learn General Education requirements, university policies and procedures, and campus resources. Trainees are developed with strategies necessary to provide quality advising to their fellow students. A-F only. (Summer only)

UNIV 450 Mānoa Peer Advisor Leader Training and Leadership Development (6) A reflective apprenticeship in which Peer Advisor Leaders solidify their understanding of advising and learn more about leadership and deepen their facilitation, communication, collaboration, and leadership skills by mentoring a cohort of peer advisor trainees. Repeatable two times. A-F only. Pre: 350 (or equivalent course) with a minimum grade of B. (Summer only)

FINANCIAL LITERACY PROGRAM (X7X)

UNIV 370 Financial Literacy Peer Advisor Training Course (3) Intensive course designed for peer educator trainees to learn principles of personal finance, including budgeting, credit, insurance, buying a house, managing savings, and financing education. Trainees will develop communication, facilitation, and practical leadership skills. Repeatable one time. A-F only. (Summer only)

LEARNING ASSISTANCE CENTER (XXX)

UNIV 387 College Success: Foundations of Tutoring (3) Theory and practice of collaborative learning in academic contexts. Sophomore standing or higher. Pre: consent.

Urban and Regional Planning (PLAN)

College of Social Sciences

PLAN 101 Sustainable Cities (3) How do we plan and design cities to meet our long-term economic and environmental needs? Students will learn how sustainability applies to key urban issues like energy, transportation, land, and food. A-F only. (Cross-listed as SUST 114)

PLAN 301 Survey of Urban Sociology (3) Urban processes and problems such as poverty, crime, racial segregation, homelessness, housing policy, urbanization, and neighborhood ethnic diversity. How places shape identity and opportunity. Research methods that link communities, places, and neighborhoods of Hawai‘i. Pre: SOC 100 or a 200-level SOC course, or consent. (Cross-listed as SOC 301) DS

PLAN 310 Introduction to Planning (3) Perspectives: planning; planning tools and methods; specific Hawai‘i planning—research problems from a multidisciplinary approach. Pre: junior standing or consent. (Cross-listed as GEOG 310) DS

PLAN 390 Directed Reading in Planning (V) Independent research on an urban and regional planning. Pre: 310.

PLAN 412 Environmental Impact Assessment (3) Introduction to analytical methods for identifying, measuring, and quantifying the impacts of changes or interventions in resource, human-environment, and other geographic systems. Pre: junior standing or higher, or consent. (Alt. years) (Cross-listed as GEOG 412)

PLAN 414 Environmental Hazards and Community Resilience (3) Investigation of the forces behind natural and technological hazards, and human actions that reduce or increase vulnerability to natural disasters. Junior standing or higher. (Cross-listed as GEOG 414)

PLAN 421 Urban Geography (3) Origins, functions, and internal structures of urban settlement, growth, decay, adaptation, and planning in different cultural and historical settings. Dynamics of urban land use and role of policies and perceptions in shaping towns and cities. Pre: SOC 302 or GEOG 151 or GEOG 330, or consent. (Cross-listed as GEOG 421) DS

PLAN 438 Sustainable Asian Development: Impact of Globalization (3) Investigates the impact of globalization on sustainable development in Asia. Globalization and sustainability often contradict, raising serious planning issues. Examines how these issues affect Asian development policies and urban planning. Pre: 310 or ASAN 312, or consent. (Cross-listed as ASAN 438) DS

PLAN 442 Principles of Environmental Management Systems (3) Introduction to the process of developing Environmental Management Systems that address the principles outlined in ISO14001:2015. Repeatable one time. Junior standing or higher. A-F only. (Spring only) (Cross-listed as DCM 442 and TSE 442)

PLAN 449 Asian Cities: Evolution of Urban Space (3) Reviews the evolution of Asian urban space. Political history, migration, culture, and production are the determinants of urban changes. Uses visual material to illustrate the spatial organization in Asian cityscapes. Pre: 310 or ASAN 310 or ASAN 312, or consent. (Cross-listed as ASAN 449)

PLAN 473 GIS for Community Planning (3) Exploration of geographic information systems (GIS) analysis techniques for spatial information management in community planning. Students will learn the basic concepts and principles, and practical skills of GIS through lectures, discussions, and labs. Repeatable one time. Junior standing or higher.

PLAN 495 Housing, Land, and Community (3) Analyzes availability for housing, particularly affordable housing, and its relationship to use of land and building. Examines policies impacting housing, land use, and community development and ways they can be improved. DS

PLAN 500 Master’s Plan B/C Studies (1)

PLAN 600 Public Policy and Planning Theory (3) Designed to provide a comparative perspective on the evolution of urban and regional planning in public policy; b) explore the spatial and built environment dimensions of society, planning and policy; c) assess the justifications for planning and differing processes of planning in the U.S. and Asia-Pacific with a focus on the role of the planner in policy formulation and implementation. Graduate students only or with permission. A-F only. Repeatable two times.

PLAN 601 Planning Methods (3) Introduction of the basic methods in planning, including problem definition, research design, hypothesis testing, statistical reasoning, forecasting and fundamental data analysis techniques required by the planning program and the planning profession. Repeatable one time. PLAN and ARCH majors only. Pre: one of ECON 321, GEOG 380, or SOC 476.

PLAN 602 Advanced Planning Theory (3) Advanced planning theory for PhD students (others by petition) to prepare for careers in planning education and high level practice. Covers key contemporary planning policy issues and themes from the perspective of values, explanations of the real world, policy alternatives and implementation. Students must have taken the graduatelevel (by petition) with a B or better. Repeatable one time. PhD students only or by consent. A-F only. Pre: 600 or consent.

PLAN 603 Urban Economics (3) Reviews and builds skills in applying basic theories and principles of urban and regional economics in contemporary U.S., Hawai‘i and Asia-Pacific. Repeatable one time. PLAN majors only.

PLAN 604 Qualitative Methods in Planning (3) Provides a general introduction to qualitative research methods for planning and planning research. Includes data collection techniques (interviews, ethnography, participant observation, and participatory action research) and various analytic methods and approaches. Graduate standing only.

PLAN 605 Planning Models (3) Allocation, decision, derivation, and forecasting models used in the analysis of demographic characteristics, land use, and transportation phenomena in urban and regional planning. Repeatable one time. PLAN majors only.

PLAN 606 Comparative Planning Histories (3) Provides students with an overview of the history of urban and regional planning in the U.S., Europe, and Asia, and the role that planning has played in shaping contemporary urban settlements. Graduate standing only.

PLAN 607 Introduction to Public Policy (3) Perspectives on policy analysis; basic approaches to the study of public policy, political economy, and policy evaluation. (Cross-listed as POLS 670)

PLAN 608 Politics and Development: China (3) Consists of three parts: a) China in a global context as a transitional state; b) analysis of local governance; c) student prepared. (Cross-listed as ASAN 608 and POLS 645C)

COMMUNITY PLANNING AND SOCIAL POLICY

PLAN 610 Community Planning and Social Policy (3) Social issues and conditions; consequences of social policies experienced by different groups; media and social attitudes towards social policies; introduction to planning as an aspect of urban and regional planning.

PLAN 615 Housing (3) Housing delivery systems as an aspect of urban and regional planning.

PLAN 616 Community-Based Planning (3) Planning and programmatic aspects of community-based development projects. East-West and local planning perspectives on participatory development and intentional communities.

PLAN 618 Community Economic Development (3) Community-based economic development approaches and methods with an emphasis on low income communities. Repeatable one time.

PLAN 619 Multiculturalism in Planning and Policy (3) Graduate seminar focuses on issues of governance, policy and planning in diverse multicultural societies. Discussion of political views, languages, privilege, preferences and values are often expressed in planning and policy controversies such as affirmative action and land use planning. Will examine these controversies and explore theories of governance in a multicultural setting.

ENVIRONMENTAL PLANNING AND RESOURCE MANAGEMENT

PLAN 620 Environmental Planning and Policy (3) Overview of urban and environmental change: An examination of environmental laws, policies, planning and urban design strategies designed to minimize and mitigate urban impacts. Repeatable one time. A-F only. (Cross-listed as GEOG 620)

PLAN 622 Advanced Environmental Impact Assessment (3) Theory and practice of environmental impact assessment. Policy and planning frameworks supporting environmental assessment in the U.S. and abroad. Cumulative environmental effects and strategic environmental assessment. (Cross-listed as GEOG 622)

PLAN 624 Environmental Valuation and Policy (3) Build valuation skills to assess best use, conservation, and policies relating to environmental amenities. Provides an overview of policy solutions to environmental degradation used by planners.

PLAN 625 Climate Change, Energy and Food Security in the Asia/Pacific Region (3) Analysis of planning responses to human-induced climate change.
change and related environmental problems. Part of the Asia/Pacific Initiative taught in collaboration with universities throughout the region via video-conferencing. (Cross-listed as SUST 625)

PLAN 626 Topics in Resource Management (3) Issues, analytic techniques and management strategies for different resource systems including land, water, energy, coastal resources, forests and fisheries. Course focus varies from year to year. Repeatable one time. A-F only.

PLAN 627 Negotiation and Mediation in Planning (3) Applicability and limitations of selected approaches; role of planners; impact on planning.

PLAN 628 Urban Environmental Problems (3) Seminar that examines environmental problems associated with urbanization. Reviews strategic approaches and collaboration among key actors to address such problems. (Cross-listed as SUST 628)

PLAN 629 Advanced Negotiation (3) Mastery of advanced negotiation skills for strategic dispute resolution, non-routine problem-solving, creating partnerships and alliances, and crafting optimal agreements. Students participate in simulations and acquire personal and professional skills vital for leadership. Graduate standing only. Pre: one of the following courses: 627; or PACE 429, PACE 447, PACE 477, PACE 647, PACE 652, or PACE 668; or COMG 455 or SOC 730; or LAW 508; or MGT 660. (Cross-listed as GEOG 629)

UBERNATIONAL PLANNING IN ASIA AND THE PACIFIC

PLAN 630 Urban and Regional Planning in Asia (3) Key issues and policies in urban planning, rural-urban relations, rural regional planning, and frontier settlement in Asia and the Pacific. Repeatable one time. (Cross-listed as GEOG 630)

PLAN 632 Planning in Hawai‘i and Pacific Islands (3) Urban and regional planning in island settings. Experiences in Hawai‘i, Polynesia, Melanesia, and Micronesia. Pre: graduate standing. (Cross-listed as SUST 632)

PLAN 633 Globalization and Urban Policy (3) Urbanization and urban policies in the Asia and Pacific region with focus on the international dimension of national and local spatial restructuring.

PLAN 634 Shelter and Services in Asia (3) Examines government and non-government organizations' responses to urban and rural shelter issues and services in Asia.

PLAN 636 Culture and Urban Form in Asia (3) Cultural and historical impact on urban form, contemporary modernity in urban space, spatial expression of state and society, perception and utilization of urban design, evolution of urban form in selected Asian capitals. Pre: 310, 600, or ASAN 312. (Cross-listed as ASAN 636)

PLAN 637 Environment and Development (3) Theories and practice of development; how changing development paradigms shape different ideas concerning the environment and the management of natural resources; emerging debates in development and environment in post-modern era. (Cross-listed as GEOG 637)

PLAN 638 Asian Development and Urbanization (3) Theories of globalization and sustainability in development, impacts of globalization and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development. Graduate standing only. Pre: 600 with a grade of B or above. (Cross-listed as ASAN 638 and GEOG 638)

PLAN 639 Community-based Natural Resource Management (3) Concepts and theories of community, resource access, and governance. Practical challenges to CBNRM in contemporary political economy. Pre: graduate standing. (Practical listed as GEOG 639)

LAND USE AND INFRASTRUCTURE PLANNING

PLAN 640 Land Use Policies and Programs (3) Land use public policy planning in urban and regional settings including growth management and land use guidance systems. A-F only.

PLAN 641 Neighborhood and Community Land Planning (3) Land use planning for urban neighborhoods and small towns. Theory and practice of neighborhood planning. Neighborhood and community dynamics, reinvestment, and stabilization.

PLAN 642 Planning Urban Infrastructure (3) Introduction to the planning of various urban infrastructures, including tools to plan, evaluate, and regulate urban infrastructure systems in support of sustainable and resilient cities and communities.

PLAN 643 Project Planning and Management (3) Examines project management in theory and practice and the roles and responsibilities of the project manager. Focuses on planning, organizing, and controlling the efforts of projects. A-F only.

PLAN 645 Land Use Planning (3) Issues and methods of urban land use planning practice and plan making. A-F only. (Cross-listed as ARCH 641)

PLAN 647 Urban and Regional Planning for Sustainability (3) Focus on concept, models, accounting frameworks, appropriate technologies, and indicators of planning for sustainability. Central and local policies, plans, and best practices in various countries and settings will be covered. Graduate students only. A-F only. (Cross-listed as SUST 647)

PLAN 648 Urban Transportation Policy and Planning (3) Theory and practice of urban transportation and planning. Focuses on urban development and cities with an emphasis on the U.S., Asia, and Pacific region. A-F only.

PLAN 649 Asian Cities: Historical Evolution of Urban Form (3) The impact of economy, society, and history on urban form; case studies of the evolution of Asian urban form. Pre: 310 or ASAN 312. (Once a year) (Cross-listed as ASAN 649)

RESEARCH AND PLANNING METHODS

PLAN 650 Research Design Seminar (3) Research design and preparation of thesis proposal. Normally taken after admission to candidacy in MURP. Pre: 600, 601, 603) with a minimum grade of B, or consent.

PLAN 652 Policy Implementation and Program Evaluation (3) Implementation and evaluation in public policy analysis; philosophical and methodological issues; impact of policies and plans; use of evaluation research in program implementation. (Cross-listed as PUBA 614)

PLAN 654 Applied Geographic Information Systems: Public Policy and Spatial Analysis (3) Use of advanced and specialized spatial methods and models in urban and regional planning. Uses GIS software and builds upon 601. Skills are applied to planning, economic development, and environmental planning and resource management. Repeatable one time. Pre: graduate standing or consent.

PLAN 655 Planning Research Methods (3) Advanced methods and deterministic and stochastic models used in urban and regional planning.

PLAN 661 Collaboration Between Sectors (3) Examines theories and practices of multisector collaboration (public, private, nonprofit). The use of collaboration as an alternative way of solving public problems.

PLAN 670 Interdisciplinary Seminar in Disaster Management and Humanitarian Assistance (3) Overview to the interdisciplinary management and humanitarian assistance with a specific focus on risk reduction. Includes background knowledge and skills for preparedness, response, recovery, mitigation, and adaptation of hazards and threats. Pre: graduate standing or consent. (Once a year)

PLAN 671 Disaster Management: Understanding the Nature of Hazards (3) Combined lecture/discussion in disaster management and humanitarian assistance focusing on the scientific understanding of the forces and processes underlying natural hazards; and human attempts to respond to these through mitigation and planning activities. Pre: 670 or consent. (Once a year) (Cross-listed as GG 604)

PLAN 672 Humanitarian Assistance: Principles, Practices and Politics (3) Combined lecture/discussion aimed at understanding the theoretical basis and working structure of humanitarian assistance programs and international responses to natural and human-induced disasters. Pre: 670 or consent. (Once a year)

PLAN 673 Information Systems for Disaster Management and Humanitarian Assistance (3) Combined lecture/discussion focusing on essential methodological and practical issues that are involved in spatial analyses using GIS and other information technologies to inform decision making related to natural hazards, disasters, and human attempts to respond to these through mitigation and planning activities. Pre: 473 (with a minimum grade of B). A-F only.

PLAN 674 Disaster Recovery: Theory and Practice (3) How do communities recover from disaster? Provides students with an overview of recovery theory and an understanding of how planners, policy makers, and ordinary citizens rebuild communities and nations following catastrophic events. A-F only. Graduate standing only.

PLAN 675 Preservation: Theory and Practice (3) History and philosophy of historic preservation movement. Analysis of values and assumptions, methodologies and tactics, implications for society and public policy. (Cross-listed as AMST 675 and ARCH 675)

PLAN 676 Recording Historic and Cultural Resources (3) Techniques in recording and evaluation of historic buildings and other resources, with an emphasis on field recordings and state and federal registration procedures. Pre: graduate standing or consent. (Cross-listed as AMST 676 and ANTH 676)

PLAN 677 Historic Preservation Planning (3) Local-level historic preservation, with an emphasis on historic districts, design guidelines, regulatory controls, and community consensus-building. (Cross-listed as AMST 677)

PLAN 678 Site Planning (3) Fundamental principles that guide site planning, including planning and design determinants of housing planning and account its regional context, site-specific characteristics and applicable codes, ordinances, and standards. PLAN and ARCH majors only. (Fall only)

PLAN 680 Land Use Management and Control (V) Survey course of public land use management. (Cross-listed as LAW 580)

PLAN 683 Housing and Community Development Practicum (V) Laboratory and field testing of selected topics related to housing design and technology; site development and infrastructure; social, health and economic community development; and housing implementation strategies. Repeatable one time. PLAN and ARCH majors only. (Cross-listed as ARCH 683)

PLAN 686 Housing and Community Services in Asia and Pacific (3) Application of analysis and construction technology to problems associated with physical development of suburban and neighborhood communities in the development of design and construction programs. Emphasis on low and intermediate technology solutions. Open to non-majors. (Cross-listed as ARCH 681)

PLAN 699 Directed Reading and Research (V) Repeatable unlimited times. Pre: consent of instructor and department chair.

PLAN 700 Thesis Research (V) Limited to MURP students under Plan A. Repeatable unlimited times. Pre: consent.

PLAN 721 Homeland Security: Terrorism (3) Combined lecture/discussion in disaster management and humanitarian assistance track focusing on developing a multidisciplinary understanding of international terrorism and anti-terrorism planning and response. Pre: 670 or consent. (Once a year)

SEMINARS AND PRACTICE

PLAN 740 Seminar in Planning Theory (3) Special topics in planning theory, history, analysis. Pre: 600 or consent.

PLAN 741 Seminar in Planning Practice (3) Project planning, programming, and similar topics. Pre: 600 and 601, or consent.

PLAN 751 Planning Practicum (3) Team experience in defining and addressing a current planning problem; identification, substantive review, research design, preparation and presentation of analysis. Topic varies. Limited to 10 students. Pre: 600, 601; and consent.
Vietnamese (VIET)

VIET 101 Elementary Vietnamese (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets one hour daily, Monday–Friday; four out of five hours devoted to directed drill and practice. Pre: consent. HSL

VIET 102 Elementary Vietnamese (4) Continuation of 101. Pre: 101 or consent. HSL

VIET 201 Intermediate Vietnamese (4) Continuation of 102. After completion, most students should be able to use standard sentence patterns to produce sounds, combinations of sounds, tones, and intonation and have some understanding of Vietnamese culture. Meets one hour daily, Monday–Friday. Pre: 102 or equivalent. HSL

VIET 202 Intermediate Vietnamese (4) Continuation of 201. Pre: 201 or consent. HSL

VIET 301 Third-Level Vietnamese (3) Continuation of 202. Emphasis on increased proficiency and cultural understanding. Major sentence patterns in interaction with Vietnamese media, including newspapers, radio, film, etc. Pre: 202 or equivalent.

VIET 302 Third-Level Vietnamese (3) Continuation of 301. Pre: 301 or consent.

VIET 401 Fourth-Level Vietnamese (3) Continuation of 302. Emphasis on cultural understanding through modern literary Vietnamese. Pre: 302 or equivalent.

VIET 402 Fourth-Level Vietnamese (3) Continuation of 401. Pre: 401 or consent.

VIET 461 Introduction to Vietnamese Literature (3) Selected readings in major genres; emphasis on analysis. Modern literature. Pre: 402 or consent. DL

VIET 699 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

Women's Studies (WS)

WS 151 Introduction to Women's Studies (3) Introduction to feminist interdisciplinary analysis from global and critical perspectives; relationships between women and men from Asia-Pacific, Hawaiian, and other cultures, with a focus on gender, race, class, and sexual dynamics; exploration of women's negotiations with institutional dynamics. Pre: consent only. F (Fall only) FGA

WS 15A Introduction to Women's Studies (3) Introduction to feminist interdisciplinary analysis from global and critical perspectives; relationships between women and men from Asia-Pacific, Hawaiian, and other cultures. Focus on gender, race, class, sexual dynamics, and women's negotiations with institutional dynamics. Honors students only. A-F only. Pre: departmental approval. DS

WS 175 History of Gender, Sex, and Sexuality in Global Perspectives to 1500 CE (3) Explores how gender, sex, and sexuality become key elements in human society from prehistory to 1500 CE. Examines ancient world civilizations from multiple perspectives stressing issues and forces still influential today. A-F only. (Fall only) FGA

WS 176 History of Gender, Sex and Sexuality in Global Perspective, 1500 CE to the Present (3) Explores how gender, sex, and sexuality become key elements in human society from 1500 CE to present. Examines world civilizations, stressing issues and forces of continuing influence. A-F only. FGB

WS 200 Culture, Gender, and Appearance (3) Social construction of gender and its visual expression through analysis. Analysis of role, identity, conformity, and deviance in human appearance. Repeatable one time. Open to nonmajors. (Cross-listed as DSM 200) DS

WS 202 Psychology of Gender (3) Survey of topics in psychology relevant to women’s lives: socialization of gender, mental health, violence against women, achievement motivation, lifespan issues, domestic violence. A-F only. Pre: 151 or PSY 100. (Cross-listed as PSY 202) DS

WS 219 Women Philosophers (3) Introduces students to the ideas of women philosophers. Repeatable one time. A-F only. Pre: any course 100 or above in PHIL or WS, or consent. (All years) (Cross-listed as PHIL 218) DH

WS 230 Gender and Sport (3) Explores the influence of gender in sport from cultural, psychosocial, and political perspectives. Emphasizes women’s and men’s role as participants, spectators, and employees of sport and sports organizations. A-F only. Pre: one DS course.

DS

WS 245 Women Writers of World Literature (3) Major women writers of world literature examined in context of female literary tradition. Pre: one of ENG 100A, 101, or ELI 100; or consent. DL

WS 257 Sexual Identity in Literature (3) Selected themes in major women’s cultures, periods. Requires a minimum of 3,000 words of writing. Pre: one of ENG 100A, 101, or ELI 100. DL

DS 304 Women, War, and the Military (3) The military as it includes and excludes women as soldiers, nurses, officers, prostitutes, and victims. Women, war economics; feminism, war and peace. Pre: one of 151, 362, 375 or SOC 362; or consent. DS

WS 305 Women and Health (3) Explores current issues in the conceptualization and delivery of health care for women. Pre: 151 or 202, or SOC 100 or any 200-level SOC course, or POLS 110; or consent. (Cross-listed as SOC 305) DS

WS 306 Indigenous Women’s Health (3) Examines issues of indigenous women’s health pre and post colonial in Hawai’i, Asia, and the Pacific regions. A-F only. Pre: one of 151, 202, 305; or HWS 107. HWS 270 or HWS 271 a or consent. (Cross-listed as DSM 306) DS

WS 310 U.S. Women's History to 1890s (3) A survey of history of U.S. women and gender relations up to 1890s. Emphasis on women’s labor, women’s involvement in social movement, development of suffrage movement, women’s literacy and popular culture. Pre: AMST 201 (or concurrent), or AMST 202 (or concurrent), or WS 151 or WS 151A (or concurrent), or consent. DH

DS

WS 311 U.S. Women’s History (3) History of U.S. women and gender relations. Topics include women’s work and outside the household, women’s involvement in social movements, changing norms about gender, sexuality, and shared gender experiences among women. (Cross-listed as AMST 316 and HIST 361) DH

WS 315 Sex and Gender (3) Cross-cultural theories and perceptions of sexual difference; linkage between biology and cultural constructions of gender; relationship of gender ideology to women’s status. Pre: ANTH 152 (or concurrent). (Cross-listed as ANTH 315) DS

WS 317 Women and Social Policy (3) Social and economic policies affecting women in families, education, social services, government, health care, the economy; public policy implementation and development; impact on women. Pre: 151 or any 200- or 300-level course, or SOC 100 or any 200-level SOC course; or consent. (Cross-listed as SOC 318) DS

WS 339 South Asian Migrant Cultures: Gender and Politics (3) Historical and contemporary experiences of South Asian migrants in North America, Pacific, Caribbean, and/or African diaspora; causes and patterns of migration, inter-ethnic relations policies; role of race, gender, culture in community, identity formation. A-F only. Pre one ES or WS course in the 100, 200, 300, 400 level; or consent. (Once a year) (Cross-listed as ES 339) DS

WS 345 20th-Century Literature by Women (3) Twentieth-century women writers and their works: novels, short stories, poems, autobiographies. Investigations of gender and literature. Pre one of 151, 175, 176, and 245; or consent. DL

WS 346 20th-Century Chinese Women Writers (3) A survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Traces a genealogy of women’s writing from the early 1920s up until now through novels, poetry, drama, and film. Pre: one DH or DL course, or consent. (Cross-listed as ASAN 364 and EALL 364) DL

WS 350 Sex Differences in the Life Cycle (3) Human sex differences, their biological basis and significance; genetic, hormonal, and behavioral determinants of sexual differentiation; biology of gender, sexuality, monophas, and aging. Pre: one semester of biological sciences. (Cross-listed as BIOL 350) DS

WS 351 Women, Ideas, and Society (3) Status of women in American society today in light of the cultural, historical, and philosophical forces that have produced it. Pre: HIST 151 and HIST 152; or consent. DH

WS 356 Women and Religion (3) Examining roles of, and attitudes toward, women in major religious traditions through autobiographies, films, and primary texts. Pre: 151 or ANTH 152 or REL 150. (Cross-listed as REL 356) DH

WS 360 Pacific/Asian Women in Hawai’i (3) Adaptive strategies of Hawaiian, Chinese, Japanese, Korean, Filipino, Samoan, and Southeast Asian women in Hawai’i; anthropological and historical analysis. Pre: any ANTH, SOC, or WS course. (Cross-listed as ES 365) DS

WS 361 Seminar: Women and International Development (3) Topics: Women’s role, status, work and treatment in the Third World; economic development, changing work/family roles, agriculture and business, improvement/deterioration in gender equity across the Third World global feminization of poverty. Open to nonmajors. Pre: one 100-level economics course or any women’s studies course; or consent. (Cross-listed as ECON 361) DS

WS 362 Sociology of Gender (3) Examining role of sex and gender roles (both traditional and nontraditional) on attitudes and behavior within the family and educational, economic, and governmental systems. Recommended: at least one WS course. Pre: 151 or any 200- or 300-level WS course, or any 200-level SOC course; or consent. (Cross-listed as SOC 362) DS

WS 367 Sustainability, Technoscience, and Social Justice (3) Examines politics of sustainability and technoscience with an explicit attention to social justice and power relations in society. A-F only. Pre: 151 or any 200- or 300-level WS course, or 100 or 200-level SOC course; or consent. (Fall only) (Cross-listed as SOC 367 and SUST 367) DS

WS 375 Women and the Media (3) Media portrayal of women and men; role of the media in reproducing gender inequality. Women as producers and consumers of media, and the development of mainstream media. Pre: one of 151, 362, SOC 362.

WS 381 Gender, Sexuality and Literature (3) Basic concepts and representative texts for the study of literature, constructions of gender and sexuality. Pre: one ENG DL course or consent. (Cross-listed as ENG 382) DL

WS 382 Island Feminisms: Art, Literature, and Culture (3) Examines island novels that explore ways women have engaged in various forms of cultural production (art, literature, film). Interdisciplinary, intersectional, and transnational. Key themes discussed: settler-colonialism, race, gender, and sexuality. DH

WS 384 Women and Politics (3) Women’s role in political institutions and processes in the U.S.
ZOOL 607 Genetics of Behavior and Evolution (1) Introduction to concepts and techniques in the genetics of behavior. Techniques include next generation sequencing, GWAS, and more. Students may use real data to analyze associations between genotype and phenotype. Repeatable one time. Graduate students only. (Fall only)

ZOOL 608 Fish Behavior and Sensory Biology (2) Lectures, readings and presentations on sensory systems and behavior of fishes. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608L. (Alt. years)

ZOOL 608L. Fish Behavior and Sensory Biology Laboratory (1) Laboratory study of fish sensory systems and behavior. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608L. (Alt. years)

ZOOL 610 Topics in Development and Reproductive Biology. Discussion and survey of literature on specific topics; some field and lab work may be required. Repeatable three times.

ZOOL 619 Seminar on Science Teaching (2) Effective teaching methods, organization of courses, lectures, laboratory exercises; development and evaluation of examinations; computers and audio-visual aids. Open to graduate students in various science disciplines. Repeatable one time. (Cross-listed as NSCI 619)

ZOOL 620 Marine Ecology (3) Principles of ecology of marine biota and environment. Pre: graduate standing in zoology, oceanography, or botany; or consent.

ZOOL 623 Quantitative Field Ecology (3) (1 Lec, 1 2-hr Lab, 1 Discussion) Formal quantitative approach in identifying, designing, performing, analyzing, and interpreting ecological field problems. A-F only. Pre: 439, 439L, and 631; or consent. (Alt. years)

ZOOL 625 Evolution in Marine Systems (3) Fundamental elements of modern evolutionary theory and research, with a strong focus on marine organisms and ecosystems. A-F only. Pre: instructor approval. (Alt. years: fall)

ZOOL 631 Biometry (4) (3 Lec, 1 2-hr Discussion) Basic statistical methods: design of studies; data exploration; probability; distributions; parametric and nonparametric one-sample, two-sample, multi-sample, regression, and correlation analyses; frequency tables. Pre: MATH 215 or 216 or 241 or 251A or NREM 203 (or equivalent), or consent.

ZOOL 632 Advanced Biometry (4) (3 Lec, 1 2-hr Discussion) Multivariate statistical methods: multiple regression and correlation; multivary analysis; general linear models; repeated measures and multivariate analysis of variance; loglinear analysis and logistic regression. Pre: 631 or consent.

ZOOL 642 Cellular Neurophysiology (3) Biophysical and membrane mechanisms of conduction, synaptic transmission, and other electrical responses of nerve cells. Pre: consent. (Alt. years: spring)

ZOOL 652 Population Biology (3) Theory and applications of population biology: behavior of population models, as revealed by analytical methods and computer simulation; application to population problems such as endangered species; discussion of classical and current literature in population biology. Pre: one of the following: 439, 467, 620, 623, BOT 453, BOT 454, BOT 456, NREM 680, PEPS 671; or consent. (Cross-listed as BOT 652)

ZOOL 710 Topics in Biometry (V) Selected advanced topics in experimental design or data analysis for biologists. Repeatable unlimited times. ZOOL majors only. Pre: 631 and 632, or consent.

ZOOL 712 Topics in Nerve/Muscle Physiology (V) Advanced treatment of selected topics under current active investigation. Repeatable unlimited times. ZOOL majors only. Pre: a graduate course in physiology, neurology, or related subjects and consent.

ZOOL 714 Topics in Animal Behavior (V) Lecture-discussion of selected topics. Repeatable three times, up to nine credits. ZOOL majors only. Pre: consent.

ZOOL 715 Topics in Invertebrate Zoology (V) Comparative morphology, development, taxonomy, phylogeny. Repeatable three times, up to nine credits.

ZOOL 716 Topics in Fish and Fisheries Biology (V) Lecture-discussion of various aspects. Repeatable up to nine credits. ZOOL majors only.

ZOOL 718 Topics in Animal Physiology (V) Selected problems in environmental physiology, electrophysiology, or neurophysiology. Basic concepts and measurements of function at the organismic or cellular level. Repeatable three times, up to nine credits.

ZOOL 719 Topics in Systemsatics and Evolution (V) Selected problems of current or historic interest. Repeatable three times, up to nine credits. Pre: consent.

ZOOL 739 Topics in Ecology (V) Advanced topics in ecology; discussion of literature and in depth survey of specific areas. Repeatable three times up to nine credits. Pre: graduate standing and consent.

ZOOL 750 Topics in Conservation Biology (V) Advanced topics in conservation and environmental biology. Repeatable three times, up to twelve credits. A-F only. Pre: consent. (Cross-listed as BOT 750)

ZOOL 750 Research in Evolution and Ecology I (4) Graduate level introduction to evolution and ecology emphasizing foundational literature, modern models and inference, and major questions in evolution and ecology. Topics include population ecology, community ecology, the genetics of populations, systematics, and speciation. (Alt. years: fall)

ZOOL 750 Research in Evolution and Ecology II (4) Graduate level introduction to evolution and ecology emphasizing foundational literature, modern models and inference, and major questions in evolution and ecology. This is the second semester continuation of 780. (Alt. years: spring)

ZOOL 800 Dissertation Research (V) Repeatable unlimited times.