ACM 215 3D Scene Design (3) Modeling, texturing, lighting and rendering. Students will design, build and create images and camera view points for an electronic device. A-F only. Pre: consent.


ACM 220 Advanced Rendering (3) Computer animation directing and cinematography in a 3D environment. A-F only. Pre: 215 and 216. NI

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, collaborative project with emphasis on independent film production, 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 styles supporting screen narratives through a study of production of camera elements, operations, lighting, color and composition. Professional role and responsibilities of cinematographer. Project-oriented. 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 narrative using scripting languages. ACM majors only. A-F only. Pre: 215 and 216 and 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 and B or better in 255 and ART 113, or consent.

ACM 318 Drawing for Animation (3) Design principles and observational drawing essential for the animation filmmaker. Gesture drawing from the model, human or animal. Composing for the screen, character design and conceptual illustration. ACM majors only. A-F only. Pre: 215 and 216 and 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-animated short film. Emphasis on visual storytelling and character animation. ACM majors only. A-F only. Pre: 215 and 216 and 255 and ART 113, or consent.

ACM 325 Visual Effects (3) Introduction to the history, theory, design and execution of visual effects for the screen. Project-based learning in traditional photographic and digitally-generated special effects. ACM majors only. A-F only. Pre: 220 or 310, or consent.

ACM 350 Screenwriting (3) Research, development, style and structure of the narrative and documentary for the screen. ACM majors only. A-F only. Pre: 310 (or concurrent) or 315 (or concurrent) or 316 (or concurrent), and B or better in ENG 100 or equivalent; or consent.

ACM 352 Screening Asian Americans (3) Survey of Asian and 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 AMST 352) DH

ACM 355 Oral Tradition to Screenplay (3) Adapting the stories, styles, and cultural values of oral traditions to narrative cinema. A-F only. Pre: 255 (or concurrent) execution from pre-to-post production. ACM majors only. A-F only. Pre: 310 and 350, 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 performances from actors. ACM majors only: A-F only. Pre: 310 and 350 (or equivalent), or consent. DH

ACM 374 Post Production Sound (3) Practical course on the theory, art 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, or departmental approval.

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-scène. Practical exercises and projects to apply theory to individual creative work. ACM majors only. A-F only. Pre: 310 and 350 (or concurrent), or consent.

ACM 380 Genre and Narrative Theory in Creative Media (3) Focus on the concept of genre, genre films, genre film criticism and popular genres such as Western, film noir, documentary, and Chinese martial arts. A-F only. Pre: 255 or consent.

ACM 382 Authors in Creative Media (3) In-depth study of the autobiographical application of knowledge to authors in creative media, such as film directors, animators, screenwriters or game designers. A-F only. Pre: 255 or consent.

ACM 384 Study Abroad (3) Intensive study of selected topics, genres, filmmakers, or digital media production in the host country in a UH Mānoa approved study abroad location. Repeatable one time. A-F only. Pre: 255 and consent.

ACM 385 Topics in Creative Media (3) Topics of interest to faculty and students; taught by regular and/or 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, or 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 Group Project (V) Participation in a group production project under supervision of ACM faculty member. A-F only. Repeatable up to six credits. Pre: 215 or 310, departmental approval, and consent.

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 (3) Production of a major cinematic/digital narrative project. Working in groups, each student takes on creative and technical role and responsibilities of a principle crew position. Emphasis on artistic form in narrative development; technically from pre-to-post production. 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 and 3D elements, animation, 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 media authoring tools and animation techniques is necessary. ACM majors only. A-F only. Pre: 350 or consent.

ACM 455 Indigenous Filmmaking (3) Theories and studies of indigenous films and creation of a 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: 255 and 355, or consent.

ACM 460 Media Ethics (3) Ethics and social responsibility for media professionals. Application of ethical theories and principles to case studies and research projects. A-F only. Pre: Any 300-level course in ACM, COM or JOUR and junior standing or consent. (Cross-listed as COM 640 and JOUR 460)

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

ACM 485 Seminar in Creative Media (3) In-depth study of selected topics in creative media. Conducted by regular and/or visiting faculty with extensive student participation and scholarly presentation. Repeatable one time on different topics. ACM majors only. A-F only. Pre: 255 and junior standing, or consent.

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 and/or digital media production company under professional and faculty supervision; minimum one time. ACM majors only. A-F only. Pre: 310 or 315 or 316, and consent.

ACM 499 Directed Reading and Research (V) Directed reading and research. Repeatable two times. ACM majors only. Pre: 310 or 315 or 316, and consent.

Accounting (ACC) Sheller 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
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, standard cost systems, reporting and analyzing performance. Pre: 201 with C- or better. NJ

ACC 305 Management Accounting (3) Information for managerial decision-making, planning, and control: job order and process costing, direct and absorption costing, normal and standard cost systems. Problem solving and application. Pre: 202 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. C/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.

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. Introduces taxation of property transactions. Pre: 202 or BUS 624 with C- or better.

ACC 407 Taxation of Business Entities (3) A survey of the general concepts, rules, and practices involved in the taxation of sole-proprietorships, corporations, partnerships, and subchapter 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: 401 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, property, legal entities, agency, securities, 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 debt, internal 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 each semester. Repeatable three times. 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, IT audits and assurance. Pre: 323 and 409, both with C- or better.

ACC 460 International and Managerial Accounting (3) Integration of numerous elements of the accounting program from an international perspective. Examines information for managerial decision-making, planning and control. Current accounting issues discussed. Lectures, discussions, case analysis. ACC majors only. A-F only. Pre: 418 (or concurrent), no waiver.

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. Pre: BLAW 200 with C- or better.

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 decision-making, planning and 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. Pre: 584.

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 standard professional ethics for external auditors. Emphasizes reporting standards, internal control, statistical sampling, EDG audits, and assurance. Also covers information systems and relevant measurement topics. A-F only. Pre: 581.

ACC 609 Advanced Accounting Information Systems (3) The development, implementation and operation of enterprise-wide resource planning systems, with an emphasis on implications to accounting information. Also covers current and emerging issues relating to accounting information systems. Pre: 409 with C- or better.

ACC 616 Accounting Theory and Development (3) Historical and theoretical background of current 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 Advanced Auditing (3) Advanced auditing course using research, critical thinking and communication skills applied to contemporary accounting and auditing. Pre: 418 or 585 with C- or better, or consent.

ACC 620 Global Accounting (3) Theory and fundamental causes of international variations in accounting. Special emphasis on problems such variations create for financial reporting, control, and decision-making within multinational business entities. 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, or consent.

ACC 631 Tax of Partners/Partnerships (3) 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.

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 institutions. Pre: 415 or 582 with C- or better, or consent.

ACC 638 Estate and Gift Taxation and Planning (3) Examines estate and gift tax provisions and basic estate planning techniques to save taxes and avoid probate. Overviews generation-skipping transfer taxes and income taxes on estates and trusts. Pre: 401 or 584 with C- or better, or consent.

ACC 639 Multijurisdictional Taxation (3) 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. Pre: 401 with C- or better.

ACC 640 International Auditing and Assurance (3) Advanced topics in assurance and audit in an international assurance and auditing standards environment. Subject matter includes evidential reasoning and decision making, audit planning, internal control frameworks, audit evidence, strategic systems audit, audit judgment and audit group audits. A-F only. Pre: 418 with C- or better.

ACC 660 Analysis and Decision-Making (3) 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: 625 with C- or better and last semester of master’s program.

ACC 690 Current Topics in Accounting (3) Concentration on current issues impacting the accounting profession. Topics vary each semester. Repeatable unlimited times.

ACC 695 Accounting Internship (3) On-the-job experience in the accounting community. Necessary evaluation reports and meetings with faculty advisor required. Pre: consent.

ACC 700 Thesis Research (V) Required for Plan A 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 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 theoretical basis, design, implications, methodology, 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 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 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.

Key to symbols & abbreviations: see the first page of this section.
Aerospace Studies (AS)

ROTC Programs

The leadership laboratory is required for all courses. Conducted within the framework of organized cadre 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 follower 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 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 follower 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 consists of preparing second-year 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: AS 101L.

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

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

AS 251L Leadership Laboratory (1) Laboratory on the basic skills 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. A-F only. Pre: 101, 102, 201, 202; or consent. (Fall only) NI

AS 351 Air Force Leadership Studies (3) Integrated management course emphasizing the military officer as manager in Air Force milieu, including individual motivational and behavioral processes, leadership, communication, and group dynamics. A-F only.

AS 351L 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, organizational 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 352 Air Force Leadership Studies (3) Continuation of AS 351. A-F only. Pre: must have completed AS 351.

AS 352L Intermediate Cadet Leader II (1) Continuation of AS 351. CR/NC only. Pre: must have completed AFROTC Field Training; or consent.

AS 401 National Security Affairs (3) Study of the national security process, regional studies, advanced leadership, ethics, and Air Force doctrine. Special focus placed on preparation for active duty and current issues affecting professionism. 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 AS 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, see also Natural Resources and Environmental Management (NREM)

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

AREC 626 Econometrics I (3) Review of probability, estimation, small 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. (Cross-listed as ECON 628)

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

AREC 700 Thesis Research (V)

AREC 800 Dissertation Research (V)

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 historical writing approaches used in American studies and the humanities. DH

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. interdependence with African, European, Native American, and Jewish 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 values and culture–literature, film, visual arts, and architecture. DH

AMST 211 Contemporary American Domestic Issues (3) Interdisciplinary exploration of 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, biographic change, and environmental protection. DS

AMST 250 American Film History (3) Introduc- tory history of American cinema from the silent to the digital era, with an emphasis on criticism and genre, as well as cultural and sociopolitical context. DH

AMST 301 Hip-Hop and American Culture (3) Survey tracing hip-hop from its Afro-Caribbean musical beginnings to contemporary adaptations and interpretations. Students will analyze various materials and will pay attention to the relationships between hip-hop and contemporary social forms. Pre: sophomore standing or consent. (Alt. years) DH

AMST 310 Japanese Americans: History, Culture, Lifestyles (3) Explores the history and culture of Japanese Americans in Hawai‘i and the U.S. at large: historical and cultural heritage, biographical portraits, changing family ties, ethnic lifeways, gender relations, local identity, and the future of island living. DH

AMST 313 African Americans: Issues, Culture, History (3) traces the history and culture of African Americans and outlines contemporary issues. 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 norms about gender and sexuality, and shared and divergent experiences among women. (Cross-listed as HIST 361 and WS 311) DH

AMST 317 American Popular 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 proposals, research papers). Pre: second year standing or consent. (Alt. years) DH

AMST 318 Asian American History (3) History of selected Asian immigrant groups from the 19th century to the present. Topics include: immigration and labor history, Asian American movements, literature and cultural productions, community adaptations and identity formation. (Cross-listed as ES 318) DH

AMST 319 America, Hawai‘i and World War II (3) Examines WWII as a watershed in American and Hawai‘i history and culture. Topics include: Pearl Harbor, Japanese American internment, sex and racial tensions, Anti-Semitism and 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: island societies, 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 or higher standing, or consent. (Cross-listed as POLS 325) DH

AMST 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 ANTH 326) DH

AMST 334 Digital America: Online Communities and Virtual Worlds (3) An introduction to the impact of the digital revolution and virtual communities on American culture and society, with an emphasis on questions of identity and participatory democracy. Open to nonmajors. Pre: one DH, DA, or DL course, sophomore standing, or consent. DH

AMST 339 Religion in America (3) Examination of American religion, both historical and contemporary, with an emphasis on the principles of religious liberty, non-establishment, and pluralism. Pre: sophomore standing or consent. DH

AMST 343 American Thought and Culture (3) Politics, family, philosophy, technology, etc.; their interrelationship with the total society. Pre-Colonial to end of Reconstruction. Pre: 150 or 201 or 202 or 211 or 212 or HIST 151 or HIST 152; or consent. (Cross-listed as HIST 373) DH

AMST 344 American Thought and Culture (3) Continuation of 343: 20th century. Pre: 150 or 201 or 202 or 211 or 212 or HIST 151 or HIST 152; or consent. (Cross-listed as HIST 374) DH

AMST 350 Culture and Art in America: Survey (3) Popular attitudes toward arts, travel, fashions, craft and industrial productions, recreation. Past used to explain the present. DH

AMST 352 Screening Asian Americans (3) A survey of Asian and 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 354 American Travel Writing (3) Survey examines the roles that travel writing plays in American identity- and nation-formation, from early colonial history to the present. A-F only. Pre: 110, 150, 201, 202, 211, or 212. (Alt. years) DH

AMST 365 American Empire (3) Examines the interplay between an “American culture of empire” and the interplay of empire. Topics: imperialism and cultural politics, social movements and international affairs, race, gender 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 American history 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 381 Junior Seminar (3) Materials and methods for the study of American life and thought. For American studies majors and minors only. DH

AMST 382 Junior Seminar (3) Continuation of 381. For American studies majors and minors only. DH

Junior standing or consent required for all 400-level courses.

AMST 401 Filipino Americans: Research Topics (3) A research seminar on the study of Filipino Americans. Special themes in film/video/media, the performing arts, or literature may be offered. Pre: junior standing or consent. (Cross-listed as ES 443) DS

AMST 410 Asian American Music Cultures (3) An exploration of how Asian American 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 literary and polemical works of 19th- and 20th-century. DH

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

AMST 420 American Ideas of Nature (3) The natural world in American thought from Native American to modern times. Pre: sophomore standing or consent. (Cross-listed as ARCH 473) DH

AMST 425 American Environmental History (3) Survey history of the complex relations between American societies and diverse U.S. ecosystems, from European contact and colonization to the present. (Cross-listed as HIST 480) DH

AMST 431 American Labor History (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. Examined in 20th century. (Cross-listed as HIST 477) DH

AMST 432 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 HIST 473) DH

AMST 434 Politics in Hawai’i (3) Discussion of modern political issues in the context of Hawaiian history and major contemporary issues. DS

AMST 435 History of Crime and Punishment (3) History of American crime and punishment from 18th century to the present. Topics: changing crime patterns, evolving punishment methods, penal reform movements, convict resistance, growth of prison industrial complex, racism, class, and gender. Repeatable one time. Pre: junior standing or consent. DS

AMST 436 Gender, Justice and Law (3) Explorations of landmark U.S. Supreme Court cases related to sex and gender. Topics may include sex discrimination, sexual orientation discrimination, privacy, and reproductive freedom. A-F only. Pre: one of WS 151, WS 175, WS 176, WS 202, WS 360, WS 381, or consent. (Cross-listed as POLS 436 and WS 436) DH

AMST 438 Asian Women (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 310, 316, 318, 373, 455, POLS 339, WS 360, WS 361, WS 439; or consent. (Cross-listed as POLS 372 and WS 462) DS

AMST 440 Race and Racism in America (3) Racial ideas and ideologies, and their effects throughout American history. (Cross-listed as HIST 476) DH

AMST 442 Radical Traditions (3) Varieties of radicalism that have provided a continuing critique of prevailing values and structures. DH

AMST 445 Racism, American Culture and Film/Video/Media (3) An interdisciplinary approach of racial ideologies in American film. The course also examines how aggrieved communities develop cultural sensibilities, aesthetic choices and politicized identities through film, video and media work. DH

AMST 451 Popular Culture (3) Major themes, modes, and media of popular or mass culture in the U.S.; emphasis on cultural trends and social implications. DH

AMST 452 The ’20s and ’30s (3) Novelists, painters, poets, jazz musicians as examples of culture of the 1920s and 1930s in America. DH

AMST 453 Culture, Society, and Literature (3) Literary and non-fictive exploration of the intellectual and moral response of Americans to institutions and culture of 20th-century marketplace economy. DL

AMST 454 Fashioning America (3) Examines linkages between American identity, representation, labor and capital through fashion theory, clothing discourses and other practices of textile production over history. A-F only. Pre: junior standing or consent. DS

AMST 455 U.S. Women’s Literature and Culture (3) Reading of selected works 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 ENG 455 and WS 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 strategies and methods used by museums 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 American film from an historical and critical perspective. DL

AMST 461 America’s World Role (3) Examination of America’s role in modern world affairs, against the background 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 framework. DH

AMST 469 Religion and Homosexuality in American Public Life (3) Examines the roles of religious groups and religious values with regard to homosexuality in American public culture. 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. Pre: consent. (Cross-listed as ARCH 475) DH

AMST 480 Approaches to American Studies (3) Required seminar in American Studies methods in preparation for the senior research seminar or the senior capstone project. AMST majors only. A-F only. Pre: 382. (Fall only)

AMST 481 Senior Research Seminar (3) Capstone course for American studies students to undertake a major research and writing project. Requires a 20 page minimum final research paper. For AMST majors only. Pre: consent.

AMST 482 Senior Capstone Project (3) Capstone for American Studies majors to undertake a non-

Key to symbols & abbreviations: see the first page of this section.
thesis project. AMST majors only. A-F only. Pre: 480 and consent. (Spring only)
AMST 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 maritime trade on cultural patterns and interactions 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; (D) 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 origins and development. Beginnings to civil war.
AMST 602 Patterns of American Cultures (3) American cultural origins and development. Civil War to present.
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, media, and theater arts. Comparative study of Hawai‘i and the Continental U.S.
AMST 612 Women in American Culture (3) Historical/contemporary status 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 632B)
AMST 615 Performance, Culture, and Theory (3) Survey of performance and its role in the production of performing 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 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 623 American Architecture (3) Cultural analysis of the evolution of American architecture from the Colonial period to the present involving sociopolitical and economic, as well as aesthetic, considerations.
AMST 624 Wilderness in America (3) American wilderness as both physical setting and social construction. A-F only. Pre: graduate standing or consent.
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 Critical Traditions in America (3) Examination of various dissent movements in American history.
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 ANTH 645)
AMST 646 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 639F)
AMST 647 Advanced Topics: Business/Labor/Technology (3) Readings and research on American business, labor, and technological history. Repeatable one time. Pre: graduate standing and consent. (Cross-listed as HIST 639K)
AMST 649 American Intellectual Traditions (3) Examination of intellectual figures and movements in American history.
AMST 656 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 659 Arts in America: Modern to Post-Modern (3) Survey of the literature of the field.
AMST 664 America in Asia (3) Topics in U.S. economic, political, military, and cultural relations with East and Southeast Asia, from the 18th century to the present.
AMST 668 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 669 Advanced Topics: America and the World (3) Historical and contemporary issues in America’s global relationships.
AMST 672 20th Century U.S. Literature (3) Selected works of 20th-century literature as cultural documents.
AMST 673 African American Literature (3) Cultural and social interpretation of blacks and whites as revealed in literature, poetry, and drama.
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 field recordings and state and federal registration procedures. (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 PLAN 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 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 650)
AMST 683 Museums: Theory, History, Practice (3) History and theory of museums and related institutions (art galleries, historic houses, zoos, parks). Relationship between museums, collections, and communities. Introduction to governance, planning, legal, and ethical concerns.
AMST 684 Museums and Collections (3) Work of museums and professionals (registrars, collections managers, conservators, curators and others) in the care of collections, interpretive studies of museum displays and collections and fieldtrips. Pre: 683 (or concurrent) or consent.
AMST 685 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. 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. Museum studies certificate students only. Pre: concurrent or 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)
AMST 700 Thesis Research (V)
AMST 800 Dissertation Research (V)

Anatomy (ANAT)

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.

ANAT 499 Directed Reading Research (V)
ANAT 512 (Alpha) Unit II Concurrent Electives (I) Elective courses for first-year medical students. (B) human anatomy of the thorax and upper limb; (C) histology, CR/NC only. Pre: BIOM 551 and consent.
ANSC 513 Unit III Concurrent Electives (Alpha) (1) Elective course for first-year medical students. (B) human anatomy of abdomen and lower limbs; (C) histology. CR/NC only. Pre: BIOM 551 and consent. (Spring only)

ANSC 514 (Alpha) Unit IV Concurrent Electives (1) Concurrent electives in anatomy. (B) functional anatomy of the head, neck, and lower limb with review of the upper limb anatomy included; (C) human embryology: systematic study of human development including implantation, placentation, basics of development of each organ system with reference to pertinent congenital anomalies and their surgical repair; (D) neuroanatomy: spinal cord, brain stem and the regions of the cerebrum will be discussed; (E) human anatomy of the head, neck, and spine. CR/NC only. Pre: BIOM 551 and consent.

ANSC 515 (Alpha) Unit V Concurrent Elective (1) Elective course for second-year medical students. (B) embryology. CR/NC only. Pre: BIOM 551 and consent. (Spring only)

ANSC 545 (Alpha) Unit VII Anatomy Electives (V) Advanced study of human anatomy by dissection and individual observation of surgical procedures. (C) concurrent in research anatomy and developmental biology. CR/NC only. Repeatable three times. CR/NC only. Pre: FMCH, MED, OBGN, PED, PSTY, SURG 531 or 532, or consent.

ANAT 509 Independent Study in Anatomy (1) Elective course for advanced medical students. (B) independent study of human gross anatomy; (C) histology; (D) related research in anatomy and developmental biology. CR/NC only. Repeatable three times for (B) and (C); repeatable one time for (D). Pre: BIOM 551 or consent for (B) and (C); MDED 551 for (D).

ANAT 603 Lower Extremity, Thorax, and Abdomen (3) Human gross anatomy dissection of the lower extremity, thorax, and abdomen with emphasis on muscles, function, innervation, and vascular supply. A-F only. Repeatable one time. Pre: enrolled in KRS, DRB, or PHYL graduate programs. (Spring only) (Cross-listed as KRS 603)

ANAT 604 Upper Extremity, Head, Neck, and Spine (3) Human gross anatomy dissection of the upper extremity, head, neck, and spine with emphasis on muscles, function, innervation, and vascular supply. A-F only. Repeatable one time. Pre: enrolled in KRS, DRB, or PHYL graduate programs. (Fall only) (Cross-listed as KRS 604)

ANAT 607 Human Embryology (2) Systematic study of human gestation and development, including implantation, placentation, basics of development of each organ system with reference to pertinent congenital anomalies and their surgical repair. Pre: 603 or 604. Recommended: gross anatomy course.

ANAT 612 Seminar in Anatomy Teaching (V) Effective teaching methods, organization of courses in anatomical sciences, development and evaluation of exams, experience in teaching with audiovisual/computer aids. Open to graduate students in physiology or KRS. Repeatable eight times. Pre: 603 and 604.

ANAT 699 Directed Research (V) Repeatable unlimited times.

ANAT 700 Thesis Research (V) Pre: admission to candidacy (master’s program).

ANAT 800 Dissertation Research (V)
ANSC 603 Experimental Design (4) (3 Lec, 1 3-hr Lab) Design of experiments and variance analyses in biological and agricultural research. Pr: graduate standing or consent. Recommended: ZOOL 632. (Cross-listed as TPS 603)

ANSC 641 Seminar in Animal Sciences (1) Topics of current interest and current research related to nutrition, genetics, and physiology. Pr: consent.

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

ANSC 650 DNA and Genetic Analysis (2) Combined lecture-lab for students interested in genetic analysis of humans, animals, and other species. Molecular techniques, such as PCR, DNA marker identification, restriction analysis, and functional genomics, are included. Pr: Open to nonmajors. Pr: Pr: 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. Pr: consent. (Cross-listed as FSHN 652, NREM 652, and TPS 652)

ANSC 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Designed to introduce 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 (Fall only) (Cross-listed as FSHN 657 and TPS 657)

ANSC 687 Advanced Laboratory Techniques (3) (1 Lec, 2 3-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. Pr: graduate standing or consent. (Cross-listed as FSHN 687 and MBBE 687)

ANSC 699 Directed Research (V) Pr: consent.

ANSC 700 Thesis Research (V)

**Anthropology (ANTH)**

**College of Social Sciences**

Most 300- and 400-level courses have as a prerequisite 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 course is required for all courses. (A C- is not acceptable.)

ANTH 151 Emerging Humanity (3) Introduction to human biological evolution and the archaeology of culture in the world prior to AD 1500. Open to nonmajors, recommended for majors. FGA

ANTH 151A Emerging Humanity (3) Introduction to human biological 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 non-majors, 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 165 Heritage Sites in Archaeology (V) Combined lecture-lab-fieldwork to introduce the concepts and practices of archaeology, historical research, historic site preservation, and heritage management. Repeatable one time. A-F only. DS

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


ANTH 215L Physical Anthropology Laboratory (1) Laboratory to accompany 215. Co-requisite: 215. DY

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

ANTH 307 Theory in Contemporary Anthropology (3) Theoretical issues that have generated current research and controversies in more than one specialty within social/cultural anthropology; historical roots. Pr: 152. DS

ANTH 308 American Culture (3) Contemporary culture of the U.S. Variations in kinship, family, work, play, values, religion; selected topics such as ethnicity, alternative lifestyles, consumerism, addiction. Pr: 152. DH

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. Pr: 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. Pr: 152 (or concurrent). DH

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

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

ANTH 321 World Archaeology I (3) Archaeology of human origins, early cultures, and origins of agriculture. Pr: sophomore standing or consent. DH

ANTH 322 World Archaeology II (3) Archaeology of complex societies, including the rise of urbanism, state-level society, historical and industrial archaeology. Pr: sophomore standing or consent. DH

ANTH 323 Pacific Island Archaeology (3) Origins of Pacific peoples; chronology of settlement; sequences of culture in Australia, Melanesia, Micronesia, and Polynesia. Pr: 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, Africa, India, China, and the Americas. A-F only. Pr: 322 (or concurrent), SOC 301 (or concurrent), GEOG 421 (or concurrent), or consent. (Alt. years) DS

ANTH 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 AMST 326) DH

ANTH 327 Ethnohistory (3) Review of ethnohistory, i.e. the interdisciplinary, holistic and inclusive investigation of the histories of native peoples drawing not only on documented sources, but also on ethnography, linguistics, archaeology, ecology and other disciplines as an alternative to conventional Euro-American history. A-F only. Pr: HIST 152, or consent. (Alt. years) (Cross-listed as IS 322) DS

ANTH 330 Social Organization (3) Systematic study of human institutions; general principles of social interaction formulated from ethnographic data. Pr: 152. DS

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

ANTH 345 Aggression, War, and Peace (3) Biological, cultural, evolutionary, and cross-cultural perspectives on the origins, patterns, and processes of violence, war, nonviolence, and peace. Pr: 152. (Cross-listed as PACE 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 nation states. Pr: sophomore standing or consent. DH

ANTH 356 Women and Religion (3) Examining roles of, and attitudes toward, women in major religious traditions through autobiographies, films, and primary texts. Pr: 152 or REL 150 or WS 151. (Cross-listed as REL 356 and WS 356) DH

ANTH 370 Ethnographic Field Techniques (V) Problems and techniques of social-cultural anthropological fieldwork; ethnographic literature; work with informants. Repeatable one time. Pr: 152. DS

ANTH 372 (Alpha) Indigenous Peoples of Latin America (3) Survey of the history and culture of the indigenous peoples of Latin America through a study of their literature, cinema, and popular practice. (B) Mesoamerica; (C) Andean Region. Repeatable one time in different alphas. (Cross-listed as LAIS 372 (Alpha)) DH

ANTH 375 Race and Human Variation (3) Human genetic and physical variation; latitudinal, longitudinal, and altitudinal variation across human populations; history of racism; contemporary issues in race and racism. Pr: sophomore standing, recommend 152 and 215; or consent. (Once a year) DS

ANTH 380 Archaeological Lab Techniques (4) Laboratory analysis and evaluation of field data; preservation and restoration of artifacts. Preparation for publication. Repeatable two times. Pr: 210 or consent. (Once a year) DS

ANTH 381 Archaeological Field Techniques (V) Archaeological survey and excavations; field trips, mapping, photography. May focus on terrestrial or underwater. May be taught entirely in the field at an international or international archaeological site. Repeatable one time with consent. Pr: 210. DS

ANTH 384 Skeletal Biology (3) Introduction to the human skeleton and methods for analyzing archaeological human remains including age, sex, ethnicity, paleodemography, skeletal and dental variation, paleopathology, population studies. Co-requisite: 384L. DB

Key to symbols & abbreviations: see the first page of this section.
ANTH 384L Skeletal Biology Laboratory (1) Laboratory to accompany 384. Co-requisite: 384. DY

ANTH 385 (Alpha) Undergraduate Proseminar (3) Selected problems in current research. (B) archaeology; (C) ethnography; (D) social anthropology; (E) applied; (F) psychological; (G) biological. Repeatable nine times. Pre: consent. DS

ANTH 399 Directed Reading or Research (V) Repeatable nine times. Pre: major or minor in Anthropology.

ANTH 408 History and Memory (3) Lecture/discussion on the culture and politics of collective memory. Pre: junior standing or consent. (Once a year)

ANTH 410 Ethics in Anthropology (3) Seminar surveying ethical cases, problems, issues and questions from the inception of anthropology to the present. Pre: 152. (Alt. years)

ANTH 411 Museum Anthropology (3) Anthropological study of museums and related sites of cultural production (historic sites, memorials, theme parks). Junior standing or higher. (Alt. years) DS

ANTH 412 Evolutionary Anthropology (3) Lecture-discussion providing an overview of evolutionary theory in anthropology: focus on the evolution of culture, behavioral ecology, and cultural diversity; emphasis on evolutionary and ethnographic research and explanatory models. Pre: 210 or 215, or consent. (Once a year)

ANTH 413 Language and Gender (3) The role of language in the construction of gender and in the maintenance of the gender order. Field projects explore hypotheses about the interaction of language and gender. No previous knowledge of linguistics required. A-F only. (Cross-listed as LING 415) DS

ANTH 414 Introduction to Linguistic Anthropology (3) Introduction to the ethnographic study of speech and language. Pre: 152 or consent. (Once a year) (Cross-listed as LING 414 and IS 414) DS

ANTH 415 Ecological Anthropology (3) Relationship of humans with natural environment; role of culture in ecological systems. Pre: 152. DS

ANTH 416 Economic Anthropology (3) Analysis of economic activities in non-Western, non-industrial societies: production, distribution, and consumption of goods and services in a variety of cultures. Pre: 152. DS

ANTH 417 Political Anthropology (3) Character of political institutions and their development in non-Western and non-industrial societies. Pre: 152. DS

ANTH 418 The Anthropology of Homosexualities (3) Anthropological examination of homosexualities; consideration of nature/nurture in the origins and expressions of identity and sexuality; social and political aspects of homophobia; queer theory. A-F only. Pre: junior standing or consent. DS

ANTH 419 Indigenous Anthropology (3) Exploration of how anthropology studies indigenous groups throughout the world. An examination of the changing contexts of anthropological practice as calls for reflexivity lead anthropologists of all backgrounds to bring insights from their "homes." Issues include the question of objectivity, the emic distinction, and the ethics of different kinds of anthropological research and the role of anthropologists in indigenous self-determination. Repeatable one time. Pre: 152. DS

ANTH 420 Communication and Culture (3) Anthropological introduction to communication; intercultural and interspecies comparisons; verbal and nonverbal. Ethnography of communication, discourse and structural analyses, ethnomethodology. Pre: 152. DS

ANTH 421 Anthropology and Mass Media (3) Anthropological critique of mass media research; role of mass media in social and cultural processes of au-thority, economic exchange, and identity formation in Western, nonwestern, and global contexts. A-F only. Pre: 152. DS

ANTH 422 Anthropology of Religion (3) Cults, legends, millennial movements, myths, possession, rituals, sacred healing, shamanism, sorcery, spirits, symbolic expression and experience, from small scale to highly urban societies. Pre: 152. (Cross-listed as REL 422) DH

ANTH 423 Social and Cultural Change (3) Vari-ous approaches to examples of social and cultural change in non-literate societies; evolution, diffusion, acculturation, revolution, etc. Historical features and social processes of colonialism. Pre: 152. DH

ANTH 424 Culture, Identity, and Emotion (3) The interrelation of culture, thought, emotion, and social realities. Role of language and culture in shaping emotional experience and self-understanding, including the formation of social identities such as gender, ethnicity and nationality. Pre: 152. DS

ANTH 425 Medical Anthropology (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 427 Food, Health, and Society (3) How human groups identify, collect, create, and transform foods; how they shape those into dietary behaviors, and the influence of those behaviors on health. Pre: junior standing or higher or consent. DS

ANTH 428 Anthropology of the Body (3) Explo ration of the history and development of theories of the body via topics such as phenomenology, perception, bodily rituals, gender, sex, race, colonialism, power, pain, medicalization, immunology, reproductive health and cyborgs. Pre: 152. DS

ANTH 429 Anthropology of Consumer Cultures (3) Examines the practices and meanings of consumerism in the contemporary world. Topics include social class, branding, fandom, global-local nexus. A-F only. Pre: 152 or consent. (Alt. years) DS

ANTH 430 Human Adaptation to the Sea (3) How people from prehistoric to modern times have sailed, fished, or otherwise exploited and enjoyed the sea; how the sea has molded human life. Pre: 152. DS

ANTH 435 Human Adaptation to Forests (3) Cultural ecology of human societies in forest habitats. Emphasis on case studies of traditional and changing adaptations in the tropics. Pre: 152 (or concurrent), or consent. DS

ANTH 443 Anthropology of Buddhism (3) Selected aspects of national, regional and local manifestations of Buddhism are explored through the perspective of anthropologists with an emphasis on the daily lives of monks, nuns and lay persons in their socio-cultural contexts. Pre: 422, REL 207, REL 475, or consent. (Alt. years) (Cross-listed as REL 443)

ANTH 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. (Cross-listed as REL 444) DS

ANTH 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 REL 445) DS

ANTH 446 Southeast Asian Cultures (3) Cultures of Southeast Asia and gathering groups to high civilizations; kinship, economic, political, and religious systems; recent developments. Pre: junior standing or consent. DS

ANTH 447 Polynesian Cultures (3) Analysis of Polynesian cultures from their origins to contemporary states. Pre: junior standing or consent. DS

ANTH 449 Anthropology of Melanesia (3) Close study of cultures of Papua New Guinea, Vanuatu, Solomon Islands, New Caledonia, and Fiji through anthropological ethnography. Pre: 152 or consent. (Once a year) DS


ANTH 458 Forensic Anthropology (3) Application of physical anthropology to problems in human identification. Determination of age, sex, ancestry, etc., of the skeleton and preparation of reports for legal medicine. Pre: 384 (or concurrent). DB

ANTH 460 Asian Paleoanthropology (3) Neogene-Quaternary paleoenvironmental reconstructions; human evolution in East Asia during the Pleistocene; Out of Africa I; modern human origins. Pre: sophomore standing, recommend 310, or consent. (Alt. years) DB

ANTH 461 Southeast Asian Archaeology (3) Prehistory and protohistory of Southeast Asia and of Southeast Asian contacts with East Asia, India, Australia, and Oceania. Pre: junior standing or consent. DH

ANTH 462 East Asian Archaeology (3) Prehis- tory and protohistory of China, Japan, and Korea from earliest human occupation to historic times. Geographical emphasis may vary between China and Japan/Korea. Pre: junior standing or consent. DH

ANTH 464 Hawaiian Archaeology (3) Archaeological perspective in Hawaii’s past; origins of Hawaiians; early settlement and culture change; settlement patterns and material culture; historic sites examination. Pre: junior standing and consent. DH

ANTH 467 Biomedicine and Culture (3) Examina-tion 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 468 Archaeological Theory and Interpreta-tion (3) Introduction to theory in archaeology; interpretive paradigms; the relation of archaeological methods to interpretation and evaluation of theories. Pre: 210. DH

ANTH 469 History of Archaeological Thought (3) Historical survey of archaeology as a discipline; focusing on theoretical, methodological, and substantive advances that changed archaeology. Pre: 210. DS

ANTH 471 Assemblage Analyses in Archaeology (4) Lecture and laboratory surveying methods for conducting analyses of archaeological assemblages. Focus on classification, quantitative techniques, including reliability, precision, and accuracy. Students complete projects on existing assemblages or data from assemblages. Repeatable one time. Pre: 210. DH

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

ANTH 473 Lithic Analysis in Archaeology (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. DH

ANTH 474 Geoaarchaeology (3) Field and laboratory analysis of sediments and soils in 98 environments, site formation, post-depositional processes, landscape change, and paleogeomorphic reconstruction. Pre: 210. DP

ANTH 475 Faunal Analysis in Archaeology (3) Analysis of archaeologically recovered faunal collec-
tions with emphasis on identification and interpretation of nonhuman vertebrate remains. Pre: 210. DH
ANTH 477 Introduction to Geographic Information Systems for Anthropologists (3) Combined lecture/lab on GIS and related technologies for anthropological applications. Lectures plus instructor-led and self-directed labs. Emphases on practical technical skills and necessary conceptual understanding. Pre: junior standing or consent. (Once a year)

ANTH 481 Applied Anthropology (3) Methods and results and application of anthropological concepts to the practical problems of agricultural, commercial, and industrial development. Pre: 152. DS

ANTH 482 Environmental Anthropology (3) This seminar surveys practical environmental questions, cases, problems, and issues from the perspective of applied ecological anthropology. Pre: 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 Japanese popular culture through themes such as gender, consumerism, globalization and nostalgia. Rather than a survey of popular culture generating thematically around issues and problems. 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 historical and 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, land, and residence. Pre: junior standing or consent. (Once a year) (Cross-listed as ES 486) DS

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. Repeatable three times. Pre: 152. DS

ANTH 491 Special Topics in Southeast Asian Art History (3) Focused study of particular periods, regions and critical themes in Southeast Asian art and architectural history. Monuments and nationalism in Southeast Asia. A-F only. Pre: 175, or consent. (Once a year) (Cross-listed as ART 490D) DH

ANTH 495 Senior Thesis (3) Preparation of a major paper with a committee of one chairperson and one other member; paper on topic of interest in anthropology. Optional for majors. Pre: 490 and senior standing. DS

ANTH 496 Senior Thesis (3) Preparation of a major paper with a committee of one chairperson and one other member; paper on topic of interest in anthropology. Optional for majors. Pre: 490 and senior standing. DS

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

ANTH 601 Ethnology (3) Survey, in historical perspective, of theory in social and cultural anthropology. A course in the graduate core of anthropology. Pre: graduate standing.

ANTH 602 Linguistic Anthropology (3) Investigation of mutual influences of linguistic theory and methodology and anthropological theory and methodology. A course in the graduate core of anthropology. Pre: graduate standing.

ANTH 603 Archaeology (3) Development of critical and analytical skills in assessment of archaeologi- cal literature; emphasis on the science, theory, explanation, and paradigms that comprise archaeology. A course in the graduate core of anthropology. Pre: graduate standing.

ANTH 604 Physical Anthropology (3) Human evolution and human variability in extant and previously existing populations; emphasis on history of physical anthropology, evolutionary systems, primatology, paleoanthropology, anthropological genetics, climatic adaptation, growth, and nutrition. A course in the graduate core of anthropology. Pre: graduate standing.

ANTH 605 Discursive Practices (3) Emphasizes linguistic, semantic, and interactional aspects of culture, exploring ways that discourse constructs social action and social realities, examining processes by which culture is produced as meaningful behavior in actual situations. Pre: graduate standing.

ANTH 606 Anthropology of Infectious Disease (3) The role of human behavior, including its social and cultural determinants, in understanding the distribution of infectious diseases and in shaping preventive and therapeutic strategies. Pre: graduate standing.

ANTH 607 The Media and Discursive Practice (3) Role of the mass media in constructing meaning in social cultural processes such as nationalism, ritual, identity, and memory. Pre: consent. Attention to interventional and post-structural theories of discourse that link the mass media to discursive practice. A-F only.

ANTH 608 History and Memory (3) History and collective memory as culturally formed and politically contested realities. The role of narrative, ritual, and media technologies in shaping representations of the past. Pre: graduate standing.

ANTH 609 (Alpha) Culture and Leadership (3) Multicultural perspectives on the theory and practice of leadership. (B) service learning and leadership; (C) applied leadership internships; (D) contemporary leadership profiles; (E) film and leadership. A-F only. Pre: graduate standing and consent.

ANTH 610 Anthropology of Tourism (3) Social and cultural analysis of tourism practices, with emphasis on Hawai‘i, Asia and the Pacific. Tourism in relation to consumer culture, transnational flows of people and images, post-colonial politics, performance and identity formation.

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 concurrent. (Once a year)

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

ANTH 640 (Alpha) Methods and Theory in Archaeology (3) Focused seminars pertaining to distinct areas of archaeological method and theory. (B) analytical; (C) environment/landscape; (D) applied archaeology; (E) economic/resources; (F) survey/locational. Repeatable two times. Pre: 600.

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 AMST 645).

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

ANTH 667 Biomedicine and Culture (3) Examination of the social and cultural foundations of, and responses to, the values, technologies, and practices of modern medicine. Pre: graduate standing. (Alt. years)

ANTH 668 Archaeology Field Methods (V) (5-7 hr Lab) Laboratory and field training in the principles and practice of methods of archaeology—survey, mapping, excavation, conservation. Repeatable one time. Pre: graduate standing.

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 Anthropology only. Repeatable 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 694 Anthropology Colloquium Pro-Seminar (1) Entering students in anthropology graduate program attend and participate in weekly colloquia, which encompasses sub-disciplines and specializations presented in anthropology at UH Mānoa. Presentations include faculty and other professionals. Graduate student colloquium series will be developed. Repeatable one time. CR/NC only. Pre: graduate standing.

ANTH 695 Professional Skills Develop in Anthropology (3) Seminar prepares graduate students for entry into professional, including employment opportunities, research, presentations, ethics and outreach. Required of all Plan B students. Pre: graduate standing.

ANTH 699 Directed Reading or Research (V) Repeatable nine times. Pre: graduate standing and 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 in ANTH or consent. (Fall only)

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) medical; (D) ethnography; (E) social; (G) biological. Repeatable nine times. Pre: graduate standing.

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

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

Apparel Product Design and Merchandising (APDM)

College of Tropical Agriculture and Human Resources

The minimum required grade for prerequisites is a grade of D or better.

APDM 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, professional competencies, careers in apparel and related businesses. A-F only.

APDM 111 Design Aesthetics (3) Introduction to design elements, quality features and other factors influencing consumer preferences evoked by fashion-related products. Strategic uses of design in marketing.

APDM 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. Open to nonmajors. (Cross-listed as WS 200) DS

APDM 201 Fashion Promotion (3) Principles and practices in fashion advertising, visual merchandising, publicity and public relations, and fashion show production in apparel and related businesses.

APDM 205 Basic Apparel Construction (4) (3 Lec, 1-3 hr Lab) Principles, concepts, and procedures for quality construction and custom fitting of clothing.

APDM 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 or consent. N

APDM 216 Fashion Illustration I (3) (2 Lec, 1-3 hr Lab) Principles and techniques of sketching the fashion figure including garment details and fabric drape. Development of a personal style of illustration. Introduction to use of computers for illustration. Pre: 111 or consent. N DA

APDM 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. Pre: 101 or 111. DP N

APDM 237 Pattern Grading (3) Principles of proportionally increasing or decreasing a master pattern according to a prescribed set of body measurements. Application includes basic, intermediate, and advanced designs. Use of computerized grading program. Pre: 215 and 221. N

APDM 301 Fashion Forecasting/Marketing (3) Principles and practices in fashion trend forecasting and their role in apparel company marketing strategies. Adapting fashion trend forecasts to apparel lines. Restricted to APDM majors. Pre: 101, 111, 216, and 221.

APDM 310 Western World Fashion History (3) Historic study of dress as related to and cultures in the Western world, in socio-historical and contemporary contexts. Emphasis on 19th and 20th centuries. Pre: 200, 221, two FG courses; or consent.

APDM 315 Draping (3) (2 Lec, 1-3 hr Lab) Principles of pattern making through draping muslin models on standard garment forms. Pre: 215 or 221, or consent.

APDM 316 Advanced Pattern Design (3) (2 Lec, 1-3 hr Lab) Further study of flat pattern methods and industrial practices for fashion design majors. Use of CAD. Pre: 315.

APDM 318 Fashion Illustration II (3) (2 Lec, 1-3 hr Lab) Advanced study in the illustration of the fashion figure. Personal interpretation of the techniques of fashion illustration. Use of CAD. Pre: 216 or ART 214. DA

APDM 321 Textiles II (3) (2 Lec, 1-3 hr Lab) Chemical nature and structure of fibers and fabrics, their properties and finishes. APDM majors only. A-F only. Pre: 221 or consent. Co-requisite: 321L. DP

APDM 321L Textiles II Laboratory (1) Examination of textile properties through standardized textiles testing laboratory equipment. APDM majors only. A-F only. Pre: 221 or 320, or consent. Co-requisite: 321. DY

APDM 330 Advanced Apparel Construction (3) (2 Lec, 1-3 hr Lab) Principles of advanced techniques for garment construction with emphasis on new, difficult-to-handle fabrics. Pre: 205 or consent.

APDM 337 Computerized Pattern Grading (3) (2 Lec, 1-3 hr Lab) Gerber Technology (GT) AccuMark System Management. The system is designed to use CAD for specific apparel industry applications in garment patterns into different sizes and making production markers. Pre: 237 or knowledge and ability to grade patterns, or consent. Computer skills are helpful.

APDM 338 Computerized Pattern Designing (3) (2 Lec, 1-3 hr Lab) Learn the capabilities of Gerber Technology (GT) Pattern Design System-PDS 2000 and Silhouette. The system is designed to use CAD for specific apparel industry applications in pattern designing. Pre: 215, 221, and 337.

APDM 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 nine times. Pre: 205 and 221, or consent. DA

APDM 370 Interior Design Fundamentals (3) Aesthetic, social, and functional aspects of selection, layout, and furnishing of home interiors; application of principles of design to family living situations.

APDM 371 Retail Buying and Merchandising (3) Theories and procedures in selecting, buying and selling apparel and textiles. Types of merchandising organizations, analysis of consumer demand, brick-and-click opportunities and challenges, development of an image, operation location, store and floor layout. APDM majors only. Pre: 101, 111, 216, and 221.

APDM 375 Merchandise Planning and Control (3) Theories, problems, and procedures of financial and assortment planning and control of merchandise inventories. APDM majors only. Pre: 371.

APDM 411 Product Lifecycle Management (3) Application of principles of apparel production management, including methods engineering (detail construction for ordering), story boards and color tables, production measurements, costing, and PDM computer applications. A-F only. Pre: 205, 221, and 301; or consent. (Once a year)

APDM 416 Costumes/Cultures of East Asia (3) Development of traditional dress as visual manifestation of culture. Ethnic and national dress of China, Japan, Korea, Mongolia, Okinawa, Tibet, and Vietnam. Pre: 200, 221, two FG courses; or consent.

APDM 416 Costumes of South and Southeast Asia (6) Development of traditional dress as visual manifestation of culture. Ethnic and national dress of Afghanistan, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Saudi Arabia. Pre: 200, 221, two FG courses; or consent.

APDM 419 Apparel Design Studio I (3) Development of independent expression through creative designing for a ready-to-wear collection. Problem solving in the design process; includes sketching, draping, blocking, muslin proofs, complete garments, and portfolio. Studio courses must be taken in sequence. Pre: 3, 301, 316, 339, and either 416 or 418; or consent.

APDM 420 Apparel Design Studio II (V) Continuation of 419.

APDM 430 Fashion Show Production (V) Application of principles and procedures related to the promotion of fashion apparel. Preparation and presentation of fashion information through shows, displays, media and written communications. Repeatable one time. Pre: consent.

APDM 437 Small Business Start-up (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 plan, write and evaluate small retail business plans. Pre: 375.

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

APDM 460 Costume Collections Management (3) Investigation of skills and techniques needed for handling textile and apparel artifacts in museums and other collections. Active involvement in researching, researching, interpreting, and exhibiting costumes and textiles. Repeatable three times. APDM majors only. A-F only. Pre: 310, 416, or 418.

APDM 471 International Apparel Trade Issues (3) Theories, concepts, problems of international trade of textile and apparel products. Issues of importing and exporting apparel products globally. Social, political and economic factors affecting textile and apparel trade.

APDM 482 Pre-Internship (1) 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. APDM majors only. A-F only. Pre: 321 and 371, senior standing; no waiver. N

APDM 491 Topics in Fashion (V) Study and discussion of special topics, problems. Offered by staff and visiting faculty. Repeatable nine times.

APDM 492 Internship (4) Integration and application of academic knowledge and critical skills, emphasizing professional development. Placement with an approved cooperating supervisor/employer. Repeatable. Pre: 482 and senior standing.

APDM 496 Field Study in the Fashion Industry (V) Study tours to various centers of the world to examine historical and cultural quality apparel and textiles. Merchandising and design methods and operations examined. Repeatable two times. Pre: consent.

APDM 499 Directed Reading and Research (V) Pre: consent.

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 communicative competence. 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) N 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) N HSL

ARAB 301 Third-Level Arabic I (3) Develop proficiency in reading/listening comprehension in Modern Standard Arabic. The instructional materials consist of authentic written, visual 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. Emphasis on developing writing and interaction ability at advanced levels of proficiency. Course includes extensive reading.
composition exercises, listening skills, conversation practice and extensive review of Arabic grammar. Developing fluency is the main objective of this course. Classes meet 3 hours weekly. Pre: 301 (or equivalent), or consent.

Architectural (ARCH) School of Architecture

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

ARCH 100 Introduction to the Built Environment (3) Exploration of human responses to place, climate, culture, technology, and time, with emphasis on the impact of scientific knowledge and architectural design theory on history, culture, sociology, technology and built form. Open to nonmajors. DS

ARCH 101 Basic Architecture Studio (4) Hands-on exploration of materials and construction techniques and introduction to architectural design processes. Investigation of architecture as creation of space generated by human needs and aspirations including analysis of exemplary precedents. A-F only. DA

ARCH 132 Design Communication (4) Exploration of critical judgment and means to conceptualize, develop, represent, and communicate architectural form and space, including fundamentals of freehand drawing, mechanical drawing, physical model making, diagramming, and graphic techniques. A-F only. Pre: 100 and 101. DA

ARCH 200 Professional Practice of Architecture (3) Investigation of disciplines that address contemporary transformative issues. Emphasis on the role of architecture and the use of multi-disciplinary and collaborative methods to address critical issues. Open to non-majors. A-F only. Pre: 100. NF

ARCH 201 Architecture Studio (4) Development of designs and processes to explore solutions responding to human needs in the built and natural environment with emphasis on analysis and representation of architectural form and space using hand and computer techniques. A-F only. Pre: 152 and either ART 113 or ART 116. NF DA

ARCH 235 Computer Applications in Architecture (4) Exploration of digital design fundamentals and their application to architectural analysis, conceptualization, design process, and communication of design intent. Repeatable three times. Pre: 132 and 201. NF

ARCH 251 Introduction to Landscape Architecture (3) Principles and practice of landscape planning, design, and technology. Ecological, sociocultural, and natural science determinants of landscape form and pattern. 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. Investigating architecture in relationship to social, political, technological, and material forces. Open to non-majors. Pre: HIST 151. NF DH

ARCH 272 World Architecture and Urbanism B (3) Investigation of the history and theory of architecture from the 15th century C.E. to the present. Investigating architecture in relationship to social, political, technological, and material forces. Open to non-majors. Pre: HIST 151 and HIST 152. NF DH

ARCH 320 Introduction to Architectural Systems A (3) Introduction to building systems, including structural, environmental, life-safety, building envelope, building materials and building assemblies. Development of skills with emphasis on elevating skills in assessing and selecting appropriate building systems. A-F only. Pre: MATH 140.

ARCH 321 Introduction to Architectural Systems B (3) Investigation of buildings as related to social and natural systems. Study of water, plumbing, energy generation, renewable energy, lighting, acoustics, vertical transportation, fire safety, and introduction to heating, ventilation, and air conditioning. ARCH majors only. A-F only. Pre: 320 and PHYS 151/151L.

ARCH 322 Sustainable Systems (3) Qualitative and quantitative investigation of HVAC systems and sustainable building design with emphasis on high-performance building design and operation, innovative mechanical and energy systems, integrated energy and resource conservation and renewable energy systems. ARCH majors only. A-F only. Pre: 321 or departmental approval.

ARCH 341 Intermediate Architecture Studio A (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. A-F only. Pre: 235 and 320.

ARCH 342 Intermediate Architecture Studio B (4) Introduction to sustainable design, land use ordinances, and site features for public buildings in a community context. Detailed writing instruction with a minimum of 4,000 words of graded writing. A-F only. Pre: 341.

ARCH 350 Introduction to Planning (3) Perspectives on planning: planning tools and methods; specfic: How to advance solutions from a multidisciplinary approach. Pre: consent. DS

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

ARCH 352 Landscape Architecture History, Theory, and Practice (3) Surveying the development of landscape architecture as an art form from Mesopotamia to present. Exploring the theory, profession and art of landscape architecture in the world by physical, social, economic, political, and cultural environmental factors. (Alt. years)(Cross-listed as TPSS 352) DH

ARCH 353 Landscape Graphics Studio (3) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques to creative effective landscape graphics. Pre: consent. (Alt. years) (Cross-listed as TPSS 353) DA

ARCH 371 Design Theory (3) Examination of theories, movements, and periods in architectural history focusing on contemporary issues. Introduction to analytics, heuristics for helping understanding of formal and spatial ordering of architectural and site constructs. ARCH majors only. A-F only. Pre: 271 or 272 or departmental approval.

ARCH 372 Special Topics in Architectural History and Theory (3) An examination of specific theoretical movements in architectural history. Changing topics to be taught by both regular and visiting faculty. Repeatable three times. Pre: 271 and 272. and consent. DH

ARCH 399 Directed Work (V) Pre: consent. ARCH 400 Project Management (3) Exploration of the management of architectural services from project initiation through construction. Investigation of project delivery options; management of project design teams, project operations and services; design parameter definition; design service documentation; and project execution. A-F only. Pre: 200 or consent. ARCH 405 Selected Design Studio (V) Special architecture/interior architecture problems individually selected by students or faculty to sharpen design skills. Repeatable one time. Pre: consent.

ARCH 406 Office Research Practicum (3) Learn design research method[es]. Conduct architectural design research under the guidance of a practicing architect in an office setting in an area of the architect’s expertise and interest. The experience also exposes students to the professional practice of architecture via shadowing an architect mentor relative to typical design process activities, communication techniques, and professional ethics issues. A-F only. Pre: 200.

ARCH 415 Concentration Architecture Studio (6) Professional experience combined with scholarly and research activity occurring in an off-campus location with a focus on architectural concentration areas. ARCH majors only. A-F only. Pre: 322, 342, and 371. DP

ARCH 432 Construction Management (3) Design professional’s role during the building procurement process, particular emphasis on documentation and construction phases. Analysis of value of professional construction management services.

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


ARCH 435 Architectural Economics (3) Survey of fundamental business principles and economic theories as they relate to professional practice for design professionals. DS

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

ARCH 451 Landscape Architecture Design Seminar (3) Principles and practice of urban design within the comprehensive planning process. Sociocultural, economic, political, environmental determinants of urban form and pattern. Open to non-majors if space available. A-F only. Pre: departmental approval. DS

ARCH 461 Introduction to Interior Architecture (3) Introduction and orientation to the field. Fundamental 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. Open to nonmajors 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 conservation of historic resources, including basic conservation materials and methods, professional practices, and critical analysis of existing architectural models. Open to non-majors if space available. A-F only. Pre: departmental approval.

ARCH 472 Documentation of Historic Architecture (3) Study and documentation of existing buildings, structures, and sites of historic and/or cultural significance, including field measurements and drawings, historical focus, 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. Pre: consent. (Cross-listed as AMST 475)

ARCH 473 History of American Architecture (3) History of American architecture in terms of style, techniques, and symbolic meaning. (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 indigenous and national expressions. Pre: junior standing or consent. (Cross-listed as AMST 474) DH

ARCH 477 Research Seminar (V) Research methodology for the qualitative development of an optimum environment. Repeatable three times. Pre: consent.

ARCH 490 Special Topics (V) Selected topics in any aspect of architecture. Content to be announced. Repeatable three times. Pre: consent.

ARCH 515 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. A-F only. Pre: 371 and 415.

ARCH 516 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. Pre: 415 and 515.

ARCH 522 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: departmental approval.

ARCH 523 Architecture Systems II: Wood and Steel (3) Properties, evolution, and range of wood and steel and their use in structural systems and the ability to assess, select design, and integrate structural systems into building design. ARCH majors only. A-F only. Pre: 322 and 415.

ARCH 524 Architecture Systems III: Concrete and Masonry (3) Properties, evolution, and range of masonry, concrete and advanced composites and their use in structural systems and the ability to assess, select design, and integrate structural systems into building design. ARCH majors only. A-F only. Pre: 523.

ARCH 525 Architecture Systems IV: Sustainability (3) Qualitative and quantitative investigation of sustainable systems with emphasis on integrated high-performance building design and operation, innovative mechanical systems, resource conservation, and renewable energy systems. ARCH majors only. A-F only. Pre: 523.

ARCH 526 Architecture Systems V: Integration (3) Providing range of building materials, assemblies, and systems and 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: 515, 524, 525, and 542.

ARCH 531 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 533 Advanced Design Communication II (3) An interdisciplinary investigation of design theory as connected to digital technology and its applications to current developments in practice and research within architecture and design. ARCH majors only. A-F only. Pre: 235 and 415.

ARCH 535 Architecture Doctorate Seminar (3) Assessment of both contemporary and future architectural education, research and practice, by examining existing and evolving consistencies and shared visions that cut across distinct architectural approaches and other disciplines. Conceptual skills in the production of architecture that links environmental concerns with advances in building construction, computational and informational technologies. It includes the study of collaboration in design and on the technologies and spaces that support it; the study of encoding design knowledge in material resolution. CR/NC only. Pre: consent.

ARCH 539 Research Seminar (3) Comprehensive assessment of objectives and function of research in architecture. Lecture, seminar, independent work with emphasis on doctorate project topic and proposal development. ARCH majors only. A-F only. Pre: 515 and 541.

ARCH 540 Architecture Studio I: Intro to Design (6) Design theories and systematic analytic and synthetic methodologies applied to creation of building and site spaces responsive to environmental and human needs. Several individual projects. ARCH majors only. A-F only. Pre: departmental approval.

ARCH 541 Architecture Studio II (6) Design of a medium complex 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. Pre: 415 and 433.

ARCH 542 Architecture Studio III (6) Design of complex, large building and site engaging social, cultural, code, sustainable systems, and acoustic issues. Production of schematic and design development documents. ARCH majors only. A-F only. Pre: 523, 553, and 541.

ARCH 543 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: 524 and 542.


ARCH 545 Advanced Practice (3) Comprehensive study of architectural practice investigating architect’s response to global forces, including entrepreneurial practice, office organization, project delivery, compensation, and construction law. ARCH majors only. A-F only. Pre: 433, 524, 525, and 533.

ARCH 546 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. Repeatable three times. ARCH majors only. A-F only. Pre: 515, 516, 520, and 545. (Spring only)

ARCH 547 (Alpha) Professional Studio (V) Scholarly and research activity combined with professional experience occurring in an off-campus location. (C) Community design; (E) alternative; (P) practicum. Repeatable three times. ARCH majors only. A-F only. Pre: 543, 545, and 546.

ARCH 548 Doctorate Project II (6) Individual development of a doctorate project with an approved committee that advances architectural knowledge through research, scholarship, design, and engages theoretical and architectonic propositions. ARCH majors only. A-F only. Pre: 547/E or 547/E or 547P. (Spring only)

ARCH 551 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 554 Professional Studio Topics (3) Varied topics furthering knowledge and ability needed for professional design practice emphasizing communication methods for collaborative and integrated design using digital technologies. Offered online. ARCH majors only. A-F only. Pre: 544 or departmental approval.

ARCH 569 Study Abroad: Architectural Study Tour (V) First-hand examination of the architecture of various countries, with emphasis on experiencing and comprehending significant spaces within historical, cultural, and contexts. Topics and countries visited change with each offering. Open to nonmajors. Repeatable two times.

ARCH 571 Architecture History (3) Investigation of architectural history and theory in the world from antiquity to present. Examining social, political, technological, material, and environmental forces. ARCH majors only. A-F only. Pre: departmental approval.

ARCH 577 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. Pre: departmental approval.

ARCH 588 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 two times. ARCH majors only. CR/NC only. Pre: 508 or 548.

ARCH 591 Digital Design and Fabrication (3) Theoretical and design investigations in fabrication and construction techniques using computer aided design and manufacturing technologies. ARCH majors only. A-F only. Pre: 533 or departmental approval.

ARCH 595 Building and Landscape: Theory and Practice (3) Research into landscape, landscape architecture, and architecture from historical, historicographic, and theoretical perspectives. ARCH majors only. A-F only. Pre: departmental approval.

ARCH 628 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 PLAN 675)

ARCH 650 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 AMST 681)

ARCH 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 AMST 679)

ARCH 690 Special Topics Seminar (3) Seminar on a wide range of architectural topics to be directed by both visiting and regular faculty. Repeatable. Pre: consent.

ARCH 691 Special Topics: Architecture History/Theory (V) Specialized work at an advanced level on the history and theory of architecture. Repeatable two times. Pre: consent.

ARCH 692 Special Topics in Architectural Technology (V) Specialized investigation at an advanced level of technological development in building systems, environmental control systems, or materials and methods of construction. Repeatable two times. Pre: consent.

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

**ARCH 699 Directed Work (V)**

**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 115 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 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) **FG**

**ART 176 Survey of Global Art II (3)** Art produced in Asia, 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. (Spring only) **FGB**

**ART 302 Theory and Criticism of Art (3)** Examination of the significant themes and issues in contemporary theory and criticism 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 (or concurrent) and 176 (or concurrent) and consent. (Alt. years) **D**

**HISTORY OF ART**

**ART 371 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 374 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 Kofun period. **DH**

**ART 381 Later Art of Japan (3)** Major developments, Muromachi to modern period; painting, sculpture, architecture. Pre: 176 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 9th 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, and the 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) 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 470 (Alpha) Renaissance Art (3)** Painting, sculpture, and architecture (B) early Renaissance in Italy; (C) northern Europe; (D) High Renaissance and manicism in Italy. Repeatable one time for different alphas. 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 19th and 20th centuries. Pre: AMST 176 or consent. (Cross-listed as AMST 456) **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) Indonesia; (C) Melanesia, Micronesia, Polynesia; (D) North Pacific coast 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 non-literate cultures. (Mali, Burkina Faso, Ivory Coast, Liberia, Guinea, Nigeria, Ghana, Cameroon, Congo, Zaire. Pre: 176 or consent. **DH**

**ART 478 Representing Identity in Contemporary Art (3)** Focus on issues of self-representation with an emphasis on discussion of gender, cultural, and political identity in contemporary art and visual culture. 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 historic development of two-dimensional arts; painting and calligraphy from prehistory through 18th century. Pre: 175 or consent. **DH**

**ART 487 (Alpha) Modern and Contemporary Chinese Art (3)** History of the arts in China in the modern and contemporary periods, in all media and genres, from 1840 to the present. (B) Literati painting and its political rhetoric; (C) From modern art to the Chinese version of postmodern art. Repeatable one time for different alphas. Pre: 176 or consent. **DH**

**ART 490 (Alpha) Special Topics in Southeast Asian Art History (3)** Focused study of particular periods, regions and critical themes in Southeast Asian art and architectural history. (B) Angkor & art of Khmer civilization; (C) art & architecture of Thailand; (D) Monuments & nationalism in Southeast Asia. A-F only. Pre: 175, or consent. (Once a year) (D Cross-listed as ANTH 491) **DH** for (D)

**ART 491 (Alpha) Art of Southeast Asia (3)** Critical analysis of the historical and cultural development of Buddhist and Hindu art in Southeast Asia; (B) island Southeast Asia; (C) mainland Southeast Asia. Repeatable one time for different alphas. Pre: 176 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) art of Pre-Colonial 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 Photography: Critical Issues (3)** Seminar on theoretical, ethical and aesthetic issues relating to the practice of photography, past and present. 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, modernism, postmodernism, or design 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 its historical context. Repeatable two times. Pre: 176 or consent. **DH**

**ART 670 Art Historical Methodology (3)** An introduction to art historical research, analytical techniques, and research methods and materials. Pre: consent and graduate standing. **DH**

**ART 677 Art of Oceania (3)** Arts from Polynesia, Melanesia, Micronesia explored in context of issues involving belief systems and cultural change. Repeatable one time. A-F only. Pre: 475C or consent. **DH**

**ART 688 Chinese Sculpture and Applied Arts (3)** Research topics in the history of Chinese sculpture, ceramics, bronzes, jade, and textiles. Pre: consent. **DH**

**ART 690 Interdisciplinary Seminar (3)** Issues of contemporary art. Analysis of current literature and criticism. Pre: consent. **DH**

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

**ART 780 Seminar in Japanese Art (3)** Selected topics in Japanese art history. Pre: consent. **DH**

**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. **DH**

**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 Orient, post-colonial critique of Orientalism. A-F only. Pre: graduate standing or consent. (Alt. 2-3 years) (Cross-listed as ASAN 792) **DH**

**CERAMICS**

**ART 242 Introduction to Ceramics (3)** Three-dimensional concepts in clay; hand-building and wheel-throwing techniques. Projects, lectures, and 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 after completion of 344 and 345. 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 after completion of 343 and 345. Pre: 242 or consent. **DA**

**ART 345 Ceramics—Low Temperature (3)** Form and surface problems related to earthenware clay
ART 201 Introduction to Electronic Arts (3) Theory and practice course investigating language communication 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 I (3) (6 Lec/Lab) Combined theory and practice studio course(s) that investigate language, processes, and personalized composing systems related to the use of technological media and its application to a variety of contemporary 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) Tu-torial studio that encourages exploration in combined and new media through independent work within an environment of theoretical and critical course. Repeatable one time. Pre: 301 or consent. DA

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. Traditionally focusing on weaving to experimental woven forms. A-F only. Pre: one of 103, 116; or consent. DA

ART 258 Fiber Forms (3) In-depth studio explorations of non-loom fiber techniques for creating/manipulating 2D and 3D forms. Emphasis on concept development, skill mastery, innovative application of materials/techniques. May include felting, knotting, netting, piecing, coiling, found object/sewn constructions, papermaking. A-F only. Pre: one of 103, 116; or consent. DA

ART 355 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, or one 225 and one 200-level studio course; or consent. DA

ART 322 Advanced Color (3) Theory and application of color as related to studio practice. Pre: 113 or consent. 225 is recommended. DA

ART 213 Intermediate Drawing (3) Extension of the observational foundation established in 113 to address contemporary conceptual and expressive approaches to drawing. Pre: 113 or consent. DA

ART 423 Advanced Drawing/Painting II (3) Development of greater formal means and aesthetic insight 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. Pre: 242, and one of 343, 344, or 345; or consent. DA

DRAWING/PAINTING

ART 123 Introduction to Painting (3) Theory and practice of painting; material and technical procedures. DA

ART 214 Introduction to Life Drawing (3) Investigations of the figure concerning anatomical construction, light, space, diagrammatic analysis, and thematic content. Pre: 113 or consent. DA

ART 223 Intermediate Painting (3) Extension of the observational foundation established in 123 to address contemporary conceptual and expressive approaches to painting. Pre: 113, 125; or consent. DA

ART 225 Painting/Water-Based Media (3) An introduction to water-based media. Traditional transparent color, gouache and acrylics. Pre: 113 or consent. DA

ART 313 Advanced Drawing (3) Studio practice in drawing emphasizing contemporary developments in art. Repeatable one time. Pre: 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. Pre: 214 or consent. DA

ART 320 Chinese Brush Art (3) Brush techniques in classical painting and calligraphy; studio course. Repeatable one time. Pre: 113 or consent. 225 is recommended. DA

ART 321 Materials and Techniques of Painting (3) Experiments with various traditional and contemporary materials and procedures; discussion of their influences on painting. Pre: 123, 175, and 176; or consent. DA

ART 322 Advanced Color (3) Theory and application of color as related to studio practice. Pre: 123 or consent. DA

ART 323 Advanced Painting I (3) Studio practice in painting emphasizing contemporary developments in art. Repeatable one time. Pre: 223 or consent. DA

ART 324 Painting from Life (3) Painting from the model; a survey of the figurative tradition. Repeatable one time. A-F only. Pre: one 200 level studio course; or consent. DA

ART 414 Advanced Drawing from Life (3) Study of the figure with emphasis on the expressive function of drawing. Repeatable one time. Pre: 314 or consent. DA

ART 423 Advanced Drawing/Painting II (3) Development of greater formal means and aesthetic insight of Asian ceramics. Pre: 242, with 175 and 176 recommended; or consent. 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, discussions, demonstration, and individual and collaborative studio projects. Pre: 175 and 176 and one 200 level or above studio course, 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 introduction to glass theory. 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. Pre: 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 jominy techniques. Pre: 113 (or concurrent), 116 (or concurrent), and 130; or consent. DA

ART 303 Kiln-Formed Glass (3) Expressive explorations in the use of kiln-formed, fused-sheet glasses and enameling on glass. Pre: 234 or consent. DA

ART 306 Lost Wax Glass Casting (3) Glass kiln casting techniques, lost wax casting, pate de verre. Repeatable one time. Pre: 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. Pre: 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. Pre: 113 or consent. Co-requisite: 265 and 266. DA

ART 266 Design: Typography I (3) Introduction to typography. Exploration of letterform and word compositions in the context of single-page structures. ART 176 is recommended as a prerequisite. A-F only. Pre: 113 or consent. Co-requisite: 265 and 266. 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. Pre: 265L, 265L, and 266; or consent. Co-requisite: 365. DA


ART 466 Design: Typography III (3) Advanced typographic design. Exploration of 2D, 3D, electronic, and intermediate. Emphasis on contemporary typographic models. A-F only. Pre: 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


PHOTOGRAPHY

ART 206 Understanding 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 light meter. DA

ART 207 Intermediate Photo: Black and White (3) Black and white photography emphasizing communication and self-expression. Lectures, demonstrations, and projects. Student must supply camera and material. Pre: 206. N/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. Pre: 202, 207 and positive portfolio review or consent. DA

ART 308 (Alpha) Advanced Photographic Techniques (5) Emphasis on aesthetic and critical analysis. (B) color; (C) hand-applied emulsion. (B) and (C) Repeatable one time with consent. Pre: 202, 207 and positive portfolio review. DA

PRINTMAKING

ART 104 Introduction to Printmaking (3) Foundation explorations in the processes of relief, intaglio, and stencil printmaking. Direct workshop studio experience in the basic techniques and concepts of woodcut, linoleum cut, monotype, and basic stencil processes. DA

ART 215 Intaglio Printmaking (3) Studio practice in concepts and techniques of making prints from metal plates including etching, engraving, aquatint, and drypoint. Pre: 104 or 113. N/DA

ART 217 Screenprinting (3) Studio practice in screenprinting on paper. Copy camera and basic photo-stencil techniques introduced. Pre: 104 or 113 or 206. N/DA

ART 218 Relief Printmaking (3) Studio practice in the techniques and concepts of woodblock, linoleum cut, monotype, and collagraph printmaking. Emphasis on both traditional and contemporary practices. Pre: 104 or 113, or consent. N/DA

ART 316 Lithography (3) Studio practice in concepts and techniques of making prints from lithographic limestone and plates. Pre: 113 and one of the following: 214, 215, 217, 218; or consent. DA

ART 318 Intermediate Printmaking (3) Intermediate level specialization in either intaglio, lithography, screenprinting, or relief printmaking. Concentration on the techniques and formats of color printing and sequential image development. Repeatable two times. Pre: two printmaking courses and portfolio review, or consent. DA

SCULPTURE

ART 254 Sculpture—Metal Casting (3) Metal casting and development of associated practices and concepts. Repeatable one time. Pre: 116 or consent. N/DA

ART 255 Sculpture—Carving, Mixed Media (3) Investigations of traditional and contemporary carving concepts and methodologies. Repeatable one time. Pre: 116 or consent. N/DA

ART 351 Sculpture—Figure Modeling (3) Figure modeling, mold making, and casting. Repeatable one time. Pre: 116 or consent. DA

ART 352 Kinetic Sculpture (3) The design and construction of objects incorporating movement as an integral element of their content. Repeatable one time. Pre: 116 or consent. DA

ART 356 Sculpture—Metal Fabrication (3) Metal fabrication and development of associated practices, concepts, and historical references. Repeatable one time. Pre: 116 or consent. DA

ART 357 Sculpture—Small-Scalar Fabrication and casting of forms on a small scale such as jewelry. The development of related practices, concepts, and historical references. Repeatable one time. Pre: 116 or consent. DA

ART 358 Utilitarian Sculpture (3) The design and construction of objects intended for use/interaction. Emphasis on wood and synthetic materials. Repeatable one time. Pre: 116 or consent. DA

ART 359 Sculpture—Contemporary (3) Contextualization of late 20th/early 21st century sculptural practice, including stylistic and theoretical frameworks, with references to influences of various historical Western and Asian traditions and applying this knowledge in the creation of sculpture. Pre: 116 and 176, or consent. DA

VARIABLE CREDIT AND OTHER COURSES

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 and one of 201, 206, 215, 217, 218, 223, 236, 265, 266; or consent. N/DA

ART 304 Intermediate Digital Imaging (3) Combined theory and practice emphasizing specialization in fine inkjet printing techniques and portfolio production. Emphasis will be placed on conceptual development, black and white printing, panoramic images, HDR imaging and web-based portfolios. A-F only. Pre: 202. DA

ART 360 Exhibition Design and Gallery Management (3) Design theory and techniques for presentation and mounting exhibitions. Pre: junior standing and consent. DA

ART 399 Directed Work (V) Individual projects; tutorial. Maximum: 3 credit hours per semester; total 3 for BA, 6 for BFA. Pre: two 200-level or above art courses in area of directed work, as well as consent of instructor and department chair. DA

ART 400 Special Topics (V) Intensive and specialized work at advanced level in fields of special interest of visiting or resident faculty. Repeatable three times. Pre: advanced standing and consent. DA


ART 410 BFA Capstone Seminar (3) In conjunction with the production of art for the BFA and MFA exhibitions, this seminar will examine, critique, and evaluate the student’s art within the context of contemporary art, professional practices, exhibition theory, and integrate theoretical and practical issues in the life of an artist. BFA majors only. A-F only. Pre: BFA major or consent. (Spring only)

ART 481 Museum Interpretations (3) Studies the interpretive strategies and methods used by museums 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 AMST 457) DH

GRADUATE STUDIOS

Studio concentrations for the Master of Fine Arts degree: ceramics, electronic arts, glass, fiber, painting, photography, printmaking, and sculpture. Four sequential course levels (611-614) are to be taken for the MFA degree in Art.

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

ART 611 Graduate Studio Seminar in Art I (6) Selected topics in art. Emphasis on technical experimentation, diversification of research, and the exploration of new areas of creative inquiry. ART majors only. A-F only. Pre: consent. (Fall only)

ART 612 Graduate Studio Seminar in Art II (6) Selected topics in art. Emphasis on the analysis of the systems by which art is conceived and the ability to define developing direction and related research. ART majors only. A-F only. Pre: 611 or consent. (Spring only)

ART 613 Graduate Studio Seminar in Art III (6) Selected topics in art. Emphasis on the development of critical analysis and the understanding of one’s position relative to the contemporary art world. ART majors only. A-F only. Pre: 612 or consent. (Fall only)

ART 614 Graduate Studio Seminar in Art IV (6) Selected topics in art. Emphasis on the convergence of one’s studio practice and research, and the refinement necessary to the preparation for entrance into thesis. ART majors only. A-F only. Pre: 613 or consent. (Spring only)

ART 630 Graduate Studio Teaching Practicum (3) Observation, analysis and participation in teaching a lower division course under the direction of an instructor in the student’s area of concentration. Repeatable one time. A-F only. Pre: 690, admitted to candidacy for MFA in art, and consent.

ART 699 Directed Work (V) Advanced individual projects; advanced tutorial. Maximum: 3 credit hours per semester; total 6 for MA Plan A, 9 for MA Plan B, 9 for MFA. Pre: consent of instructor and department chair.

ART 700 Thesis Research (V)

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

Arts and Sciences (CAS)

Colleges of Arts and Sciences

CAS 099 International Exchange (V) Designed for students accepted for participation in an international exchange program while enrolled at UH Mānoa. CR/NC only. Pre: Admission to an international exchange program.

CAS 101 Using Information Critically (3) Concepts and practice for effective information seeking, evaluation, and use in context of information technology and libraries. Research framework structures activities involving fiction, film, scholarly studies, writing, oral presentation; original research is culminating project. A-F only. (Cross-listed as LIS 100)

CAS 102 RAP Foundation Course (3) Focus on communication and research skills. Multilevel work with technology, community service, linking with K–12 students, creation of museum exhibits. A-F only. Open only to RAP students.

CAS 110 Integrating Seminar I (1) An introduction to the university community; topics include
critical thinking, the value of higher education, cultural and transition issues. A-F only.

CAS 111 Integrating Seminar II (1) Through the use of a unifying theme, students explore linkages with academic disciplines represented in Freshman Learning Communities. Theme examples: diversity, epistemology. A-F only, (Spring only)

CAS 200 (Alpha) Scholar Seminars (1) Discussion-based seminar led by senior faculty/administrator. Students meet with instructor for 1 hour once a week. Freshmen may take up to three alphas.

CAS 301 ACE Mentoring: Facilitating Student Development (4) Theoretical foundations in student learning and holistic development. Practical leadership skills acquisition and application through the facilitation of a seminar for new freshmen. Repeatable one time. A-F only. Pre: consent. (Fall only)

Asian Studies (ASAN)

School of Pacific and Asian Studies

ASAN 101 Introduction to Asian Studies: East Asia (3) Understanding East Asia through multidisciplinary approaches. Examines the interrelationship of politics, economics, literature, religion, the arts, and history as the basis for such an understanding. DH

ASAN 202 Introduction to Asian Studies: South/ Southeast Asia (3) Understanding South and Southeast Asia through multidisciplinary approaches. Examines the interrelationship of politics, economy, literature, religion, the arts, and history as the basis for such an understanding. DH

ASAN 241 Civilizations of Asia (3) Historical survey of major civilizations of Asia from earliest times: East Asia, Southeast Asia, and South Asia. (Cross-listed as HIST 241) DH

ASAN 242 Civilizations of Asia (3) Continuation of 241. (Cross-listed as HIST 242) DH

ASAN 306 Chinese Political Economy (3) Interdisciplinary review and analysis of the social and political issues in contemporary China, the interface 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 POLS 306) DS

ASAN 310 Asian Humanities (3) Multidisciplinary. Classics of literature, philosophy, and religion shaping Asian beliefs and values. Pre: 201 and 202, or consent. DH

ASAN 312 Contemporary Asian Civilization (3) Understanding Asian societies. A-F only. Pre: 201 and 202, or consent. DS

ASAN 320 (Alpha) Alpha Nation Studies (3) Multidisciplinary examination of major Asian countries; cultural, social, economic and political lives of their peoples. (C) China; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia; (Z) Other. Repeatable three times in different alphas. DS

ASAN 323 The Way of Tea in Japanese History and Culture (3) History and culture of Japan as revealed in study and practice of tea ceremony: Zen, aesthetics, calligraphy, architecture, ceramics, garden practice. (Cross-listed as HIST 323) DH

ASAN 324 Chado-the Way of Tea Practicum (2) Actual practice of the tea ceremony as history and culture of Japan. Repeatable one time. Pre: 323, HIST 323 (or concurrent), or consent. DA

ASAN 325 (Alpha) Japanese Film: Art and History (3) Study and analysis of Japanese film; its history and relationship to cultural, social, philosophical, and aesthetic contexts. Pre: 201 and 202, or consent. (Cross-listed as EALL 325) DH

ASAN 361 Southeast Asian Literature in Translation (3) Survey in English traditional and modern literatures of Southeast Asia. A-F only. (Cross-listed as IP 361) DL

ASAN 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 EALL 364 and WS 346) DL

ASAN 391 (Alpha) Field Study in Asia (3) Students may submit proposals to have academic course work, field research, or work experience in Asia. See specific center for guidelines and procedures. (C) China; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia; (Z) Other. Repeatable one time.

ASAN 410 Gender and Politics in U.S.-Okinawa Relations (3) Examines gender in Okinawa in relation to historical dynamics in the Asia-Pacific region with attention to issues such as militarism and violence, colonialism and memory, and tourism and commodification of indigenous culture. A-F only. Pre: WS 151 or consent. (Cross-listed as WS 410)

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 theoretical, cultural, social and economic contexts. A-F only. Pre: 201, 202, 320J, ANTH 483, ANTH 484, ECON 317, POLS 307H, or SOC 357, upper level undergraduate standing or consent.

ASAN 463 Gender Issues in Asian Society (3) Construction of gender identities in contemporary Asia. How these interface with other aspects of social difference and inequality (e.g., with class, religion, ethnicity). Pre: 201 and 202, or any WS course, or consent. (Cross-listed as WS 463) DS

ASAN 469 Ethnic Diversity in China (3) Surveying Tibetans, Mongols, Manchus, Muslims, and other minorities, as well as examining the nature of minority/majority identity in China from an anthropological perspective. Pre: 201 and 202, or consent. DS

ASAN 470 Sustainable Development in East Asia (3) Interdisciplinary investigation of development in East Asia is an urgent issue. Status and role of Asian business; current technological, economic, and financial developments; impact on world economy. Pre: 201, 312 or BUS 314; or consent. (Cross-listed as FIN 470)

ASAN 473 Chinese Diaspora and Visual Culture (3) Examines films focusing on the social relationships and cultural lives of the Chinese diaspora, i.e. Chinese communities living outside China (e.g. Taiwan, Hong Kong, Southeast Asia, North America, and Europe). Weekly film discussions in class, readings on visual culture, media studies, and film criticism. Course material will also include theater productions, art exhibitions, and other visual material depending on availability. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EALL 473) DH

ASAN 474 Transnational Chinese Popular Culture (3) Survey Chinese popular entertainment forms that are 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 EALL 474) DH

ASAN 480 Culture and Economy of Southeast Asia (3) An exploration of 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 influences. Pre: 201 and 202, or consent. DH

ASAN 485 Contemporary Chinese Development (3) Development and planning in contemporary China: economic policy and institutional structure in the development and urbanization process; urban and rural transformation in a socialist economy. Pre: upper division standing or consent.

ASAN 491 (Alpha) Topics in Asian Studies (3) Selected topics in Asian studies. (B) Buddhist studies; (C) China; (G) Asia; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia; (Z) Other. Pre: 201 or 202, or consent. Repeatable two times.

ASAN 493 Globalization in Asia (3) Globalization among the economic, political and cultural lives of people in Asia. Transformations by capitalism in agricultural and industrial sectors of contemporary societies. Perspectives is historical and global; approach is interdisciplinary. Repeatable two times. Pre: 201 and 202, or consent. DS

ASAN 495 Encountering Tourism in Asian-Pacific Societies (3) A critical examination and 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). Pre: 201 or 202, or consent. (Cross-listed as PACS 495) DS

ASAN 496 Religions of Island Southeast Asia (3) A comparative, interdisciplinary examination of indigenous beliefs, Islam, Christianity, and Hinduism in island Southeast Asia, and how they have been adjusted because of economic and social change. Pre: 201 and 202, or consent. DH

ASAN 499 Directed Reading (V) Repeatable three times. Pre: consent.

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

ASAN 501 Practicum in Asian Studies (V) Repeatable three times.

ASAN 600 Asian Studies Seminar: Scope and Methods (3) A critical examination and 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). Pre: 201 or 202, or consent. (Cross-listed as PACS 495) DS

ASAN 608 Politics and Development: China (3) Consists of three parts: key theories for socialist transition as basis for seminar discussion, policy evolution to illustrate the radical changes, and emerging and prominent current development and practice. Pre: one of 600, 635, POLS 308, or POLS 341; or consent. (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 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 exam-
ines 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 theories and debates (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 post-war 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 perspectives of Southeast Asia. Issues of national-state, power hierarchies, modernity, and identity in contemporary societies. Pre: 310 (or concurrent) or 312 (or concurrent), 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. (Once a year)

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

ASAN 638 China's Economic and Regional Development (3) A review of contemporary China's economic and regional development, examining the changing plans, policies and performances in the socialist development and market transition era, and implications on the spatial patterns. A-F only. Pre: GEOG 353 or PLAN 630, or consent. (Cross-listed as GEOG 638 and PLAN 638)

ASAN 651 East Asia Now (3) Views East Asia as an interactive region. Examines common historical, 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 (3) Selected human and physical features that represent economic, social, and political life. Pre: consent. (Cross-listed as GEOG 652)

ASAN 671 The Splendor that was Southeast Asia (5) Interdisciplinary examination of the classical civilization 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 694 Topics in Buddhist Studies (3) Seminar on selected topics in Buddhist studies. Repeatable three times. Pre: PHIL 360, PHIL 406, REL 475, or REL 490; or consent.


ASAN 700 Thesis Research (V) Repeatable nine times.

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 705)

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 conducted 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 ART 792)

Astronomy (ASTR)

College of Natural Sciences

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. Credit not given for both 110 and 120. DP

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

ASTR 120 Astronomical Origins (3) Formation of the sun and stars; origin of our solar system; formation and evolution of galaxies, including the Milky Way Galaxy; origin of chemical elements, and the beginnings of the cosmos. Credit not given for both 110 and 120. 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 150 Voyage through the Solar System (3) An illustrated voyage through the solar system. The origin, evolution, and present state of the sun and each planet based on recent results. (Spring only) (Cross-listed as GG 105) DP

ASTR 240 Foundations of Astronomy (3) Introduction to the astronomical universe for science or engineering students. Satisfies requirements for non introductory level credit. Pre: PHYS 151 or PHYS 170, or consent. Credit not given for both 110 and 240. N/D/DP

ASTR 280 Evolution of the Universe (3) The Big Bang, origin of the elements, formation and evolution of galaxies and stars. Pre: any introductory astrophysics or physics course, or consent. N/D/DP

ASTR 281 Astrobiology (3) Are we alone in the universe? Modern astronomical, biological, and geological perspectives on this fundamental question. Searches for life on Mars, oceans on Europa, planets orbiting other stars. Space exploration and colonies, interstellar spaceflight and communication. Pre: 110 or 240, or consent. (Spring only) N/D/DP

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 cosmologies; emphasis on the interaction of astronomy with the history of ideas. Pre: 110 (or concurrent). (Spring only)

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

ASTR 427 Cosmology (3) Structure, history, and composition of the universe; the Big Bang; formation and evolution of galaxies, clusters, and large-scale structure; cosmological models. Given concurrently with 627. Pre: PHYS 274 or consent. (Alt. years: spring) DP

ASTR 430 The Solar System (3) Observations and physical nature of planets and moons, asteroids, comets, and other small bodies of the Solar System; discovery of other planetary systems; solar activity. Given concurrently with 630. Pre: PHYS 170 or consent. (Alt. years: spring) DP

ASTR 500 Master's Plan B/C Studies (1) Repeatable unlimited times. Pre: consent.

ASTR 622 The Interstellar Medium (3) Astrophysics of diffuse matter, HII regions, molecular clouds, etc. 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: spring)


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 Radiative Transfer Stellar Atmospheres (3) Excitation, ionization, and radiative transfer in stellar atmospheres; model 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 scalar and tensor field theories. Exact symmetric metric Einstein 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: 635 or consent. (Alt. years: spring)

ASTR 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 latest trends. Pre: consent. (Fall only) (Cross-listed as CHEM 657 and GG 657)

ASTR 699 Directed Research (V) Pre: consent.

ASTR 700 Thesis Research (V) Repeatable 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.
BIOC 515 (Alpha) Unit V Electives in Biochemistry (1) Concurrent electives in biochemistry. (B) carbohydrate biochemistry (review and clinical correlation of important aspects of biochemistry and carbohydrate chemistry); (D) introduction to magnetic resonance imaging (how the generation and processing of the magnetic signal produces strikingly clear anatomical images); (E) topics in carcinogenesis (review of current understanding of cancer cause and prevention). Repeatable one time. Pre: BIOM 551.

BIOC 525 Unit V Block Elective (V) Required elective for medical students. The objectives will be determined by contract; however, one option is a review for NBME Part I. CR/NC only. Pre: BIOM 551.

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

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

BIOC 601L Biochemistry-Biophysics Lab (2) Basic biochemical experimental techniques; enzyme kinetics; active-site identification; amino acid sequence determination; radioimmunoassay, in vivo studies of nucleic acids. Pre: 441 or consent.

BIOC 644 Metabolic Biochemistry (2) Biochemical and physiological bases of structure and function of human organ systems. Both normal and abnormal processes are discussed. Pre: 441 and PHYL 604, or consent.

BIOC 671 Seminar (1) Weekly discussions and reports on various subjects; current advances in biochemistry and biophysics.

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


Bioengineering (BE)

College of Tropical Agriculture and Human Resources

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, informatics, and emerging technologies for health, biotechnology, production, and discovery. Pre: BIOL 241 (or concurrent) and CHEM 162 (or concurrent), or consent. (Once a year) DB

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

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

BE 260 Mass and Energy Balances (3) Introduc- tion of the principles of mass and energy conserva- tion; development of systematic approaches to apply these principles in calculations for design and analysis of biochemical, chemical and physical processes. Pre: BIOL 171, CHEM 162 or 181A, PHYS 170, and MATH 242 or 252A; or consent. NF DP


BE 350L Dynamic Systems Modeling Laboratory (1) Introductory field trips and lab experiences to illu- minate behavior of representative dynamic systems in biological engineering. Data acquisition and model validation. A-F only. Pre: consent. Co-requisite: 350. DY

BE 373 Transport Phenomena (3) Fundamen- tal principles and applications relating to mass, momentum, and energy transfer in biotechnology systems and other systems for engineers. Pre: BE 260. CEE 270, MATH 243 or 252A, CEE 320 and ME 311. DP

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

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

BE 411 Food Engineering (3) Principles and applications of thermodynamics, electricity, fluid mechanics, heat transfer, psychrometry, and material and energy balances of food processing and preserva- tion. Pre: BIOL 171, CHEM 162 or CHEM 181A, MATH 243, PHYS 151 or Phy 170; or consent. (Once a year) (Cross-listed as FSHN 411) DP


BE 420L Sensors and Instrumentation for Biolog- ical Systems Lab (1) Practical accompaniment to topics in 420, including interfacing of appropriate physical and chemical sensors to data acquisition and control systems, simple wired and wireless data communica- tion, basic biosensors, and control of biological systems. Pre: consent. Co-requisite: 420. (Once a year) (Cross-listed as FSHN 420L) DP

BE 421 Bioprocess Control (3) Process control in both time and Laplace domains with an introduc- tion to the frequency domain; selection and design of appropriate control systems for bioprocesses with consideration of the 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) Envi- ronmental impact and control; the micro-organism 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 437 Biosystems Unit Operations (2) Pumps and fans; size reduction; cleaning and sorting; materials handling; processing of fruits, nuts, vegetables, animals, and other bioproducts. Pre: 373, 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; microbial ecology, metabolism, 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/energy balances and reaction kinetics for the design and analysis of bioreactors for microbial, plant, and animal cell cultures. Pre: 373, 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, including biological basis and engineering principles of bioprocessing, computer-aided unit operations, process integration, and economic evaluation. A-F only. Pre: 373, or 437 (or concurrent) or 460 (or concurrent); or consent. (Alt. years) DP
BE 481 Senior Engineering Design I (3) (1 1-hr Lec, 2 3-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 optimization; engineering economics; engineering statistics; initiation of an open-ended design project. Pre: 350/350L, 373, CEE 320 or ME 322, ME 311, EE 211; or consent.
BE 482 Senior Engineering Design II (3) (1 1-hr Lec, 2 3-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. 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 eight times.
BE 492 Internship (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Pre: consent.
BE 499 Directed Research (V) Research in the area of biosystems engineering. Pre: consent.
BE 509 Instrumentation and Measurement (3) Measurement concepts and operating principles applied to the selection and use of instruments important to scientists and engineers dealing with biological systems, including automatic data acquisition and processing, CHEM 151, MATH 241, and ME 311; or consent.
BE 610 Biofuel and Bioenergy (3) Overview of biofuel/bioenergy production, biorefinery concept; renewable feedstocks; thermochemical and biochemical conversions of biomass to biofuel; biodiesel production; algae-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 622 Experimental Methods in Cause-Effect Modeling (3) Factorial designs and fractional factorial designs for screening variable and response optimization. Review of surface methodology. Experimental designs appropriate to building and testing multi-variable behavior relationships. Sequential experimental designs.

BE 625 Biosensor Principles and Applications (3) Elaboration of common biochemical interactions used to quantify biological molecules, and the electrical technologies used to detect them. Discussion of the desirable properties of biosensors, miniaturization and applications related to medical diagnostics, agriculture, bioproduction and environment. Pre: consent. (Cross-listed as MBBE 625)
BE 634 Biological Treatment (3) Fundamentals of applied microbiology and biochemical reactor engineering, quantitative description of microbial growth, operations 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 CEE 634)
BE 638 Biosystems Modeling (3) Introduction to system thinking, procedures for developing system models, characteristics of important agricultural system models, computer approach to 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 Process 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: CEE 424 or consent. (Fall only) (Cross-listed as CEE 665 and NREM 660)
BE 699 Directed Research (V)
BE 700 Thesis Research (V)
BE 750 Seminar (1) Use of computer and video technology in technical presentation, review of current biosystems engineering research. Pre: consent.

**Biology (BIOL)**

**College of Natural Sciences**

**Courses for Non-Science Majors**

**BIOL 101 Biology and Society (3)** Characteristics of science, historical development of scientific concepts, and interaction of society with science illustrated by topics from biological science. DB

**BIOL 101L Biology and Society Laboratory (1)** (1 3-hr Lab) Lab experiments investigating topics and methods in the biological sciences. Pre: consent.

**BIOL 104 Marine Option Program Seminar (1)** Statewide overview of ocean issues and organizations involved with marine activities, management, education, research, and business. Exploration of opportunities for internships, research projects, study and career. Preparation with project implementation, and report preparation guidelines. Orientation to the Marine Option Program. (Cross-listed 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. DB

**BIOL 310 Environmental Issues (3)** Global environmental problems in context: historical perspective; physical, biological, sociocultural views. Pre: one of 101, 123, or GEOG 101; or consent. DB

**BIOL 320 The Atoll (3)** Atoll as ecosystem and as human environment. Formation, structure, distribution, biota. Pre: two semesters of introductory science and consent. DB

**BIOL 340 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. (Cross-listed as CMB 351) DB

**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 gender, sexuality, parenting, menopause, and aging. Pre: one semester of biological science. (Cross-listed as WS 350) DB

**BIOL 360 Island Ecosystems (3)** Characteristics of island biota; examples from Hawai‘i and the Pacific. Impact of island and continental cultures; policy and ecosystems and the environment; global change, policy, and management practices. Pre: one semester of biological science or consent. DB

**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 for human habitability. Pre: one of GEOG 101 or 123 and either 310 or GEOG 326; or consent. (Cross-listed as GEOG 410) DB

**BIOL 440 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 GEOG 151; or consent. DB

**Courses for Life Science Majors**

**BIOL 171 Introduction to Biology I (3)** Introduction to biology for all life science majors. Cell structure and chemistry; growth, reproduction, evolution, viruses, bacteria, and simple eukaryotes. Pre: CHEM 151 (or concurrent), 161 (or concurrent), CHEM 171 (or concurrent), CHEM 181A (or concurrent), or consent. Consent required for modeling. Pre: CHEM 151 (or concurrent), 161 (or concurrent), CHEM 171 (or concurrent), CHEM 181A (or concurrent), or consent. Co-requisite: 171. DY

**BIOL 172 Introduction to Biology II (3)** Continuation of 171. Anatomy, physiology, and systems of plants and animals; behavior; ecosystems, populations, and communities. Pre: C (not C-) or better in 171/171L. DB

**BIOL 272L Introduction to Biology II Lab (1)** (1 3-hr Lab) Laboratory to accompany 172. Pre: C (not C-) or better in 172/172L. NI DB

**BIOL 265 Ecology and Evolutionary Biology (3)** Principles of ecology and evolution for life science majors stressing integrated approach and recent advances. Pre: C (not C-) or better in 172/172L. NI DB

**BIOL 651 Ecology and Evolutionary Biology Lab (1)** (1 3-hr Lab) Laboratory to accompany 265. Pre: C (not C-) or better in 172/172L. NI DY

**BIOL 275 Cell and Molecular Biology (3)** Integrated cell and molecular biology for life science majors. Modern advances in recombinant DNA technology. A-F only. Pre: C (not C-) or better in 171/171L and CHEM 272/272L, or consent. NI DB

**BIOL 275L Cell and Molecular Biology Lab (1)** (1 4-hr Lab) Laboratory for Cell and Molecular Biology. A-F only. Pre: C (not C-) or better in 171/171L and CHEM 272/272L, or consent. NI DY

**BIOL 295 Service Learning for Biology Majors (V)** Directed participation on tutorials and related activities in public schools and approved community and UH Mānoa organizations. A-F only. Repeatable one time. Pre: 265/265L, 275/275L (or concurrent), and OCN 201; or consent. DB

**BIOL 301 Marine Ecology and Evolution (3)** Functional, ecological, and evolutionary problems faced by life in the sea. Draws from major marine habitats and associated communities, from the deep sea to the plankton. Impacts of overfishing, marine pollution, and land development on the ecology and evolution of marine organisms. Emphasis on developing problem solving and quantitative skills. A-F only. Pre: C (not C-) or better in 265/265L, 275/275L (or concurrent), and OCN 201; or consent. DB

Key to symbols & abbreviations: see the first page of this section.
BIOL 301. Marine Ecology and Evolution Lab (2) (1 3-hr Lab) Laboratory to accompany 301. A-F only. Pre: C (not C-) or better in 265/265L, 275/275L (or concurrent), and OCN 201; or consent. DY

BIOL 304 Biotechnology: Science and Ethical Issues (3) (B) healer’s art; (C) introduction to student research. CR/NC only. Pre: 551 and consent.

BIOL 331 Marine Mammal Biology (3) Overview of marine mammal science, significance and roles of marine mammals in their ecosystems, and marine conservation issues. Current research topics in marine mammal science will also be covered. Pre: C (not C-) or better in 171/171L, 172/172L, and 265, 265L; or consent. DB

BIOL 331L Marine Mammal Biology Lab (2) Laboratory to accompany 331. Activities will include taxonomy, anatomy, morphology, necropsy, hema-
tology, population estimating methods, tracking, field distribution surveys, strand response, and en-
ergetics, and/or similar depending on field access and available of species. A-F only. Pre: C (not C-) or better in 171/171L and 172/172L and 265/265L and 331 (or concurrent), or consent. DY

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. Pre: C (not C-) or better in 265/265L (or equivalent), or consent. DB

BIOL 375 Concepts of Genetics (3) Genetic concepts at advanced undergraduate level; genetic transmission, recombination, gene action, mutation, population and evolutionary genetics. Repeatable one time. Pre: C (not C-) or better in 171/171L and 275/275L, or consent. DB

BIOL 375L Concepts of Genetics Lab (1) (1 4-hr Lab) Experiments with a variety of organisms to illustrate principles discussed in BIOL 375. Pre: C (not C-) or better in 171/171L and 275/275L, or consent. DY

BIOL 390 Communicating in Biological Sciences (3) Combined lecture/lab impart essential knowledge and skills in technical writing, poster design, and oral presentation for effective communication for life science majors. Research papers, lab reports, project proposals, conference presentations are covered. Life sciences majors only. A-F only. Pre: C (not C-) or better in 171/171L, 172/172L, and ENG 100. 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 401 Molecular Biotechnology (3) General principles, applications, and recent advances of the rapidly growing science of biotechnology. 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 275 or consent. (Cross-listed as MBBE 401). DB

BIOL 402 Principles of Biochemistry (4) Mole-
cular 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; or consent. (Cross-listed as MBBE 402 and PEPS 402) DB

BIOL 403 Field Problems in Marine Biology (4) Integration of classroom 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 consent; GPA considered. Pre: C (not C-) or better in 301/301L and consent. DB

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

BIOL 406 Cellular Biology (3) Cell structure and function. Structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in 275/275L, and CHEM 273; or consent. (Cross-listed as MBBE 406) DB

BIOL 407 Molecular Biology (3) Relationship between structure and function at macromolecular level. Pre: C (not C-) or better in 275/275L and CHEM 273, or consent. 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 socio-economic issues impinging on conservation policy and practice. Group projects and field trips. Pre: C (not C-) or better in 265/265L, or consent. 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, RNA, protein) available today. A-F only. Pre: 171 (or equivalent), or consent. (Once a year) (Cross-listed as MBBE 483)

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 MATH 490)

BIOL 499 Biological Problems (V) Directed reading and research. For juniors and seniors majoring in life science 1-12 credits. Repeatable up to 12 credits. A-F only. Pre: 2.5 GPA minimum, written proposal and consent.

Professional Development Courses for Science Teachers

BIOL 501 (Alpha) Biology Workshop for Science Teachers (V) Principles taught in a conceptual 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) general biology. A-F only. Repeatable unlimited times. Pre: 171/171L, 172/172L, in-service teachers; or consent.

See other science professional development courses NSCI 501, 502, 503, 504, 505, and 619 under the Natural Sciences (NSCD) course listing in this section of the Catalog.

Biomedical Sciences (BIOM)

School of Medicine

BIOM 499 Directed Research and Reading (V) To provide elective courses for undergraduates in the biomedical sciences specialties. Repeatable unlimited times.

BIOM 500 Master’s Plan B/C Studies (1) Repeatable unlimited times.

BIOM 512 (Alpha) Unit II Concurrent Electives (1) Elective courses for first-year medical students. (B) histopathology; (C) medical ethics. CR/NC only. Pre: 551 and consent.

BIOM 513 (Alpha) Unit III Concurrent Electives (1) Elective courses for first-year medical students. (B) healer’s art; (C) introduction to student research. CR/NC only. Pre: 551 and consent.

BIOM 514 (Alpha) Unit IV Concurrent Electives (1) Elective courses for second-year medical students. (B) community health; (D) introduction to student research. CR/NC only. Pre: 551 and consent.

BIOM 515 (Alpha) Unit V Concurrent Electives (V) Elective courses for second-year medical students. (B) community health; (C) medical ethics. CR/NC only. Pre: 551 and consent.

BIOM 531 Clerkship Assessment (1) Required comprehensive interdepartment multidisciplinary assessment program for third-year medical students. Pre: 555.

BIOM 551 Unit I Health and Illness (13) Introductory series of problem-oriented small group tutorials for medical students stressing concepts of health and disease, supplemented by colloquia and resource sessions intended to broaden the perspectives of the Unit I health-care problems. Repeatable two times. CR/NC only.

BIOM 552 Unit II Cardiovascular, Respiratory, and Renal Problems (10) Advanced series of problem-oriented small group tutorials for medical students focusing on cardiovascular, respiratory, and renal topics, supplemented by conferences, colloquia, labs, and resource sessions intended to broaden the perspectives of the Unit II health-care problems. Repeatable two times. CR/NC only. Pre: 551 or consent.

BIOM 553 Unit III Gastroenterology, Endocrinology, and Hematology Problems (10) Advanced series of problem-oriented small group tutorials for medical students focusing on gastroenterology, endocrinology, and hematology topics, supplemented by conferences, colloquia, labs, and resource sessions intended to broaden the perspectives of the Unit III health-care problems. Repeatable two times. CR/NC only. Pre: 551, 552, 553, and 554.

BIOM 571 Introduction to Clinical Skills (2) Advanced series of problem-oriented small group tutorials for medical students focusing on hematological and clinical skills pertinent to the basic physical exam. CR/NC only.

BIOM 572 Unit II Clinical Skills (2) History taking and physical exam skills pertinent to the health-care problems in Unit II. CR/NC only. Pre: 571.

BIOM 573 Unit III Clinical Skills (2) History taking and physical exam skills pertinent to the health-care problems in Unit III. CR/NC only. Pre: 571.

BIOM 574 Unit IV Clinical Skills (3) History taking and physical exam skills pertinent to the health-care problems in Unit IV. CR/NC only. Pre: 551 and 571.

BIOM 575 Unit V Clinical Skills (3) History taking and physical exam skills pertinent to the health-care problems in Unit V. CR/NC only. Pre: 551 and 571.

BIOM 581 (Alpha) Unit I Community Health (2) Field experience placing student in community settings to work with health-care professionals as they provide services to patients. (B) community health and service; (A) AHEC; CR/NC only. Repeatable two times.

BIOM 582 (Alpha) Unit II Community Health (2) Field experience placing students in community...
settings to work with health-care professionals as they provide services to patients; (B) community health and service; (C) AHEC. CR/NC only. Pre: 551. Repeatable two times.

BIOM 583 (Alpha) Unit III Community Health (2) Field experience placing students in community settings to work with health-care professionals as they provide services to patients; (B) community health and service; (C) AHEC. CR/NC only. Repeatable three times. Pre: 551.

BIOM 593 Primary Care Preceptorship (3) Students will work with a primary care physician and develop an understanding of primary care practice as well as gain experience in clinical skills. Repeatable one time. CR/NC only. Pre: 551, 571, 572, and 573; or consent. (Fall only)

BIOM 594 Student Research Project (3) Students will identify a research project and conduct an in-depth study that will form the focus of a formal paper and a poster presentation. Course work will be integrated into Units 1 through 4. Repeatable one time. CR/NC only. Pre: 551, 552, and 553; or consent. (Fall only)

BIOM 595 Evidence-Based Medicine (2) The critical appraisal track is designed to improve the student’s ability to seek evidence and evaluate new medical knowledge. CR/NC only. Pre: 551.

BIOM 601 Global Health and Medicine: Emerging Problems and Impact (3) Analysis of emerging problems and impact in countries on a multidimensional perspective. Repeatable one time. BIOM, NURS, PH, SPA majors only. Pre: consent.

BIOM 640 Clinical Research Methods (2) Instruction in developing clinical research questions and conducting a concise protocol that includes a literature review, study design, subject recruitment and sampling, instruments, other measures and bioinformatics, sample size, consent form, budget and timetable. A-F only. Pre: consent.

BIOM 641 Legal and Regulatory Issues and Bioethics (2) Ethical dilemmas in clinical research are identified and resolved in cases, research on human subjects regulation are discussed. Research misconduct is defined. Ethical considerations in protocol developed in the Designing Clinical Research course are resolved. A-F only. (Cross-listed as CMB 626)

BIOM 642 Applied Clinical Epidemiology and Biostatistics (3) Introductory epidemiologic and intermediate biostatistical methods are applied to clinical research. Epidemiologic measures such as relative risks and odds ratios and how to interpret these measures in the context of clinical studies will be addressed. Interpretation of screening tests will be included. A-F only. Pre: 640 and consent.

BIOM 643 Applied Biostatistics (3) Combines a didactic approach to multivariable regression with hands-on analysis of a clinical dataset. Regression methods for normally distributed, binary and count data, time-to-event data, model building and model evaluation are included. A-F only. Pre: 640, 642, or consent.

BIOM 644 Biostatistical Methods (2) Introduction to design and develop genetic association studies: methods to identify and map candidate genes, analysis of mutations, use of markers, evaluation of gene and protein expression, collection methods, preparation of specimens, and extraction of DNA and proteins. A-F only. Pre: consent.

BIOM 645 Clinical Protocol Development (3) Provides training in proposal development. Governance structures of funding agencies; funding opportunities and decisions; review procedures; NIH application and processes; reading RAs; compliance issues; cultural sensitivity; and types of questions using database arcs. A-F only. Pre: consent.

BIOM 646 Clinical Research Seminar (1) Provides overview of research related to health and health disparities in Hawai‘i. Seminar topics include ethnic disparities in health research, Native Hawaiian health, childhood research initiatives, fitness and obesity, social and cultural factors, and ethics. Repeatable six times. A-F only. Pre: consent.

BIOM 647 Cultural Competence in Biomedical Research I (3) Introductory lecture-seminar on the conduct of multidisciplinary research from a culturally competent perspective. Enrolled in MS or PhD in Biomedical Sciences program only. A-F only. (Alt. years)

BIOM 648 Foundations of Biomedical Ethics (3) Explores the foundations of biomedical ethics via small group seminars and discussion, presentations. Enrolled in MS in Biomedical Sciences program only. A-F only. (Alt. years)

BIOM 649 Advanced Ethics in Biomedical Research II (3) Develop biomed ethical issues through case studies to facilitate discussions on topics such as gene therapy, gene enhancement, genetic counseling, informed consent, health care professional/student and investigator/student participant communication, advanced directives and living wills, clinical research in developing countries, clinical research in ethnic minority and socio-economically disadvantaged populations, and non-discrimination in health care and research settings. A-F only.

BIOM 650 Cultural Competence in Biomedical Research II (3) Explore topics in cultural competence in greater depth, encouraging trainees to address issues from a unified yet flexible conceptual framework. Includes building knowledge, skills and action plans to address a range of learning styles and to appreciate and benefit from diversity. A-F only.

BIOM 651 PhD Team Building Seminar (V) Seminar focuses on teaching participants to work independently and collaborate in order to accomplish specific results. Students will be exposed to group dynamics, communication, healthy competition, conflict resolution, and innovative means of crossing boundaries between departments, organizations, industries and disciplines. Repeatable two times. A-F only.

BIOM 654 Molecular Genetics of Human Diseases (3) Present discoveries in the area of molecular genetics for human diseases, explore molecular mechanisms of pathology and discuss current concepts and innovative approaches in cardiovascular, neurodegenerative and skin disorders research. Pre: consent.

BIOM 660 Mentored Research Practicum (V) Conduct research under the guidance of a mentor. Participants will be responsible for submission of a proposal, acquisition of IRB approval, and conduct of the project. Repeatable five times up to 12 credits. BIOM students only. A-F only.

BIOM 667 Advanced Biostatistics for Clinical Research (3) Current methods for analyzing longitudinal and clustered, clinical data through lectures, discussions, and a group analysis. Topic areas include multi-level, multi-state, multi-process, and structural equation models. A-F only. Pre: 642 and 643, or consent.

BIOM 699 Directed Reading (V) Students may register on approval of department. CR/NC only. Repeatable unlimited times.


BIOM 701 Dissasters and Pandemics: Medical and PH Management and Risk Communication (3) Assess impact on health in disasters and diseases. Enhances research skills related to management and communication. Repeatable one time. BIOM, PH, NURS, and SPA majors only. Pre: consent.


Key to symbols & abbreviations: see the first page of this section.
of morphology, growth, ecological functions and na- tive/alien status. Field trips to observe plants in local habitats. DB, DY

BOT 201 Plant Evolutionary Diversity (3) Sig- nificance of evolutionary trends in the plant world, including reproductive, morphological, and life his- tory adaptations by algae, fungi, and vascular plants. Pre: 101 or college general biology. Co-requisite: 201L. NI DB

BOT 201L Plant Evolutionary Diversity Lab (1) (1 3-hr Lab) Lab exercises in the morphology and systematics of land plants, fungi, and algae. Co- requisite: 201. NI DB

BOT 202 Plant Ecology (3) Lecture with complimentary field-based laboratory experience to introduce students to observational and experimental techniques to study plant ecology and diversity in terrestrial, freshwater, and marine ecosystems. A-F only. Pre: 201/201L, or consent. (Once a year) NI DB

BOT 202L Plant Ecology Lab (1) Laboratory to introduce students to observational and experimental techniques to study plant ecology and diversity in terrestrial, freshwater, and marine ecosystems. A-F only. Pre: 201/201L, or consent. Co-requisite: 202. (Once a year) NI DB, DY

BOT 203 Field Botany (5) Combined lecture-labo- ratory with intensive field experience for observa- tional and experimental field work in native/impacted Hawaiian ecosystems. Field experience typically held during spring break. Terrestrial, freshwater, and marine habitats considered. A-F only. Pre: 202/202L, and consent. (Once a year) NI DB, DY


BOT 301L Plant Conservation Biology Lab (1) Introduction to approaches, methods, and analyses used in the study and practice of plant conserva- tion, with an emphasis on experimental design and problem-solving. Includes both laboratory and field components. A-F only. Pre: 202/202L, or consent. Co-requisite: 301. (Once a year) DY

BOT 302 Grant Writing Seminar (2) Provides three rounds of opportunities for grant writing as- sociated with research in biodiversity, conservation biology, ecology, and plant systematics. Students will gain experience in peer review, grant cycles, and budget preparation. A-F only. Pre: 203 and 301/301L (or concurrent), or consent. (Once a year) DY

BOT 350 Resource Management and Conserva- tion in Hawai‘i (3) Management of native Hawaiian organisms and terrestrial ecosystems with particular attention to strategies, planning, research, and management actions necessary to control alien influ- ences and promote native species. Pre: college general biology. DB

BOT 399 Botanical Problems (V) Individualized directed research. Intended for upper division botany majors. Repeatable six times. Pre: 101, BIOL 172; or consent.

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. A-F only. Pre: 203 and 301/301L, or consent. (Once a year) NI DB

BOT 401 Teaching Internship (1) Teaching Internship (TI) allows upper division undergraduates 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, as available. Repeatable one time. BOT majors only. CR/NC only. Pre: 203, 301/301L; or consent.

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

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

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

BOT 430L Mycology Lab (2) (2 3-hr Lab) Labora- tory to accompany 430. Pre: 430 (or concurrent) or consent. DY

BOT 440 Advanced Ethnobotany (3) Advanced studies of plant uses in cultural contexts, focusing upon impacts of plant-plant interactions in develop- ment of cultures, cultivars, medicinal, ethnobot- anical, ethnopharmacological, and ecosystemic implications. Pre: 440 and ANTH 151 or ANTH 200; or consent. DB

BOT 442 Medical Ethnobotany (3) Survey and theory of plants used as medicines, cultural perspec- tives of herbal medicine, and the botanical/chemical basis of allopathic and naturopathic medicine. Lec- ture/discussion, term paper or project. Pre: 440 and 470 or CHEM 272 or BIOE 341; or consent. DS

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: 440 and 350 or 453 or GEOG 328; or consent. DB

BOT 446 Hawaiian Ethnobotany (3) (2 Lec, 1 3-hr Lab) Methods and techniques of handling and identifying plant materials used by early Hawai- ians and modern Hawaiians for house and canoe construction, clothing, household and fishing items, medicine, and food preparation. Reading, labora- tory, and fieldwork. Pre: 440 or consent. DS

BOT 448 Cognitive Ethnobotany (3) Survey, methods and theory of the cognitive aspects of human interactions with plants and plant environ- ments. Lecture/discussion and term paper. Pre: 440 and ANTH 414 or LNG 414; or consent.

BOT 449 Ethnobotany Practicum (V) Practical laboratory and/or field training experiences for a botanical career conducting ethnobotany research. Repeatable up to 25 credits. Pre: 440 or consent.

BOT 450 Natural History of Hawaiian Islands (3) (2 Lec, 1 3-hr Lab) History, geography, geology, climatol- ogy, biotic environment of Pacific Basin and Hawai- ian Islands; endemism and evolution in terrestri- al and marine biota of islands. Pre: one semester of biological sciences at college level. (Cross-listed as ZOOL 450) DB


BOT 454 Vegetation Ecology (4) (2 Lec, 2 3-hr Lab) Analysis and synthesis of plant communities and ecosystems; field trips to develop local examples. Integrated with 453. Pre: one of 101, BIOL 172, or ZOOL 101. Recommended: 453. DB, DY

BOT 455 Analysis of Biological Data (3) Application of computers to analysis of biological data; preparation and storage, report reduction, database analysis procedures, univariate and bivariate statisti- cal analyses. Pre: BIOL 172 or consent.

BOT 456 Plant-Animal Interactions (3) Interde- pendence 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 Mauliola: Hawaiian Ecosystems (3) Comprehensive analysis of traditional Hawaiian and modern resource management practices. Rigorous overview of the dominant physical and biological processes from the uplands to the oceans in Hawai‘i. Pre: 105, HWST 107, and junior standing; or con- sent. (Cross-listed as HWST 457)

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 resources policies today explored from Native Hawaiian and other viewpoints. Extensive use of case studies. Pre: 457 or HWST 457. (Cross-listed as HWST 458)

BOT 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 methods, modern development, threatened ecosys- tems, ecosystemization and sustainable development. A-F only. Pre: BOT/HWST 457 (or concurrent) or consent. (Cross-listed as HWST 459)

BOT 460 Hui Konohiki Internship: Applied Resource Management (3) A ‘hands-on’ internship in an environmental or resource-management organi- zation 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: BOT/HWST 457, BOT/HWST 458 (or co-requisite), BOT? HWST 459; 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 Hawai‘i’s unique tropical flora; emphasis on recogni- tion and identification of vascular plant families and the principles and methodologies that define them; evolution of biodiversity. Pre: 101 or college general biology. DB DY

BOT 462 Plant Evolution (3) Major events and principles: includes the blue-green algae and fungi. Pre: 201 or BIOL 172. DB (Alt. years)

BOT 470 Plant Physiology (3) Integration of form and function from cellular to whole plant levels in processes from seed germination, through photosyn- thesis, growth, and morphogenesis, to flowering and senescence. A-F only. Pre: CHEM 152 and BIOL 171, or consent. Co-requisite: 470L. (Cross-listed as TPSS 470) DB

BOT 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. Co-requisite: 470. (Cross-listed as TPSS 470L) DY

BOT 480 Algal Diversity and Evolution (4) (3 Lec, 1 3-hr Lab) Principles of algal diversity, structure, and evolution. Specialization of common Hawaiian algae. Pre: one of 101, BIOL 172, MICR 351, ZOOL 101; or consent. DB, DY

BOT 492 Wildlife 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 499 Advanced Directed Research (V) Performance of research project under the direction of a faculty advisor. Preparation of written proposal, final oral presentation to be given to the Botany Department audience and written report required. Preference given to BOT majors. Repeatable up to

Key to symbols & abbreviations: see the first page of this section.
eight credits. CR/NC only. Pre: 203, 301/301L, 302, and consent.

BOT 500 Master’s Plan B/C Studies (1)

BOT 600 Grant Writing and Your Career in Science (2) Scientific grant writing from inception 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 modern concepts 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 ecosystems functioning. BOT majors only. Pre: graduate standing in BOT 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 upon research opportunities in current research. Emphasis on overview of (1) skills needed by botanical researchers including writing scientific papers and proposals, practicing ethical research procedures, and collection of specimens; and (2) equipment used by botanical researchers including computers, camera 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 Ecophysiology: Theory and Modeling (3) Vegetative response to hydrologic controls and nutrient cycles; quantitative linkages between hydrological dynamics and ecological patterns/processes. MatLab is used to develop and simulate ecophysiological models. Pre: college level calculus or consent. (Once a year)

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

BOT 646 Ecocological Methods (3) Field techniques for assessing the ecological effects of cultural uses of plants. Emphasis on documenting 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 conducting ethnobiological research. Repeatable one time. Pre: 640 or permission.

BOT 651 Invasions 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, 482, MCR 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 population biology. Pre: one of 453, 454, 456, NREM 680, PEP 671, ZOOL 439, ZOOL 467, ZOOL 620, ZOOL 621, or ZOOL 623; or consent. (Cross-listed as ZOOL 652)

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

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

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


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 and interdisciplinary levels. Pre: graduate status in a biological science, geosciences, etc.; consent for well-prepared undergraduates.

BOT 680 Marine Macrophytes Seminar (2) Discussion of current literature in physiological ecology, cellular and molecular adaptations to environmental factors by marine plants. Repeatable four times. Pre: 480.

BOT 682 Physiological Ecology of Marine Plants (3) 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.

BOT 682L Physiological Ecology of Marine Plants Lab (1) Field and laboratory research techniques and projects in the physiological ecology of algae and seagrasses. A-F only. Pre: upper division ecology class recommended, 470L (or equivalent), 480 (or equivalent), or consent. Co-requisite: 682.

BOT 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 conservation, and either 462 or ZOOL 480; and either 453, 454, 456, or 492; or ZOOL 410, ZOOL 439, ZOOL 620, ZOOL 623. (Cross-listed as ZOOL 690)

BOT 699 Directed Research (V) Research preliminary to thesis or dissertation research. CR/NC only. Pre: consent of faculty and department. Pre: candidacy for MS degree and approval of thesis proposal.

BOT 700 Thesis Research (V) Pre: candidacy for MS degree and approval of thesis proposal.

BOT 750 Topics in Conservation Biology (V) Advanced topics in conservation and environmental biology. Repeatable three times. A-F only. Pre: consent. (Cross-listed as ZOOL 750)

BOT 800 Dissertation Research (V) Pre: candidacy for PhD and approval of dissertation proposal.

BUS 367 Business Study Abroad (V) Study abroad experience emphasizing international business issues. Content varies depending on where the course is taught and by which professor. Course qualifies as an international business elective. Repeatable four times.

BUS 395 (Alpha) Internship (V) On-the-job experience in the business community. Term paper and meetings with faculty advisor required. (D) MIS; (F) finance; (G) management; (I) international business; (K) marketing; (M) human resource management; (R) real estate. CR/NC only. Repeatable one time. Pre: consent and RE 300 for (R) only.

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: instructor 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. Includes group travel to selected overseas business cities. Travel sites will vary. Repeatable one time. A-F only. Pre: 475 and 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 styles, worker/manpower relationships, and decision-making processes under different cultural settings. Industry observations conducted in Asian countries for three weeks during the summer. Pre: 6 credit hours of economics or business, PAMI participant; 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 621 Business Statistics (1.5) Statistical tools for the MBA. A-F only. Pre: 622. CR/NC only.

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 in which organizations operate. A-F only. Pre: 621.

BUS 623 Marketing Management (3) Concepts and issues in marketing within the global environment of business. Ethical dimensions and social responsibilities; market research; consumer 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 completion of B.U. MBA Primer Financial Accounting: Thomson South-Western, available online at www.mbpaprimer.com, or completing a 12 contact-hour tutorial.

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. Assessment of capital structure and dividend policies. A-F only. Pre: 621, 622, and 624; or consent.

BUS 630 Managing Information Technology for Strategic Advantage (1.5) Theory, practices, techniques for managing information technology resources for innovation and for strategic advantage in global business environment. Emphasis on Asia/Pacific. A-F only. Pre: 621 and 622. Co-requisite: Must be taken same semester as 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. Emphasis on Asia/Pacific. 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, solution of policy issues, and the study of competitive strategies in the international setting. Pre: all required MBA core courses (or concurrent for full-time MBA program), or consent.

BUS 667 Business Study Abroad (V) Study abroad experience emphasizing international business issues. Content varies depending on course of study and educational institution selected. Course 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 and direct observation of businesses, governmental entities, and/or non-governmental organizations in specific geographic areas, in non-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. Includes 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. 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. Pre: 632.

BUS 696C Entrepreneurship (3) Comprehensive study of entrepreneurship.

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.

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 705 Seminar in International Management (V) Introducts students to research and teaching and the university. Covers topics of research including research projects currently underway by Shidler College faculty, advanced PhD students, distinguished visiting faculty, and research contemplated by new PhD students. Repeatable unlimited times. CR/NC only. Pre: PhD student status in international management or consent.

BUS 800 Dissertation Research (V) Repeatable unlimited times. Pre: PhD student status in international management 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 and to principles of law relating to 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. Pre: 200.

BLAW 604 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.

Cambodian (CAM)

College of Languages, Linguistics and Literature

CAM 101 Introduction to Modern Khmer (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets five hours weekly. HSL

CAM 102 Introduction to Modern Khmer (4) Continuation of 101. Pre: 101 or exam or consent. HSL

CAM 103 Converging in Khmer I (2) Online course aims to develop students’ proficiency skills in speaking and listening at the first year level for the purpose of communication, travel, and for enjoyment.

CAM 104 Converging in Khmer II (2) Online course aims to develop students’ proficiency skills in speaking and listening at the first year level for the purpose of communication, travel, and for enjoyment. Pre: 103 or consent.

CAM 105 Reading/Writing Khmer (2) Online course aims to develop the student’s proficiency skills in reading and writing Khmer at the First Year level.

CAM 107 First Year Khmer (2) Continuation of 105. This online course aims to develop proficiency skills in listening, reading, and writing Khmer at the first year level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. Pre: 105 (or equivalent) or consent. (Spring only) HSL

CAM 112 Intensive Elementary Khmer (10) HSL

CAM 201 Intermediate Modern Khmer (4) Continuation of 102. Conversation, reading, writing. Structural points introduced inductively. Meets five hours weekly. Pre: 102 or exam or consent. /HSL

CAM 202 Intermediate Modern Khmer (4) Continuation of 201. Pre: 201 or exam or consent. /HSL

Key to symbols & abbreviations: see the first page of this section.
CAM 205 Second Year Khmer I (2) Online course aims to develop student’s proficiency-based units exploring Cambodian language and culture and focusing on reading and writing at the intermediate level. Pre: 102 or 105, or consent. (Fall only) HSL
CAM 207 Second Year Khmer II (2) Continuation of 205. Online course provides opportunities for learners to enhance their linguistic, discourse and sociolinguistic competencies in Khmer at the intermediate level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. Pre: 201 or 205, or consent. (Spring only) HSL
CAM 212 Intermediate Intensive Khmer (10) HSL
CAM 301 Third-Level Khmer (3) Continuation of 202. Advanced reading, writing, conversation and comprehension. Emphasis on modern contemporary texts. Computer assisted learning. Lab work. Pre: 202 or 212 (or equivalent), or consent.
CAM 302 Third-Level Khmer (3) Continuation of 301. Computer assisted learning. Lab work. Pre: 301 (or equivalent), or consent.
CAM 303 Accelerated Third-Level Cambodian (6) Continuation of 212. Practice in idiomatic conversation and extensive reading. Integrated development of listening, speaking, reading, and writing skills. Meets 10 hours weekly. Pre: 212. CAM 305 Third Year Khmer I (2) Online course provides opportunities for learners to enhance their linguistic, discourse and sociolinguistic competencies in Khmer at the advanced level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. (Fall only) Pre: 307 or consent.
CAM 306 Third Year Khmer II (2) Continuation of 305. Online course provides opportunities for learners to enhance their linguistic, discourse and sociolinguistic competencies in Khmer at the advanced 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; discussion 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, audio/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. (Cross-listed as BIOL 340) 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. DB
CMB 499 Genetic 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. Repeatable 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 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 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) (Cross-listed as PH 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 REPR 611)
CMB 621 Cell Molecular Biology I (4) Molecular approaches to cell structure and function emphasizing cells in multi-cellular plants and animals. Pre: graduate standing, BIOG 441 or BIOL 402, MBBE 402, or PEPS 402, and BIOL 406; or consent. Recommended: CHEM 351.
CMB 622 Cell Molecular Biology II (4) Molecular approaches to cell structure and function emphasizing cells in multi-cellular plants and animals. Pre: one of BIOG 441 or BIOL 402, MBBE 402, or PEPS 402, and BIOL 406; 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 data management, recording, 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 patenting. (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 by consultation with student’s graduate committee and individual faculty. Pre: 621 (or concurrent), 622 (or concurrent); or consent.
CMB 640 Neuropharmacology (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 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. Pre: graduate standing in genetics or consent.
CMB 671 (Alpha) 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.

Chemistry (CHEM)

College of Natural Sciences

CHEM 151L Elementary Survey of Chemistry (1) Basic introduction to chemistry for non-science majors. Discussion of basic chemical concepts and their application to everyday life. No credit for science and engineering majors. A-F only. (Once a year) 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). DP
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). DP
CHEM 161 General Chemistry I (3) Basic principles of chemistry, including stoichiometry. Introduction to solution phase chemistry. Gas phase chemistry. Thermodynamics, including enthalpies of formation and reaction. Atomic structure, periodic trends, chemical bonding, molecular structure. Pre: 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 introducing 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 phase equilibria, including acid-base chemistry (titrations, buffers). Kinetics. Redox reactions and electrochemistry. Pre: C (not C-) or better in 161. DP

CHEM 162L General Chemistry Lab II (1) (3-hr Lab) Laboratory experiments introducing techniques and fundamental principles of chemistry. Pre: 161L and 161 or concurrent. DP

CHEM 171 Principles of Chemistry (4) Principles, theories, elementary analytical methods of chemistry. Intended for physical science majors and engineers. Pre: high school chemistry and MATH 215 or MATH 241 or MATH 251A. DP

CHEM 171L Principles of Chemistry Lab (1) (3-hr Lab) Laboratory experiments illustrating fundamental principles of chemistry. Pre: 171 (or concurrent). DY

CHEM 181A Honors General Chemistry (4) Rigorous, in-depth introduction to chemical principles with emphasis on experimental and applied aspects of modern chemistry. Pre: high school chemistry and MATH 215 or MATH 241 or MATH 251A. (Fall only) DP

CHEM 181L Honors General Chemistry Laboratory (1) (3-hr Lab) Laboratory experiments illustrating chemical principles involving advanced techniques and modern instrumentation. 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. N/D

CHEM 272L Organic Chemistry I Lab (2) (1-5 hr Lab) Techniques, synthesis and qualitative analysis, applications of spectroscopy. Pre: 162L or 171L and 272 (or concurrent). N/D

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

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

CHEM 274 Principles of Analytical Chemistry (3) Selected methods and principles, e.g., phase equilibria, ionic equilibria, electrode equilibria, separations, spectroscopy, automation, and process control. Pre: 162 or 171 or 181A, MATH 215 or MATH 241 or MATH 251A. N/D DP

CHEM 274L Principles of Analytical Chemistry Lab (2) (3-3-hr Lab) Phase separations, chromatography, titrmetry, spectrophotometry, etc. Pre: 274 (or concurrent). N/D

CHEM 351 Physical Chemistry I (3) Principles and theories; physico-chemical procedures. Pre: 274, 274L, MATH 243 or MATH 253A, and PHYS 272 and PHYS 272L. DP

CHEM 351L Physical Chemistry I Lab (1) Continuation of 351. Pre: 351L. DP

CHEM 352L Physico-Chemical Measurements (2) (2-3-hr Lab) Modern laboratory techniques. Includes emphasis on instruction in scientific report writing. Pre: 274L, 352 (or concurrent). DY

CHEM 372 Bioorganic Chemistry (3) Mechanism of biochemical reactions, biophysical structure, techniques of studying biochemical reactions. Pre: 273 (with a grade of C or better) or graduate standing with consent, or departmental approval. (Fall only)

CHEM 380 Professional Ethics for Chemists (1) Discussion of contemporary ethical issues in chemistry using case studies and additional examples from the media. CR/NC only. Pre: 552L (or concurrent) or consent. (Spring only)

CHEM 399 Directed Reading or Research (V) Pre: chemistry majors. Continuous cumulative GPA of 2.7 or minimum cumulative GPA of 3.0 in chemistry. Repeatable unlimited times.

CHEM 422 Intermediate Inorganic Chemistry (3) Classification, description, fundamental theory. Pre: 351 (or concurrent). DP

CHEM 425L Preparation and Analysis of Inorganic Compounds Laboratory (2) Laboratory on preparatory methods and analytical techniques and instruments in inorganic chemistry. CHEM majors only. A-F only. Pre: 422 or departmental approval. Co-requisite: 425L. (Fall 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: 445L. (Spring 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 major, and minor organic chemistry. Three topics each semester—1 credit hour per topic. Repeatable unlimited times in different topics. Pre: graduate standing in CHEM.

CHEM 603 Organic Metallolc and Main Group Chemistry (3) Types and reactions of metal carbon bonds, catalysis, compounds and reactions of main group elements. Pre: 352 and 422.

CHEM 623 Coordination Chemistry (3) Survey of Lewis acids and bases, coordination numbers, geometries, stereochemistry, ligand field theory, formation constants, and bioinorganic chemistry. Pre: 601 and 602 (or concurrent).

CHEM 641 Organic Structure Determination (3) Interpretation of chemical and physical (primarily spectral) data in the identification of organic compounds. Pre: graduate standing or consent.

CHEM 642 Organic Synthesis I (3) Modern synthetic methods with emphasis on the design and execution of multi-step sequences. Pre: graduate standing or consent.

CHEM 643 Physical Organic Chemistry (3) Theory of molecular structure, stereochemistry, and reaction mechanisms. Pre: 601 or consent.

CHEM 651 Chemical Thermodynamics and Statistical Mechanics (3) Includes statistical thermodynamics, with application to chemical systems. Pre: graduate standing in CHEM.

CHEM 652 Chemical Kinetics and Reaction Dynamics (3) Kinetics and chemical reaction dynamics of elementary reactions relevant to combustion processes, astrochemistry, chemical vapor deposition and planetary sciences. Pre: graduate standing in CHEM. (Spring only)

CHEM 653 Quantum Chemistry (3) Rigorous introduction to quantum mechanics, including operator formalism, matrix formation, group theory, and perturbation theory; introduction to the electronic structure of atoms and molecules. Pre: graduate standing in CHEM.

CHEM 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 latest trends. Pre: consent. (Fall only) (Cross-listed as ASTR 657 and GG 657)

CHEM 658 Crystallography (3) Crystal symmetry. Elementary x-ray physics. Diffraction theory and its application to crystal and molecular structure determination. Pre: 352 and MATH 244 or MATH 253A.

CHEM 661 Enzyme Reaction Mechanisms (3) The chemical mechanisms of reactions catalyzed by enzymes in biochemical pathways, with an emphasis on the major types of cofactor and metal catalyzed reactions. Pre: graduate standing or consent.

CHEM 691 (Alpha) Inorganic Chemistry Seminar (I) Current topics in (D) analytic-inorganic; (E) organic; (Z) inorganic chemistry. Repeatable eight times for (Z). Pre: graduate standing.

CHEM 692 (Alpha) Inorganic Chemistry Seminar (I) Continuation of 691. Current topics in: (D) analytic-physical; (E) organic; (Z) inorganic chemistry. Repeatable nine times for (Z). Pre: graduate standing.

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

CHEM 700 Thesis Research (V) Pre: candidacy for MS degree and consent of thesis chair.

CHEM 721 Special Topics: Inorganic Chemistry (V) Theory and applications. Repeatable unlimited times in different topics. Pre: consent.

CHEM 741 Special Topics: Organic Chemistry (V) Theory and applications. Repeatable unlimited times in different topics. Pre: consent.

CHEM 751 Special Topics: Physical Chemistry (V) Theory and applications. Repeatable unlimited times in different topics. Pre: consent.

CHEM 800 Dissertation Research (V) Pre: candidacy for PhD degree and consent of dissertation chair.

Chinese (CHN)

Courses 389

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 no background 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.

CHN 101 Elementary Mandarin (4) Listening, speaking, reading, writing. Grammar. Meets one hour, four times a week. Pre: placement test. HSL

CHN 102 Elementary Mandarin (4) Continuation of 101. Pre: 101 or consent. HSL

CHN 103 Accelerated Elementary Mandarin (8) Content of 101 and 102 covered in one semester. Meets two hours, four times a week. Pre: placement test. HSL

CHN 105 Elementary Chinese for Business Professionals (8) Accelerated, intensive elementary course focusing on everyday listening, speaking, reading, and writing, communicative needs of business professionals in the Chinese business context. Pre: consent. (Fall only) HSL

Key to symbols & abbreviations: see the first page of this section.
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: 101 or 111 or consent. HSL
CHN 131 Beginning Cantonese (4) Introduction to standard dialect of Canton, emphasis on conversational skills. Meets one hour daily, Monday--Friday, plus daily lab work. Pre: consent. HSL
CHN 132 Beginning Cantonese (4) Continuation of 131. Pre: 131 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 103 or 105; or consent. N/H.
CHN 202 Intermediate Mandarin (4) Continuation of 201. Pre: 201 or consent. N/H.
CHN 204 Accelerated 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 103 or 105; or consent. N/H.
CHN 205 Intermediate 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) and consent. N/H.
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 103 or 112, or consent. N/H.
CHN 212 Intermediate Conversational Mandarin II (3) Continuation of 211. Pre: 201 or 211, or consent. N/H.
CHN 231 Intermediate Cantonese (3) Continuation of 131 and 132; meets three hours a week, plus lab work. Pre: 132 or consent. N/H.
CHN 232 Intermediate Cantonese (3) Continuation of 231. Pre: 231 or consent. N/H.
CHN 251 Reading and Writing Chinese I (3) For students who have completed the conversational Mandarin course 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. N.
CHN 252 Reading and Writing Chinese II (3) Continuation of 251. Pre: 251 or consent. N.
CHN 301 Third-Level Mandarin (4) Vocabulary building and extensive 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 225; 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 252; 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 313 Mandarin for Cantonese Speakers (3) For Cantonese speakers only. Competence in spoken Mandarin through comparison of Cantonese and Mandarin (pronunciation, romanization, vocabulary, idioms, and syntax). Translation from Cantonese to Mandarin. CR/NC only. Pre: placement test.
CHN 314 Mandarin for Cantonese Speakers (3) Continuation of 313. Pre: 313 or placement test.
CHN 331 Advanced Chinese Listening and Writing (3) Web-based training in Chinese listening, reading, and writing to develop 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, four times a week. Pre: 302 or 303 or 305; 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 305, 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: 402 or 404, or consent.
CHN 441 Fourth Year Reading and Writing: Advanced Topics I (3) Asynchronous 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’ eventual 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 syntax and semantics 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, 204; or consent. DH
CHN 456 Chinese Semantics and Communication (3) Study of the meaning of Chinese sentences in isolation, in discourse contexts, and in written texts. Pays equal attention to theoretical issues and practical problems in Chinese semantics and communication. Pre: 202 or 204, or consent. (Once a year)
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 Selected Readings in Chinese I (3) Readings in modern Chinese in various disciplines. Pre: 402 or consent.
CHN 486 Selected Readings in Chinese II (3) (Continuation of 485). Pre: 485 or consent.
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: 402 or consent. DH
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 610 (Alpha) Chinese Poetry (3) Critical study of major traditional Chinese poetic forms. (B) ancient (to 5th century); (C) modern (5th–10th century). Pre: 462 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 (B) (8) 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, resumptive and directional compounds, coverbial constructions. Interaction between syntax and semantics. Pre: 452 or consent.
CHN 642 Contrastive Analysis of Mandarin and English (3) Pre: 452.
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 (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 texts. Repeatable two times. 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) CR/NC only. Pre: consent.

CHN 750 (Alpha) Research Seminar in Chinese Language 
(3) Formal (B) teaching methods; (C) structure; (D) classical grammar; (E) sociolinguistics. Pre: 663 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. (M) modern; (T) traditional. Repeatable one time for (M). A-F only for (M). Pre: LALL 611, WS 613, WS 615, or WS 650; or consent for (M); 612, or consent for (T). (Cross-listed as WS 753)

Civil and Environmental Engineering (CEE)

Preferably in registration or given to declared engineering majors. Minimum grade for prerequisite courses is D- except PHYS 170 and CEE 270, which require a C or better grade. Please consult the current Registration Guide (formerly Schedule of Classes) for confirmed offerings each semester.

CEE 270 Applied Mechanics I (3) Forces, resultants, and equilibrium; analysis of trusses, frames, and machines; work, power, and energy; friction; A-F only. Pre: grade of C or better in PHYS 170, and grade of D- or better in either MATH 243 (or concurrent) or MATH 252A (or concurrent); or consent. NI/DP

CEE 271 Applied Mechanics II (3) Dynamics of particles and rigid bodies; force, acceleration, impulse-momentum, work-energy. A-F only. Pre: C or better in 270; D- or better in either MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent. (Cross-listed as ME 271) NI/DP

CEE 305 Applied Probability and Statistics (3) Description of sample data; correlation and regression; probability and statistical distributions; estimations of population parameters; fitting distributions to histograms; hypothesis testing. A-F only. Pre: MATH 244 or MATH 253A (or concurrent); or consent. (Cross-listed as ME 271) NI/DP

CEE 320 Fluid Mechanics Fundamentals (4) (3 Lec, 1 hr Lab) Compressible and incompressible fluid properties: fluid statistics; kinematics, energy and momentum considerations in steady flows; application of steady flow concepts to various fluid processes. A-F only. Pre: 271. DP

CEE 330 Environmental Engineering (4) (3 Lec, 1 hr Lab) Parameters and indices of environmental quality; mass balances; chemical kinetics; ideal reactor models; water and air pollution control; solid and hazardous waste management. 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 writing lab reports. A-F only. Pre: 320, 370; or consent. DP


CEE 370 Mechanics of Materials (3) Elastic stress-strain relation and behavior of members under tensile, torsional, and axial loading. A-F only. Pre: 271 (or concurrent); MATH 244 (or concurrent) or MATH 253A (or concurrent); or CEE 370L (or concurrent); or consent. DP

CEE 370L Mechanics of Materials Lab (1) Tension, compression, and torsion of bars, and bending of beams. A-F only. Pre: 370 (or concurrent). DY

CEE 375 Construction Materials (3) (2 Lec, 1 2-hr Lab) Introduction to the crystalline and molecular structure of materials. Properties of metals, concrete, cement admixtures, asphalt, wood, and other materials commonly used in construction. A-F only. Pre: 305 and 370. DP

CEE 381 Structural Analysis (3) Analysis of statically determinate plane and space trusses and 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; or consent. (Cross-listed as BE 405)

CEE 412 Surveying II (3) (2 Lec, 1 3-hr Lab) Advanced course in surveying: project design and specifications; measurements, errors, and adjustments; land surveying; state plane coordinate systems; modern instrumentation. A-F only. Pre: consent.

CEE 417 Computer Methods in Engineering Systems (3) Numerical solutions of engineering problems using digital computers. Regression analysis; numerical differentiation and integration; solutions of algebraic, transcendental, and differential equations; and analysis of large structural systems. Pre: computer programming and senior standing. DP

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 phenomenon through theoretical modeling, lab and field experiments and observations. Specific topics include mass balance, jets and plumes, mixing and transport in rivers, reservoirs, groundwater and estuaries; non point course pollution. A-F only. Pre: 320, and MATH 244 or MATH 253A (or equivalent); or consent. (Alt. years) DP

CEE 424 Applied Hydrology (3) Surface water hydrology topics include hydrologic cycle, hydrographs, regional and urban rain-runoff process, flood frequency analysis, flood routing and hydrology for detention basin design. Groundwater hydrology topics include seawater intrusion, theory of groundwater flow and solutions to steady and unsteady aquifer flows. A-F only. Pre: 305 and 320; or consent. 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: 330.

CEE 433 Water Quality Laboratory (3) (2 3-hr Lab) Analysis and characterization of typical water and wastewater samples for organic and inorganic constituents such as alkalinity, hardness, solids, biochemical oxygen demand, nitrogen and phosphorous species, coliform bacteria, and trace organic chemicals. Relevance of these measurements to water and wastewater regulations and engineering design. A-F only. Pre: 330 and either CHEM 171 and 171L or CHEM 161, 161L and 162, and senior standing.

CEE 444 Infrastructure: Project Impacts, Policy and Sustainability (3) Evaluation of infrastructure impacts. Impacts regulation and 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. A-F only. Pre: senior standing, open to engineering, science, urban planning, and economics majors; or departmental approval. (Alt. years)

CEE 455 Geotechnical Engineering II (3) Continuation of 355 introducing geotechnical engineering topics including: field exploration, lateral earth pressures, bearing capacity theory, slope stability theory, use of geosynthetics, earthquake effects and ground modification. A-F only. Pre: 355 or consent. DP

CEE 461 Pavement Engineering (3) (2 Lec, 1 3-hr Lab) Design principles of flexible and rigid pavement systems: HMA mixture design, equipment and construction; and application of life cycle cost analysis (LCCA) in pavement engineering. Includes laboratory sessions for aggregate testing and Superpave mix design. A-F only. Pre: 355, 361 and 375; or consent.


CEE 464 Urban and Regional Transportation Planning (3) Application of travel demand forecasting models to transportation planning evaluation and decision-making. Term projects. Pre: 361 or consent.


CEE 472 Construction Management (3) Introductory treatment of the management of construction. Construction supervision, contract documents, estimating and bidding, organization, planning and scheduling, administration, business methods, safety, and labor. Pre: 375 or consent.

CEE 473 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, senior standing or consent.

CEE 474 Construction Estimating and Bidding (3) Estimating science; techniques of estimating quantities and pricing of work for construction contracting; classification of plans and specifications for estimating; computerized estimating; cash flow, bidding strategy, preparation and submission. A-F only. Pre: 375 or consent.

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

CEE 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, text, outside speakers, site visits, discussions, case study, and computers. Prereq: 375 or consent.

CEE 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. Prereq: senior standing and consent.

CEE 482 Indeterminate Structures (3) Analysis of statically indeterminate beams, frames, trusses, arches, and space structures by classical and matrix methods; computer applications. Prereq: 381. DP

CEE 483 Field Experience (1)

CEE 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 and hands-on manufacturing and testing of reinforced concrete members. Prereq: 375 and 381. DP

CEE 486 Structural Steel Design (3) Basic properties of steel; behavior and design of steel beams, columns, and connections; introduction to rigid frame design. Prereq: 381. DP

CEE 489 (Alpha) Senior Topics (V) (B) Surveying and site planning (2 cr.) Basics of surveying for civil engineering projects; (C) Professional ethics (1 cr.) Engineering ethics, ethical decision making and de- liberation. A-F only. Prereq: senior standing or consent. Co-requisite for (B): C; for (C): B. (Fall only)

CEE 490 Senior Project (3) Design problem involving several areas of civil engineering and requiring a team approach for a solution. A-F only. Prereq: senior standing in CEE. (Spring only)

CEE 491 Special Topics in Civil and Environmental Engineering (3) Will reflect special interests of visiting and/or permanent faculty. Prereq: junior or senior standing, and consent.

CEE 492 (Alpha) Special Topics in Civil and Environmental Engineering (3) Will reflect special interests of visiting and/or permanent faculty. Prereq: junior or senior standing, and consent.

CEE 499 Special Problems (V) Individual investigation in civil and environmental engineering topics as approved by instructor. Prereq: senior standing, and minimum cumulative GPA of 2.7 or minimum GPA of 3.0 in engineering.

CEE 500 Master’s Plan B/C Studies (1)

CEE 602 Construction Scheduling and Claims (3) Precedence networks, CPM, float, updating, resource leveling, least cost scheduling, scheduling case studies, computerized scheduling, exclusion reports, sorting, term project; contract law, types of claims, proving claims, delay claims, impact of changes, Eichely Formula, acceleration, overtime, stacking, crowding, efficiency losses, contract interpretation, Leonard Study, labor escalation, claims case studies, term paper. A-F only. Prereq: graduate standing in civil and environmental engineering and consent.

CEE 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.

CEE 614 Negotiation and Alternative Dispute Resolution (V) Lawyers negotiate settlements in almost all their cases. This course 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 LAW 508)

CEE 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 the use of tools to increase computational speed and accuracy for problems requiring large memory size. Repeatable one time. A-F only. (Once a year)

CEE 620 Reforming Public Organizations (3) Explores the possibilities for reducing the most difficult aspects of the bureaucratic form in public organizations while increasing efficiency and accountability. Repeatable one time. A-F only. (Fall only) (Cross-listed as PUBA 620)

CEE 622 Fluid Mechanics (3) Theory of fluid dynamics in differential form, covering equation of motion, vortex generation, flow in rotating frame, potential theory, laminar flow, and introduction to turbulence.

CEE 623 Groundwater Modeling (3) Introduction to the finite-difference method; steady-state and transient groundwater flow in saturated and unsaturated media; applications to groundwater recharge and aquifer protection. Prereq: 620 or consent. (Fall only) (Cross-listed as GEGG 655)

CEE 625 Hydrologic Processes in Soils (3) Hydrologic processes 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)

CEE 626 Surface Water Hydrology (3) Deterministic and probabilistic methods include reliability of empirical distributions, multiple regression analysis, extreme value analysis 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. Prereq: consent. (Alt. years)

CEE 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.

CEE 633 Physical and Chemical Treatment (3) Introduction to physical and chemical processes for water and wastewater treatment: Review of momentum and chemical reactivities, colloidal chemistry, coagulation and flocculation, granular filtration, sedimentation, carbon adsorption, gas transfer, disinfection and oxidation. A-F only. Recommended: 431 or consent.

CEE 634 Biological Treatment (3) Fundamentals of applied microbiology and biochemical reactor engineering, quantitative description 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. (Alt. years: spring) (Cross-listed as BE 634)

CEE 635 Environmental Chemistry (3) Basic concepts of chemistry as related to the environment, with more emphasis on water. Topics include chemical kinetics, equilibrium, acid-base, precipitation and dissolution, sorption, organic chemicals in the environment. Prereq: consent.

CEE 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. CEE majors only. A-F only. Prereq: graduate standing in CEE or consent. (Once a year)

CEE 641 Marine Disposal of Wastes (3) Practical material on outfalls: Alternatives; planning; dangers; data collection; predesign studies; design and bidding; dredging and construction; costs; commissioning; inspection, operation and maintenance; repairs and replacement; review of selected world outfalls. Prereq: consent. (Alt. years)

CEE 643 Hazardous Waste Remediation (3) Introduces the fundamental problems related to 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. Prereq: 627 or consent. Co-requisite: 634 and 635. (Fall only)


CEE 648 Membrane Separations (3) Applications of membrane separations to desalination, water reclamation and ultrapure water systems. Discussion of reverse osmosis, nanofiltration, ultrafiltration, microfiltration, and ion exchange technologies. Membrane fouling and concentration polarization from both practical and theoretical standpoints. Membrane bio-reactors. A-F only. Prereq: 635 or consent.

CEE 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. Recommended: 455 or consent. (Alt. years)

CEE 651 Deep Foundations (3) Analysis and design of deep foundations; driven piles and drilled shafts. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 652 Experimental Soil Mechanics (3) Advanced laboratory testing and application of analyses using test data for solution of a hypothetical geotechnical project. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 654 Geotech Seismic Engineering (3) Soil and site response to dynamic loading, earthquake ground motions; stress waves and soil shear moduli; soil liquefaction theory, evaluation, analyses, and preventative design. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 655 Slope and Earth Structures (3) Classification of landslides and triggering mechanisms; field investigation procedures; limit equilibrium slope stability methods; numerical techniques; seepage and dynamic considerations; case studies. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 656 Marine Geotechnics (3) Principles of geotechnical engineering applied to marine environments; marine geology; surveying and sampling methods; seeded sediment types, properties, and behavior; scour, erosion, and sediment transport; coastal geotechnical engineering; seabed stability; dredging and waste disposal. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 657 Designing with Geosynthetics (3) An overview of geotechnical uses of geosynthetics, including product descriptions, applications, design methods, and case studies. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 658 Earth Pressures (3) Estimation of lateral earth pressures; analysis and design of retaining walls and excavation support systems. A-F only. Recommended: 455 or consent. (Alt. years)

CEE 659 Soil and Site Improvement (3) Methods of improving engineering properties of soils and sites through use of mechanical stabilization, soil admixtures, pre-consolidation, deep densification, and earth reinforcement. A-F only. Recommended: 355 or 455, or consent. (Alt. years)
CEE 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.


CEE 665 Pavement Design and Rehabilitation (3) Pavement engineering with emphasis given to understanding fundamental issues such as historical 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. (Cross-listed as ME 371)

CEE 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. Recommended: 570 or consent. Pre: 310 or consent. (Cross-listed as ME 671)

CEE 672 Project Management Systems (3) Project integration and PMIS; organizational power; conflict, strategic, and life-cycle management in construction management; matrix structure compared to projectized structure; project success; team building; change and culture in construction organizations; competitive bidding. A-F only. Pre: consent.


CEE 677 Smart Structures Technology (3) Fundamentals of sensor technologies 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. Pre: 679. (Fall only)

CEE 681 Modern Structural Analysis (3) Fundamentals of modern structural analysis theory, with emphasis on frame structures. Virtual work. Member stiffness/flexibility, Matrix formulation of stiffness and flexibility methods. Computer modeling issues. Recommended: 482 or 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 factored design (LRFD); steel building modeling and analysis; moment-resisting frames; bracing systems; beam-columns; moment connections; composite construction; and plate girders. A-F only. Recommended: 482 (or concurrent) and 486, or consent.


CEE 687 Prestressed Concrete (3) Behavior of pre-stressed concrete members, including prestress losses. Analysis and design of prestressed beams, slabs, and composite sections. Structural design; continuous systems. Recommended: 485 or consent.

CEE 689 Mechanics and Design of Composite Materials (3) Basic concepts of mechanics and design of composite materials utilizing continuous fibers embedded in polymeric matrices (Fiber Reinforced Polymers (FRP)) and short fibers randomly oriented in cementitious matrices (Fiber Reinforced Cement Composites). Repeatable two times. A-F only. Recommended: 370 or consent. (Alt. years)

CEE 691 Seminar in Civil and Environmental Engineering (1) Discussions and reports on literature, research developments and activities in civil engineering. One unit of all graduate students for each graduate degree. Student presentations are required. Repeatable twice. CR/NC only. Pre: graduate standing or consent.

CEE 695 Plan B Master’s Project (A-F only) 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. Pre: 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. Pre: consent.

CEE 699 Directed Readings or Research (V) Pre: consent.


CEE 800 Dissertation Research (V) Research for doctoral dissertation. Pre: candidacy for PhD in civil engineering.

Communication (COM)

College of Social Sciences

COM 201 Introduction to Communication (3) An overview of communication emphasizing interpersonal, 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 and criticism of visual media, covering aesthetic development and delivery through multimedia and cinematic principles. A-F only. Pre: 201 (or concurrent) or consent. DS

COM 320 Communication and Communities (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. Pre: 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 sociocultural context. Pre: 201 (or concurrent) or consent. DS

COM 331 Techniques of Video and Digital Cinema (3) Orientation to techniques of production. Emphasis on history, language, and theory of the creative process and application to video productions and multimedia. Pre: 310 or consent.

COM 337 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. Pre: 310 or concurrent. DS

COM 340 Intercultural Communication (3) Problems and opportunities of communication in a variety of intercultural contexts. Focus on theory, research, and managing intercultural effectiveness. Pre: COM major or consent. DS

COM 350 Mediated Interpersonal Communication (3) Theory and practice of interpersonal communication from a social science perspective. Pre: 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 reporting; (D) workshop in editing; (E) workshop in broadcast journalism; (F) workshop in public relations. Repeatable one time. COM majors only. Pre: COM/JOUR major or consent. (Cross-listed as JOUR 390)

COM 401 Survey of Inquiry Methods in Communication (3) Exploration of quantitative 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. Pre: 320 and 340, or consent. DS

COM 421 Public Relations Strategies (3) Practice and effects of public relations. Strategic management, techniques, new communication technologies, media relations, ethics, and social responsibility will be emphasized. A-F only. Pre: COM major or consent.

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 Information and Communication Technology Services (3) Combined lecture-discussion on situated use of ICTs in various personal and institutional settings. Pre: COM major or consent.

COM 433 Video Scriptwriting (3) Application of communication theories to revising commercial and dramatic script material for video production. Pre: 351 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, with special emphasis on the evolution of wireless communication and the Internet. Pre: COM major or consent. DS

COM 444 Communication and Gender (3) Theories, myths, and the missing links in gendered communication. Application of established and emerging theories of gender and communication to interpersonal, organizational, intercultural, and mass media 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 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, as-
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 projects. A-F only. Pre: any 300-level course in ACM, COM or JOUR and junior standing; or consent. (Cross-listed as ACM 460 and JOUR 460)

COM 475 Global Communication (3) Problems and opportunities of communication in a variety of international contexts. Focus on commerce, 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) Design, 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) Synthesize 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 I&CT and Policy (3) Focus on specific I&CT 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 fostering or inhibiting 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, interns participate in operations of an organization and analyze communication processes and effects. Maximum of three credits per semester; six credits total toward major. 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 611 Communication Theories (3) Systematic study of major theories of communication and current status of communication research. COM 612 Communication Inquiry (3) Introduction to 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) Analyse 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) Describes 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 in depth of some area of theory and research. Repeatable one time. Pre: 611 and 612, 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.

Communication and Information Sciences (CIS)

College of Social Sciences

CIS 699 Directed Reading and/or Research (V)

CIS 701 Communication/Information Theories of Society (3) A critical review of major theoretical and empirical traditions in communication and information sciences. Focus on European, American, Third World, and applied research. Pre: consent.

CIS 702 Communication/Information Technologies (3) Theoretical concepts underlying data communications; information processing and computers; communication channels and networks, information storage and retrieval, and computer hardware and software. Pre: consent.

CIS 703 Communication/Information Research Methods (3) Current research methodologies in decision sciences, computer science, library science, and communication. Emphasis on methodologies suitable for interdisciplinary analysis. Pre: consent.

CIS 720 Interdisciplinary Seminar in Communication and Information Sciences (1) Exploration of relationships between disciplines in social sciences, science and technology, and humanities. Faculty and student presentations. CR/NC only. Pre: consent.

CIS 799 Directed Reading and/or Research (V) Individualized program of directed reading and/or research outside the scope of regularly titled courses. Pre: consent. Plan must include goals and rationale.

CIS 800 Dissertation Research (V)

Communication Sciences and Disorders (CSD) School of Medicine

Consent is prerequisite to all 300-level courses except as noted. All prerequisite courses require a minimum grade of C (not C-). All course except for 300, 301, and 320 are major restricted or consent.

CSD 300 Introduction to Speech-Language Pathology (3) Survey of field of speech-language pathology. Pre: consent.

CSD 301 Introduction to Audiology (3) Basic concepts; audiology and psychoacoustics; anatomy and physiology; measurement of hearing. Pre: consent.

CSD 302 Introduction to Clinical Intervention (3) Guided application of theory to intervention introduces scientific, legal, professional, and multicultural basis for practice; specifies learning principles, interviewing, programming, and service delivery models. Includes supervised observations. A-F only. Pre: 300 and consent.

CSD 303 Testing of Hearing (3) Screening and testing procedures; conventional and special tests of hearing; interpretation of results. Pre: 301 and consent.

CSD 320 Anatomy/Physiology and Neuroanatomy of Speech and Language (4) Structure and function of the respiratory, phonatory, and articulatory systems related to speech production; neurolinguistic development and physiology related to speech and language. Pre: 300 (or concurrent) or consent.

CSD 321 Acoustics and Psychoacoustics—Speech and Hearing (3) Acoustic and psychoacoustic aspects of speech and hearing. Pre: 301 and consent.

CSD 402 Applications of Phonological Theory (3) Introduction to the fundamentals of speech sound development and production. Phonological developments and models; cultural variations; analysis, interpretation, and other considerations related to management of phonological disorders. Pre: 300, 302, and LNG 410; or consent.

CSD 404 Developmental Aspects of Language (3) Language development: infancy through school-age. Theoretical perspectives relating to speech-language pathology and processing of language. Cognitive, linguistic, and social aspects including learning strategies, play, context, conversation, and multicultural issues are discussed. Pre: 300 and 302, or consent.

CSD 412 Clinical Observation and Participation (2) Provides observation and discussion of the clinical management of individuals with communication disorders, and practical experience related to clinical procedures and requirements. Pre: 300, 302, 402 (or concurrent); and consent.

CSD 414 Organic and Neurogenic Disorders (3) Communication impairments from CNS, oral and laryngeal systems disorders, and impaired sensory systems are presented across the lifespan. Information includes multiple disabilities, and medical fragile children. Models of care are presented and discussed. Pre: 320, 402, and 404; or consent.

CSD 420 Clinical Instrumentation (3) The use of electronic instrumentation in the clinic as an aid in

Key to symbols & abbreviations: see the first page of this section.
the diagnosis and treatment of clinical problems. Pre: 321 and consent.

CSD 421 Practicum in Audiology I (1) Clinical practice in diagnostic procedures in pure-tone threshold, speech threshold and discrimination, and immittance testing at various age levels. Pre: 301, 303, 415 (or concurrent) and consent.

CSD 423 Practicum in Audiology II (2) Clinical practice in diagnostic procedures in pure-tone threshold, speech threshold and discrimination, immittance and electrophysiological testing at various age levels. Pre: 301, 303, 415, 421, and consent.

CSD 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.

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 CSD graduate students. Pre: previous coursework in inferential statistics and consent.


CSD 603 Advanced Audiology (3) Instrumentation; special tests of hearing. Pre: 301, 303, 415, and consent.

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 on assessment/treatment of these diagnoses. Review of current treatment literature, anatomy/physiology, practical exercises in treatment planning and therapy. Pre: consent.

CSD 610 Disorders of Phonology and Articulation (3) Study of the etiology, assessment, and remediation of disorders and articulation. Pre: LING 410 and consent.

CSD 612 Child Language Disorders (3) Study of the etiology, behavioral characteristics, and treatment methods for various child language disorders. Includes identifying specific language deficits and writing intervention goals. Pre: consent.


CSD 616 Advanced Practicum in Speech Pathology I (1) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times. Pre: 412 and consent.

CSD 617 Advanced Practicum in Audiology I (3) Clinical practice in administering tests, interpreting results; counseling of individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Pre: consent.

CSD 620 Voice Disorders (3) Contemporary development and theoretical issues in the diagnosis, evaluation, and treatment of vocal system disorders in children and adults; current literature and clinical practice issues are addressed. Pre: consent.

CSD 622 Aphasias and the Dementias (3) Study of acquired aphasias in adults and the characteristics and progression of disorders of dementia. Procedures for clinical intervention, current literature review, and related professional issues. Pre: consent.

CSD 695 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. Pre: 600 and consent.

CSD 696 Research—Audiology (3) Required of all SPA graduate students following the non-thesis (Plan B) program and emphasizing audiology. Pre: 600 and consent.

CSD 699 (Alpha) Directed Study (3) To allow student and faculty advisor to design research/study units outside existing academic structure in specialized area. Repeatable unlimited times. (B) language pathololgy; (C) audiology. Pre: 402 and 602 for (B); 503 for (C).

CSD 700 Thesis Research (V) Repeatable unlimited times. Pre: 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. Pre: 602 and consent.

CSD 703 Electrophysiologic Audiometry (3) Study of early, middle, and late auditory evoked potentials with emphasis on the auditory brainstem response. Pre: 603 or consent.

CSD 708 Seminar in Right Hemisphere Brain Damage and Traumatic Brain Injury (3) Traumatic brain injury and right hemisphere communicative disorders are explored with special focus on assessment and treatment of individuals with these diagnoses. Review of current treatment literature, communication and cognitive theories, and practical exercises in treatment planning. Pre: 622 and consent.

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. Pre: consent.

CSD 716 Advanced Practicum in Speech Pathology II (2) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times. Pre: 412 and consent.

CSD 717 Advanced Practicum in Audiology II (2) Clinical practice in administering tests and interpreting results; counseling of individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Pre: 421 or 423, 603, and consent.

CSD 718 Advanced Practicum in Speech–Language Pathology in the Schools (3) Clinical practice in diagnostic and therapeutic procedures with children in the public schools who have speech and/or language problems. Repeatable one time. Pre: 602, 716, and consent.

CSD 721 Seminar in Audiology—Diagnostic Procedures (3) Study of diagnostic procedures as reflected in current literature. Pre: 603 and consent.

CSD 723 Seminar in Audiology—Rehabilitative Procedures (3) Procedures and philosophies presented in recent literature dealing with rehabilitative phases of audiology. Pre: 603 and consent.

CSD 724 Advanced Practicum in Speech Pathology III (3) Clinical practice in diagnostic and therapeutic procedure with various types of speech and language problems in different clinical settings. Repeatable unlimited times. Pre: 412, 602, and consent.

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. Pre: 421, 603, and consent.

CSD 730 Research—Audiology (3) To allow student and faculty advisor to design research/study units outside existing academic structure in specialized area. Repeatable unlimited times. Pre: consent.

CSD 731 Research—Speech Pathology (3) To allow student and faculty advisor to design research/study units outside existing academic structure in specialized area. Repeatable unlimited times. Pre: consent.

CSC 732 Advanced Practicum in Audiology II (2) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times. Pre: 412, 602, and consent.

CSC 733 Advanced Practicum in Audiology III (3) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times. Pre: 412, 602, and consent.
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 intersects with ethnicity and class, locally and globally. Pre: WS 151 or consent. (Cross-listed as EDEF 453 and WS 453) DS

EDCS 471 Special Problems in Home Economics Education (2) Individual and group problems selected according to interests and needs of fourth- and fifth-year students in home economics education. Development of teaching materials.

EDCS 480 Issues in Computer Education (3) Integration of microcomputers into school curriculum and key issues related to microcomputer use in education. Pre: ETEC 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 mathematics. 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 role that language plays in the social 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 life span within various social contexts. Topics include emergent literacy, critical comprehension, meta-linguistic awareness, monolingual-bilingual literacy, evaluation. Must have had student teaching or teaching experience. Pre: undergraduate course in reading.

EDCS 602 Advanced Topics in Writing and Oral Language (3) Examines language and literacy learning in the context of an integrated language arts approach to curriculum and instruction. Emphasis on oral and written language. Must have student teaching or teaching experience. Pre: undergraduate course in language arts.

EDCS 603 Children’s Literature in the Elementary Curriculum (3) In-depth examination of traditional and contemporary literature for children, with emphasis upon genre, historical development, research, curriculum development. Pre: undergraduate course in reading.

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 Reading Supervision and Leadership (3) Examines varied roles and responsibilities of the reading specialist, including literacy intervention, development and evaluation of curriculum, instruction and professional in-services, and leadership. 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. Expository, explanatory, and confirmatory research will be highlighted culminating in an outline for Plan B/Thesis proposal. (Cross-listed as DIS 606)

EDCS 607 New Literacies, Schooling, and Culture (3) New approaches to analyzing 21st century new literacy theory and pedagogy K-12, including visual, media, digital, and critical literacies that address these new linguistic and interrelated meaning-making systems of communication within hypermediated cultures. A-F only. Pre: 600 or 601 or a graduate level reading course, or consent.

EDCS 610 Learning to Teach: The First Five Years (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. Pre: ITE 390 and ITE 391; or consent.

EDCS 618 Early Childhood Education: Advanced Topics (3) Analysis and practical application of selected theories and research to early childhood education. Pre: consent. (Summer only)

EDCS 622 (Alpha) School Curriculum (3) Development and improvement of curriculum. (B) early childhood; (D) middle school; (G) K-14. Pre: ITE 312 (or equivalent) and teaching experience; or consent.

EDCS 623 (Alpha) Science and Science Curriculum (3) Application of recent developments in science, curriculum construction, and learning theory to pre-kindergarten, elementary, middle level, and secondary schools. Science philosophy, content and methodology stressed. (B) elementary; (C) secondary; (D) inquiry and nature of science; (E) science literacy. May be repeated one time in different alphabas.

EDCS 624 (Alpha) School Mathematics Curriculum (3) Analysis of research related to teaching and learning mathematics, application of research to classroom practices. Appraisal of recent curriculum trends; critical examination of assumptions underlying proposed curriculum changes. (C) elementary; (D) middle; (E) secondary. Pre: teaching experience or consent.

EDCS 625 Social Studies Curriculum (3) Examination and evaluation of social science content, societal values and research findings as basis 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 in Elementary Education (3) Principles of and problems in teaching art in elementary school; curriculum development and current approaches in art education; laboratory experiences in art media. Pre: student teaching or teaching experience.

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 and promotes awareness, encourages knowledgeable reflection and develops skills necessary for multicultural practitioners. A-F only. (Cross-listed as EDSE 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 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, collage; (E) integration of any three of B, C, and/or D. Previous RA, 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, philosophy, objectives, and development of business and marketing education curriculum. Pre: ITE 390D or consent.

EDCS 640 (Alpha) Seminar (3) Study in trends, research, and problems of implementation in teaching field. (C) English; (H) mathematics; (I) content area literacy; (J) science; (K) social studies; (M) interdisciplinary education; (N) art. Repeatable two times. Pre: teaching experience or consent.

EDCS 641 (Alpha) Seminar in Foreign Language (3) Study in trends, research, and problems of implementation of language education instruction. (B) English; (F) Spanish. Pre: teaching experience, and consent.

EDCS 642 Seminar in Issues in Multicultural Middle Level Education (1) Examination of principles of multicultural and middle-level education. Restricted to middle-level related area of master’s in Secondary Education. Repeatable six times. 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 Assessment I (3) Theory and practice in classroom-based assessment of struggling readers and writers. Analyses of individual learners with implications for instruction. Pre: 601 and teaching experience, or consent.

EDCS 647 Literacy Assessment II (3) Practicum in theory and methods of classroom-based and large-scale assessment. Analysis of the achievement of groups of learners and implementation of interventional instruction. Classroom field experience required. Pre: 646 or consent.

EDCS 648 Reading for English Language Learners (3) Presents key concepts and theories in teaching reading to K-12 English language learners. Topics include instructional decisions in teaching reading 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; trends and issues; theory and research. (B) number and operation; (C) patterns, functions and algebra; (D) geometry and measurement; (E) probability and statistics; (F) integrated math content. Each alpha represents a different K-12 content area. Pre: teaching experience or consent.

EDCS 656 Seminar in Issues in ECE (V) Concepts and inquiry regarding the application of early childhood educational principles 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. Pre: consent.

EDCS 667 (Alpha) Seminar in Curriculum (3) Curriculum trends and issues related to school organization, program, administration, faculty. Required for Plan B MEd candidates in their final semester or summer session. Repeatable one time. (B) early childhood; (D) middle-level; (G) K-14. Pre: 622 (any alpha), and 606 or EDEA 678 or EDEP 408, and 632 or EDEA 604 or EDEP 429 or EDEA 608; or consent.

EDCS 685 Museums and Education (3) Overview of museum education including museum-
ing theories, informal learning programs, audience research, national and international policies and re-
ports, and community projects. Pre: AMST 683 (or concurrent) or consent. (Cross-listed as AMST 685)
EDCS 686 Information Literacy and Learning Resources (3) Study of information literacy models. 
Integration of information literacy with K-12 cur-
riculum units and lessons. Evaluation of print and 
multimedia resources to meet student and curricular 
needs. Required for Librarian HIDOE licensure. A-F 
only. Pre: consent. (Cross-listed as ETEC 686 and 
LIS 686)
EDCS 690 Practicum: Leadership in School 
Reading Improvement (3) Application of roles and 
responsibilities of the reading specialist to a school 
context. Includes developing a reading instruc-
tion needs assessment and an improvement plan, 
preferably in your own school. A-F only. Pre: 605 or 
consent.
EDCS 695 Plan B Master’s Project (V) Indepen-
dent 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. Pre: written 
consent.
EDCS 700 Thesis Research (V) 
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) Examination of alternative approaches 
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 stu-
dent or consent.
EDCS 761 Dissertation Research and Writing (3) 
Intended for doctoral students who are at the dis-
sertation stage in their program. Supports students in 
developing their dissertation proposals and/or initial 
dissertation drafts. Repeatable one time. A-F only. 
Pre: consent. (Once a year)
EDCS 767 Issues and Trends in Curriculum (3) 
Uses problem-centered approach and field experi-
tences. Topics include historical review of curriculum 
development since 1900, examination of current cur-
riculum practices at all levels of education, and pre-
diction of future directions in curriculum theory and 
design. Pre: classified doctoral student or consent.
EDCS 768 Seminar in Curriculum and Instruc-
tional Theories (3) Analysis and critical examination 
of models and curriculum theory and theories of in-
struction leading to generation of theories by seminar 
members. Pre: classified doctoral student or consent.
EDCS 769 Curriculum and Program Evaluation 
(3) Critical examination of theoretical and meth-
odological positions on curriculum and educational 
program evaluation. Pre: classified 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 implica-
tions culminating in a mixed methods dissertation/ 
thesis proposal. Repeatable one time. (Once a year) 
(Cross-listed as DIS 780 and ETFC 780)

Dance (DNCE)
College of Arts and Humanities

DNCE 121 Beginning Ballet Technique (3) 
Introduction to classical ballet technique. Repeatable 
three times. DA

DNCE 122 Continuing Ballet Technique (3) 
Continuation of beginning classical ballet technique. 
Repeatable three times. Pre: 121 or consent. DA

DNCE 131 Beginning Modern Dance Technique 
(3) Introduction to modern dance technique. Re-
peatable three times. DA

DNCE 132 Continuing Modern Technique (3) 
Continuation of beginning modern dance technique. 
Repeatable three times. Pre: 131 or consent. DA

DNCE 150 Introduction to Dance (3) Survey the 
development of major dance styles and their relation-
ship to contemporary choreography. DA

DNCE 151 Music Theory for Dancers (3) Ele-
ments of music and relationship to dance; emphasis 
on rhythmic analysis. (Alt. years) DA

DNCE 211 Low Intermediate Ballet Technique 
(3) Low intermediate ballet technique. Repeatable 
three times. Pre: 122 or consent. NI DA

DNCE 222 Low Intermediate Ballet Technique 
(3) Low intermediate ballet technique. Repeatable 
two times. Pre: 221 or consent. NI/DA

DNCE 231 Low Intermediate Modern Technique 
(3) Low intermediate modern dance technique. Re-
peatable three times. Pre: 231 or consent. NI/DA

DNCE 250 Dance Production (3) Survey of 
historical, theoretical, and practical aspects; work in 
scenery, lighting, costume, makeup, and theater 
management. DA

DNCE 255 Dance in World Cultures (3) Multi-
media overview of world dance forms, with emphasis 
on Asia and the Pacific, and related concepts. Pre: 
sophomore standing or consent. DA

DNCE 260 Movement Fundamentals (1) Orga-
nized somatic systems as a framework for under-
standing movement and dance techniques. Required 
for majors. Repeatable two times. DA

DNCE 262 Advanced Modern Technique (3) 
Advanced modern dance technique. Repeatable six 
times. Pre: 261 or consent. DA

DNCE 288 Reading Improvement (3) Improvi-
sation in dance as creative experience, as source of new 
movement ideas, and as means of developing sponta-
neyty in performance. Repeatable once. Pre: 200 
level or above, or consent. DA

DNCE 371 Dance Composition I (3) Elementary 
techniques and theories for creating and crafting 
classical concert dances. Pre: 231 and 370, or consent. DA

DNCE 372 Dance Composition II (3) Intermedi-
techniques and theories for creating and crafting 
classical concert dances. 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 Javanese 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: 306 or consent. DA

DNCE 407 Philippine 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 421 Advanced Ballet Technique (3) 
Advanced ballet technique. Repeatable six times. Pre: 
321 or consent. DA

DNCE 431 Advanced Modern Technique (3) 
Advanced modern dance technique. Repeatable six 
times. Pre: 331 or consent. DA

DNCE 433 Movement Workshop (V) Special 
workshops in movements relating to specific depart-
mental 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 (T’ai Chi) for Actors I (3) Interme-
te-level Taijiquan (T’ai Chi Ch’uan) movement 
training. Repeatable two times. Pre: 334 or consent. 
(Cross-listed as THEA 434) DA

DNCE 435 Movement for Actors (3) Train-
ing actors to discover experientially the sources of 
movement; to teach somatic training for 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

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

Courses 397
DNCE 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: 435 or THEA 435, or consent. (Alt. years) (Cross-listed as THEA 436) DA

DNCE 437 Period Movement Styles, 1450–1650 (3) Movement styles and social deportment of European societies in the Renaissance and early Baroque periods. Pre: 435 or 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 deportment 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 Theater 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 452 Dance History I: Ritual to Theater (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 Costume Design for Theatre and Dance (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 up to six times. 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. DA

DNCE 470 Dance Performance (1) Performance in various dance styles and settings. Repeatable up to six times. Pre: audition or consent. DA

DNCE 480 Dance Repertory (V) Preparation of standard 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 majors, and others working with children. Also adults with special needs. Supervised field activities. Pre: upper division standing or consent. DA

DNCE 495 Senior Project (1) Individual choreographic project; student choreographs, performs, and oversees all technical aspects of a creative project; tutorial. Pre: 372, senior standing, and consent. DA

DNCE 499 Directed Work (V) Individual projects, tutorial. Pre: consent. DA


DNCE 651 Seminar in Dance Research (3) Research materials and methods; preparation for thesis and scholarly research reporting. Required for graduate concentrations in dance. (Alt. years)

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.

DNCE 653 Dance Ethnology Seminar (3) Exemplary studies and field research. Pre: graduate standing or consent. (Alt. years)

DNCE 654 Regional Dances of Asia (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years)

DNCE 655 Regional Dances of Oceania (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years)

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 analytical and artistic abilities. Pre: 260 (or concurrent) and 360 (or concurrent); or consent.


DNCE 667 Advanced Choreography (3) Advanced analytic and creative study. Pre: 372 or consent. (Alt. years)

DNCE 672 Dance Performance (V) Graduate performance in various dance styles and settings. By audition only. Repeatable six times. Pre: consent.

DNCE 676 Seminar in Choreographic Methods (3) Graduate level course designed for students with prior choreographic experience. Students will research, create, revise, and perform new works based on a variety of choreographic methodologies. Repeatable one time. Pre: 371, 372; or consent. (Alt. years)

DNCE 679 Directed Choreography (1) Concert choreography for selected performance settings under the direction of a faculty advisor. Repeatable six times. Pre: 372 (or concurrent) or 671 (or concurrent); or consent.

DNCE 691 Seminar in Teaching Dance/Theater (3) Pedagogy and classroom experience in teaching technique and theory. (Alt. years) (Cross-listed as THEA 691)

DNCE 693 Internship: Youth Theater/Dance (V) Supervised leadership experiences in dance/theater program with children. Students spend nine hours per week in supervised setting and three hours in weekly class meeting. Pre: 490, THEA 470, or THEA 476; or consent. (Cross-listed as THEA 693)

DNCE 699 Directed Reading and Research (V) Individual projects: tutorial. Repeatable up to six credits. Pre: consent.

DNCE 700 Thesis Research (V)


DH 380L Clinical Dental Hygiene II Clinic (1) (1 6-hr Clinic) Continuation of 375. Clinical application of dental hygiene concepts and skills; emergency procedures; team approach to dentistry; planning, implementing, and evaluating total oral hygiene care to patients. A-F only. Pre: 375, Co-requisite: 380, 381L, and 382L.

DH 381L Clinical Dental Hygiene II Clinic (1) (1 6-hr Clinic) Continuation of 375. Clinical application of dental hygiene concepts and skills; emergency procedures; team approach to dentistry; planning, implementing, and evaluating total oral hygiene care to patients. A-F only. Pre: 375, Co-requisite: 380, 381L, and 382L.

DH 382L Clinical Dental Hygiene II Clinic (1) (1 4-hr Clinic) Continuation of 375. Clinical application of dental hygiene concepts and skills; emergency procedures; team approach to dentistry; planning, implementing, and evaluating total oral hygiene care to patients. A-F only. Pre: 375, Co-requisite: 380, 381L, and 382L.

DH 383L Advanced Clinical Dental Hygiene II (1) (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 384L Advanced Clinical Dental Hygiene II Clinic (1) (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)

Key to symbols & abbreviations: see the first page of this section.
Disability and Diversity Studies (DLS)

College of Education

DLS 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 will be highlighted culminating in an outline for Plan B/Thesis proposal. (Cross-listed as EDCS 606)

DLS 681 Multicultural Issues in Disabilities (3) Provide background and understanding of various Pacific Rim cultural issues in the conceptualization and treatment of individuals with disabilities and their families. A-F only.

DLS 683 Interdisciplinary Disability and Diversity Issues (3) Develop understanding of current issues faced by individuals with disabilities and their families within the disability paradigm and across cultures. A-F only.

DLS 684 Interdisciplinary Team Development (3) Develop knowledge and skills to participate effectively on interdisciplinary teams for the common goal of promoting service integration and coordination of education, social, health, mental health, and other services with individuals with disabilities and their families. A-F only.

DLS 685 Interdisciplinary Assessment (3) Assessment methods and techniques to instructional research-based practices and supports across disciplines, cultures and PK-12 that address barriers to learning for all students with the context of the Comprehensive Student Support System (CSSS). A-F only.

DLS 686 Advanced Interdisciplinary Assessment (3) Assessment methods and techniques to instructional research-based practices and supports across disciplines, cultures and PK-12 that address barriers to learning for all students with the context of the Comprehensive Student Support System (CSSS). A-F only.

DLS 687 Seminar on Disability Issues (3) In-depth explorations of current and compelling interdisciplinary topics related to advancing the social, political, educational, and economic integration of individuals with disabilities of all ages. A-F only.

DLS 688 Portfolio/Field Work (3) Interdisciplinary community experience and portfolio in disability and diversity studies. Repeatable three times. A-F only.

DLS 699 Directed Reading and/or Research (V) Directed reading and/or research. Repeatable three times. A-F only. Pre: consent.

DLS 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 implications culminating in a mixed methods dissertation/thesis proposal. Repeatable one time. (Once a year) (Cross-listed as EDCS 780 and ETEC 780)

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. A grade of 3.0 or better is the prerequisite 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 20th-century 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 and analysis of Japanese film; its 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 201 and 202, or consent. (Cross-listed as ASAN 330) DH

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 the People’s Republic of China, Taiwan, and Hong Kong. (B) 1919–1949; (C) 1949–present. 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 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 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 Cultural 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 focus on a specific era, region, or genre. Pre: an EALL course at 200 level or above; or a DH or DL course at 200 level or above; or consent. DL

EALL 473 Chinese Diaspora and Visual Culture (3) Examines films focusing on the social relationships and cultural practices of the Chinese diaspora, i.e. Chinese communities living outside China (e.g. Taiwan, Hong Kong, Southeast Asia, North America, and Europe). Weekly film discussions in class, readings on visual culture, media studies, and film criticism. Course material will also include theater productions, art exhibitions, and other visual material. 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 entertainment forms that are 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, cultural studies, and gender criticism. Pre: any 300- or 400-level DL or DH course. (Cross-listed as ASAN 474) DH

EALL 476 Perspectives on Chinese Cinema (3) Introduction to Chinese cinema studies, with emphasis on the theoretical and critical 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. DL

EALL 492 (Alpha) Study of East Asian Languages (V) Less commonly taught languages of East Asia: (B) Manchu; (C) Mongolian. Recommended: previous experience in history, linguistics, or languages. Repeatable one time. Pre: consent.

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

EALL 590 Intensive Japanese for Reading Knowledge (4) Open to graduate students only. CR/NC only. Pre: consent.

EALL 591 Intensive Japanese for Reading Knowledge (4) Open to graduate students only. CR/NC only. Pre: 590 or consent.

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, or 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 (Alpha) 20th Century Chinese Literary and Cultural Studies (3) Critical discussion of scholarship in the field and formal analysis of literary and cultural texts pertaining, but not limited, to the People’s Republic of China, Taiwan, and Hong Kong. (B) short stories; (C) poetry and drama; (D) novels and essays. Reading knowledge of Chinese
desirable but not required. English translations of original texts will be provided whenever available. Repeatable one time for different alphas. Pre: consent.

EALL 691 Introduction to Classical Tibetan (3) Introduction to Classical Tibetan grammar and vocabulary. Examination of the earliest Tibetan texts; reading and analysis of pre-classical, classical and postclassical texts. Pre: consent.

EALL 699 Directed Research (V) CR/NC only. Pre: consent.

EALL 700 Thesis Research (V) Pre: consent.

EALL 750 Seminar in Comparison of East Asian Languages (3) Comparison of lexicon, phonology, morphology, syntax, semantics, etc., of two or more East Asian languages, contact influence on them. Pre: CHN 451, CHN 452, or JPN 451; or consent.

EALL 800 Dissertation Research (1) Pre: consent.

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. DS

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 of government in cases where the market system fails. Additional topics include the effects of international trade on the welfare of a nation and the effects of different competitive market structures on society. DS

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 balance of 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 and long-run growth; 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. Pre: 131 or consent. DS

ECON 301 Intermediate Microeconomics (3) Develops basic techniques and fundamental concepts of microeconomic theory. 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. Pre: 130 or consent. DS

ECON 311 The Economy of Hawai‘i (3) History of development of Hawaiian economy; current economic problems. Pre: 120, 130, or 131; or consent. DS

ECON 317 The Japanese Economy (3) Analysis of Japan’s growth past and present. Does Japan’s economy look different in terms of its international trade structure, industrial structure, labor market, savings and investment policies, etc.? Does it matter? Pre: 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. A-F only. Pre: 120 or 130 or 131; public policy, especially at TIM 320. 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 322 Economics of Global Climate Change (3) Nature and causes of global climate change and economic response to it, including climate change impacts, energy solutions, environmental implications, societal adaptation, and international cooperation. After only. Pre: 120 or 130 or 131; or consent. (Once a year) DS

ECON 339 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 coral reef protection. Pre: 120 or 130, or consent. (Once a year) DS

ECON 340 Financial Markets and Institutions (3) The determination of asset prices; the risk and term structure of interest rates; efficient markets hypothesis; risk management and financial derivatives, asymmetric information models of financial market structure, innovation, regulation and deregulation; and financial crises. Pre: 120, 130, or 131; or consent. DS

ECON 342 The History of Economic Thought (3) Introduces major western economic theorists and ideas since around 1700. Considers the history of views on work, poverty, the market and government, and the relationship of those doctrines to society, philosophy, and public policy. Pre: 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 society. Change rate fluctuations, and balance of payment crises. DS

ECON 356 Games and Economic Behavior (3) Introduces strategic behavior with applications to economics, business, 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. Pre: 120, 130, or 131; or consent. DS

ECON 358 Environmental Economics (3) Nature and causes of environmental degradation and economic solutions. Topics include air and water pollution, toxic substances, soil pollution, biodiversity, global warming and sustainable economic growth. Pre: 120, 130, or 131; or consent. DS

ECON 361 Seminar: Women and International Development (3) Women’s role, status, work and treatment 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. Pre: a 100 level economics course or any woman’s studies course; or consent. (Cross-listed as WS 361) DS

ECON 362 Trade Policy and Globalization (3) Political economy of the world trading 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. Pre: 120, 130 or 131; 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 combine academic work with practical experience. Repeatable two times. Pre: consent.

ECON 391 Cooperative Education (V) Economics majors and minors, under the supervision of faculty members, work at paid positions with public agencies, private companies, and campus organizations. The Econ Co-op integrates academic work with practical work experience. Repeatable two times. Pre: consent.

ECON 399 Directed Reading (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. Repeatable one time. Pre: consent.

ECON 410 Economic Development (3) Characteristics of underdeveloped economies, theories of economic growth, strategies of economic development, and investment criteria. Pre: 300 and 301, or consent. DS

ECON 412 The U.S. Economy: Past and Present (3) U.S. economy from colonial times: slavery, transportation, education, industrial concentration, regional and urban growth. Pre: 120, 130, or 131; or consent. DS

ECON 414 Growth and Crisis in the Global Economy (3) Sources of economic growth and technological change: growth experiences of selected countries since the industrial revolution; global economic cooperation: global business cycles and crises. Pre: 120, 130, or 131; or consent. DS

ECON 415 Asian Economic Development (3) History and economic development. Resources, population, and income, trade, and consumption patterns. Role of government and private enterprise. Pre: 120, 130, or 131; 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. Pre: 120, 130, or 131; 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. Pre: 120, 130, or 131; or consent. DS

ECON 420 Mathematical Economics (3) Mathematical techniques applied to theories of the consumer, the firm, markets. Linear programming, input-output analysis. Pre: 300, 301; MATH 203, MATH 215, MATH 241, 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. Pre: 321 or MATH 241 or BUS 310 or NREM 310 or (MATH 251A and NREM 203) or (MATH 371 and MATH 373) or (MATH 471 and MATH 472); or consent. DS
ECON 427 Economic Forecasting (3) Forecasting methods for business and economics with applications to the U.S., Asian, and Hawai‘i economies. Topics include time series modeling of trend, seasonal, and cyclical components, multivariate regression modeling, and forecast evaluation. A-F only. Pre: 321 or BUS 310 or NREM 310 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 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: 150 or NREM 220 and 321 or NREM 310; or consent. (Once a year) (Cross-listed as NREM 429 and TSP 429) DS

ECON 430 Economics of Human Resources (3) Economic analysis of labor market. Investment in human capital, education, health, migration, etc. Pre: 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. Pre: 301 or concurrent. (Cross-listed as PSPT 432) DS

ECON 434 Health Economics (3) Private and public demand for health care, health insurance, and medical care; efficient production and utilization of services; models of hospital and physician behavior; optimal public policy. Pre: 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, optimal monetary policy and international monetary systems, bank risk and insurance, and national debt and taxation. Pre: 300 or 301 or consent. DS

ECON 450 Public Finance (3) Governmental expenditures, revenues, and debt. Fiscal policy, budgeting, and tax administration. Pre: 301. DS

ECON 452 State and Local Finance (3) Fiscal institutions, operations, and policy questions within state and local governments in U.S. grant programs and other links with central government. Pre: 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 exhaustible, renewable, and environmental resources. Pre: 301. DS

ECON 460 International Trade and Welfare (3) Theory of international specialization and exchange; general equilibrium, tariffs, quotas, common markets. Pre: 301. DS

ECON 461 International Macroeconomics (3) The determination of output, price levels, exchange rates and the balance of payments for economies that are integrated with the global economy; theory and application to historical and/or contemporary policy issues. Pre: 300. DS

ECON 470 Industrial Organization (3) Theoretical and empirical analysis of contemporary topics in industrial organization. Uses economic theory to analyze important issues facing firms, and examines the practical challenges of empirical applications of theory. Pre: 301. DS


ECON 495 Land and Housing Economics (3) Microeconomics explains urban land and housing phenomena, and analyzes selected land and housing issues relevant to Honolulu. Pre: 301 or consent. DS

ECON 496 Contemporary Economic Issues (3) Economic analysis of current events. Topics announced each semester, e.g., environmental pollution, crime control, racial discrimination, traffic congestion. Pre: consent. DS

ECON 499 Advanced Directed Research (V) Economics majors may conduct independent 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.

ECON 604 Microeconomics and Policy Analysis (3) 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 606 Microeconomic Theory I (3) Theory of the firm: production, costs, duality; theory of the market: competition, monopoly, oligopoly, monopolistic competition; theory of the consumer: preferences, expenditures, duality; expected utility theory.

ECON 607 Macroeconomic Theory I (3) Neo-classical theory of real and monetary equilibrium, economics of J. M. Keynes, standard IS/LM model and aggregate demand/supply analysis in the closed and open economy, theory of rational expectations.

ECON 608 Microeconomic Theory II (3) General equilibrium analysis: production, consumption and Walrasian equilibrium; Pareto efficiency, fundamental theorems of welfare economics; externalities; public goods; game theory; information theory. Pre: 606 or consent.

ECON 609 Macroeconomic Theory II (3) Models of economic growth and fluctuations; stochastic and dynamic macroeconomic models; econometric 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; incentive compatible mechanism for provision of public goods; auction theory. Pre: 608 or consent.

ECON 627 Mathematics for Economics (3) Sets, functions, limits, convexity, continuity; constrained and unconstrained optimization; differential and integral calculus; differential equations; matrix algebra; simultaneous equations; comparative statics; Knut-Tucker theory; game theory; mathematical programming. Pre: MATH 203, MATH 215, MATH 241, or MATH 251A.

ECON 628 Econometrics I (3) Review of probability, estimation, small sample and asymptotic properties. Bivariate and multiple regression and matrix algebra formulation. Regression diagnostics. Introduction to heteroskedasticity, autocorrelation, simultaneity, dichotomous variables, advanced topics. Pre: 321 or NREM 310, and MATH 241; or consent. (Cross-listed as AREC 626)

ECON 629 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 634)

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 other energy options. Evaluations of policies to develop renewable energy options. Pre: college calculus and principles of microeconomics; or consent.

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)

ECON 638 Environmental Resource Economics (3) Principles of policy design and evaluation for environmental resource management, forestry and watershed conservation, and sustainable economic development. Pre: 604 or consent.

ECON 639 Marine Resource Economics (3) Seminar on the economics of the marine environment. Topics include fisheries management, ocean recreation, shipping, and coral reef protection. Pre: 606 or consent. (Once a year)

ECON 650 Theory of Public Finance—Expenditures (3) Microeconomic principles of public spending and policy analysis. Externalities, sustainability, public and common property goods, public choice, benefit-cost analysis, general-equilibrium analysis, rent-seeking, corruption, constitutional design, development policies, poverty alleviation, economic security, and new institutional economics. Pre: 604 or 606; or consent.

ECON 651 Theory of Public Finance—Revenue (3) Public and political economics approach to taxation and debt finance. Topics include incidence of taxation, optimal taxation, explicit and implicit debt financing, tax competition, behavioral public finance, and tax reforms. Pre: 606 or consent.

ECON 660 International Trade and Welfare (3) Advanced theory of international trade and welfare; international specialization and exchange, general equilibrium, tariffs, quotas, common markets; welfare implications. Pre: 608 (or concurrent) or consent.

ECON 662 International Macroeconomics (3) Advanced international monetary and macroeconomic theory: balance of payments, output, price and exchange rate determination, international aspects of growth and economic fluctuations, alternative exchange rate regimes, international capital flows. Pre: 605 or 607, or consent.

ECON 664 Applied International Finance (3) Surveys empirical research in international macroeconomics, finance and econometric methods: including balance of payments adjustment and international equilibrium, international prices, interest rates and exchange rates, models of exchange rate determination, capital flows, balance of payments crises. Pre: 607 and 629 (or concurrent), or consent. (Fall only)

ECON 670 Labor Economics I (3) Supply of and demand for labor: implications for labor markets and unemployment level. Pre: 606 or consent.

ECON 672 Economics of Population (3) Economic determinants and consequences of population change. Pre: consent.

ECON 674 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 686 Strategic Behavior and Experimental Economics (3) Experimental economics: methodology; experimental game theory. Market experiments. Applications include: topics in industrial organization, provision of public goods, asset markets, auctions. Repeatable one time. Pre: 606 and 608, or consent.

ECON 696 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: 606, 607, 627, 628, and graduate chair.

ECON 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.

Education (EDUC)

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. Pre: consent.

EDUC 799 Internship in College Teaching (V) Introduction to college-level teaching; doctoral students serve as apprentices to professors; responsibilities include supervised teaching, planning and evaluation. Repeatable one time. CR/NC only. Pre: admission to PhD candidacy and consent.


Educational Administration (EDEA)

EDEA 360 Dynamics of Student Leadership (3) Theoretical approaches and an experimental orientation toward leadership in student organizations via classroom activities and practicum experiences with student organizations.

EDEA 370 Peer Leadership Education and Mentoring (3) Theoretical explorations and a supervised practicum experience in student peer leadership education and mentoring in a variety of curricular and co-curricular contexts. Pre: 360 (or equivalent) and consent. (Summer only)

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; (C) Asian Pacific 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 Directed Reading (V) Planned individualized study, reading, research, teaching, and/or projects under direct supervision of instructor. A-F only. Repeatable one time. Pre: consent.

EDEA 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.

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.

EDEA 602 Research in Education Administration (3) Develops basic concepts of research on education administration: methodology, status of particular topics, communication, and application of findings to problems of school administration. (Meets PhD common core inquiry methods requirement.)

EDEA 604 Qualitative Research Methods in Educational Organizations (3) Introduction to methods of qualitative research in educational administration. (Meets PhD common core requirement.)

EDEA 608 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 SOC 608)

EDEA 610 School-Community Relations (3) Application of principles, techniques, policies, organization of school-community information program.

EDEA 620 Education Finance (3) Educational revenues, apportionments, budgetary procedures, costs, business management, economics of education, measures of productivity.

EDEA 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. Pre: consent. (Cross-listed as KRS 623)

EDEA 629 Educational Statistics (3) Statistical inference including applications of parametric and nonparametric methods to educational problems.

EDEA 630 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.

EDEA 642 Information Systems in Education (3) Integration of information systems and computer technology in educational planning, policy analysis, decision-making, and program assessment. Pre: ETEC 442 and consent.

EDEA 645 Principles of School Leadership (3) Examine the emergent theories, issues, practices, and problems relevant to educational leaders in school organizations. Integrates the aspects of management and administration within the context of leadership.

EDEA 646 American College Student (3) Study of psycho-social characteristics of the American college student and college environment, from viewpoint of student personnel work. (Cross-listed as KRS 646)

EDEA 650 Human Factors in Organization (3) Analysis of the nature of organizations, human nature and needs, and their relationship to leadership, staffing, and staff development. Implications of group structure and human conflict, communications, and supervision and evaluation considered.

EDEA 652 Conflict Management in Education (3) Human factors in administration. Skills in the management of conflict in organizations; theories and practical application techniques. Pre: 601, 650; or consent.

EDEA 655 Intercultural Interactions (3) Theory-based frameworks and training methods of intercultural interaction and their applications to educational administration.

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.

EDEA 660 Management/Leadership in Higher Education (3) Trends, research, and problems in college and university management. Pre: 657 or consent.

EDEA 661 Student Affairs Administration in Higher Education (3) Philosophy, history, organization, and administration of student personnel services at college and university levels, including admissions, housing, student activities, financial aids, placement, counseling, health services. Pre: 657 or consent.

EDEA 662 Curriculum in Higher Education (3) Traditional and contemporary curriculum issues. Development of performance competencies in curricular design and evaluation using systems and design theory as central paradigms. Pre: 657 or consent.

EDEA 663 Community College Leadership (3) Development and changing missions of community colleges; in-depth study of emerging leadership issues; planning, financial management, decision-making, governance, and student personnel. Pre: 660 or consent.

EDEA 670 School Supervision (3) Principles of supervision, development of supervisory programs.

EDEA 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)

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 system including local, state, and federal government. A-F only. Pre: 675, EDEA 675; or consent. (Cross-listed as EDEA 676)

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 Administrative Internship (V) Supervised intern experience in school and university administration. Emphasizes the development of leadership skills through program and project management. A-F only. Pre: 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 EDEA 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 EDEA 767)

EDEA 775 Seminar on the Principalship (3) Series of planned seminar experiences 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); (F) curriculum administration; (G) school governance; (I) higher
Key to symbols & abbreviations: see the first page of this section.
analysis. Non-linearity and treatment of missing data. Class requires basic statistics. (Cross-listed as PSY 612 and SW 654)

EDEP 605 Factor Analysis (3) Theory and method of factor analysis and related methods of multivariate analysis. (Cross-listed as PSY 613 and SW 655)

EDEP 606 Multivariate Methods (3) Multivariate forms of multiple regression, analysis of variance and co-variance. Multiple discriminant analysis, canonical correlation, and principal-components analysis are discussed. (Cross-listed as PSY 614 and SW 656)

EDEP 608 Introduction to Educational Research (3) Fundamental design and evaluation procedures in educational research and determining needs, defining objectives, research design, instrumentation, data collection, and evaluation. Course requires basic statistics. (Meets PhD common inquiry methods requirement or elective.)

EDEP 611 Introduction to Educational Psychology (3) Graduate level introduction to educational psychology theories, research, and topics.

EDEP 612 Statistical Power in Behavioral Research (3) Theory and techniques of power analysis for significance testing of means, proportions, correlations or variances, estimation of effect size, and necessary sample size.

EDEP 616 Measurement in Education and Social Sciences (3) Test theories and applications in education and social sciences. Topics include the true score model; reliability; generalizability theory; validity; item response theory; and applications in research. Class requires knowledge in ANOVA and regression. (Cross-listed as PSY 616 and SW 658)

EDEP 626 Scaling: Measurement of Attitude and Perception (3) Theory and methods of major unidimensional and multidimensional scaling techniques. Examples from education, sociology, and psychology. Pre: graduate standing. (Cross-listed as PSY 617)

EDEP 631 Adolescence and Human Development (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 student assessment.

EDEP 661 Development and Learning (3) Analysis of the nature of (Piagetian) developmental stage theory and traditional behavioristic and 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 processes 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 settings. 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.


EDEP 711 Practicum in Educational Psychology (V) Supervised practicum in teaching or program evaluation as each is reflected by professional activities of the members of the faculty. Repeatable six times. Pre: consent of supervisory professor.

EDEP 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; view-as-view development of creative strategies that assist mature, self-directed persons to develop their potentialities. (Cross-listed as EDEA 745 and NURS 745)

EDEP 768 (Alpha) Seminar in Educational Psychology (3) Current issues and problems in the context of education: (B) general; (C) learning; (D) measurement; (E) statistics; (F) psycho-social development; (G) educational evaluation; (H) research methodology. Repeatable nine times. Pre: consent. Seminar may be repeated for credit as topics vary.

EDEP 800 Dissertation Research (V) Research for doctoral dissertation.

Educational Technology (ETEC)

College of Education

ETEC 414 Educational Media Technology (3) Introduction to educational technology theory and practice with an emphasis on meaningful integration of technology in K-12 classroom, and online learning environments for diverse populations. Pre: upper division standing.

ETEC 415 Technology for Teachers (3) Introduction to the application of educational technology in teaching and learning using strategies in design, selection, development, implementation, and evaluation. Interactive delivery via distance education technologies. A-F only. Pre: basic teaching certification.

ETEC 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.

ETEC 442 Computers 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.

ETEC 448 Links to Lifelong Learning (3) Focused exploration of the internet and its application to effective teaching/learning, including finding, evaluating, using, creating information on the web, culminating in a project involving designing, creating, and publishing a website. Integration with copyright law and standards. Repeatable one time. Pre: upper division standing (junior+ or consent). ETEC 454 Technology Resources (3) Virtual and hands-on analysis of technology resources and utilization in K-12 schools. Pre: upper division standing (junior+ or consent).

ETEC 499 Directed Activity (V) Individual work, supervised by instructor. May consist of reading, research, and/or projects. Repeatable two times. Pre: consent.

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

ETEC 501 Professional Development in Educational Technology: Technology Skills for Educators (1) Exploring technology resources needed for distance learning and classroom integration. Repeatable two times.

ETEC 502 PDET: Technology Skills for Educators (2) Exploring technology resources needed for integration into classroom instruction. Repeatable one time. CR/NC only.

ETEC 511 Professional Development Education Technology (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.

ETEC 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.

ETEC 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.

ETEC 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.

ETEC 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 that include 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: ETEC major or consent.

ETEC 602 Innovations in Educational Technology (3) Innovative technological advances and new media in the field of educational technology and their application in instruction. A-F only. Pre: ETEC major or consent.

ETEC 611 Educational Technology Research and Evaluation (3) Review of existing research in media/ed technology, with activities leading to the preparation of final study or project proposal. Repeatable one time. A-F only. Pre: ETEC major or consent.

ETEC 612 Introduction to E-learning (3) Introduction to principles of e-learning and their application in formal and informal instructional settings. Pre: ETEC major or consent.

ETEC 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: ETEC major or consent.

ETEC 620 Visual Design (3) Theory and practice involved in planning educational/instructional graphic and photographic material for print and computer-based media. Pre: ETEC major or consent.

ETEC 622 E-learning Theory and Design (3) Principles of e-learning theory as well as design and development for instruction. Application to new media and web authoring. Repeatable one time. A-F only. Pre: ETEC major or consent.

ETEC 623 Digital Video Design (3) Development and utilization of digital video for the purpose of improving the teaching-learning process. A-F only. Pre: ETEC major or consent.

ETEC 632 Developing E-learning Environments (3) Planning, design, and development of e-learning instruction for educational and training settings. Implementation of online components such as student interaction, course management, testing, and content delivery using a learning management environments and open courseware. Repeatable one time. A-F only. Pre: ETEC major or consent.

ETEC 641 Emerging Technologies for K-12 Teaching (3) Exploration and impact of emerging technologies in K-12 classroom teaching and learning and ramifications of these technologies on administration and instructional structure of schools. A-F only. Pre: ETEC major or consent.

ETEC 642 Facilitating E-learning Communities (3) Exploration of tools and design considerations for effective online communication and development of learning communities. Pre: ETEC major or consent.

ETEC 643 Educational Technology in Informal Learning Environments (3) Exploring the nature, application, and 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. Pre: ETEC major or consent.


ETEC 651 Interactive Multimedia Production (3) The utilization and application of advanced authoring tools, combining video, animation, graphics, and sound to develop student-centered learning. Primarily for advanced ETEC students. Pre: ETEC major or consent.

ETEC 652 (Alpha) Authoring E-learning Environments (3) Conceptualization of instructional design and its application to the development for e-learning environments: (A) assisted instruction (CAI); (C) managed instruction; (D) virtual reality; (E) animation. Repeatable two times. A-F only. Pre: ETEC major or consent.

ETEC 654 Programming for Games and Simulations (3) Project-based exploration of the breadth of programming in the context of educational games and simulations. Pre: ETEC major or consent.

ETEC 662 Assessment and Evaluation in E-learning (3) Evaluation and assessment processes, sources, and instruments applicable to systematic appraisal of e-learning. Repeatable one time. A-F only. Pre: ETEC major or consent.

ETEC 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. Repeatable one time. A-F only. Pre: ETEC major or consent. (Once a year)


ETEC 672 Distance Education Technology (3) Technical and instructional considerations for developing, delivering, managing, and evaluating distance education strategies, including hybrid, web-based, and software applications. Pre: ETEC major or consent.

ETEC 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. Pre: ETEC major or consent.

ETEC 674 Instructional Technology Management (3) Applying theory of management in instructional technology support services and delivery systems. Pre: ETEC major or consent.

ETEC 676 Social and Ethical Issues in Educational Technology (3) Examination of social and ethical issues as they relate to technology in instructional settings. Focus on social justice and societal impact. A-F only. Pre: ETEC major or consent.

ETEC 686 Information Literacy and Learning Resources (3) Study of information literacy models. Integration of information literacy with K-12 curriculum units and lessons. Evaluation of print and multimedia resources to meet student and curricular needs. Required for Librarian HDOE licensure. Pre: ETEC major or consent. (Cross-listed as EDCS 686 and LIS 686)

ETEC 687 Instructional Design and Technology Practicum (3) Practicum in instructional design, development, and technology in academic and non-academic settings. One-to-one direct supervision, plus regular class meetings in seminar format. Repeatable one time. Pre: ETEC major or consent.


ETEC 692 Practicum in E-learning (3) Practicum in e-learning in academic or non-academic settings, under close supervision, plus regular class meetings. Repeatable one time. Pre: ETEC major or consent.

ETEC 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable for 3 credit hours maximum each time. Pre: ETEC major or consent.


ETEC 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 five times. A-F only Pre: Consent. (Once a year)

ETEC 760 Seminar in Educational Technology Theory (3) Doctoral level seminar for advanced students examining the theoretical foundations of research in the learning sciences and technology. Repeatable three times. A-F only. Pre: Consent. (Once a year)

ETEC 780 Mixed Methods Research Design (3) Mixed methods research is designed for Ph.D and masters students in education and social sciences considering combining qualitative and quantitative research. Covers philosophical and practical implications of mixed methods dissertation/thesis proposal. Repeatable one time. (Once a year) (Cross-listed as EDCS 780 and DIS 780)

ETEC 781 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. ETEC majors only. A-F only. Pre: 667 or graduate level qualitative research course. (Summer only)

Electrical Engineering (EE)

College of Engineering

Preference in registration is given to declared engineering majors. Enrollment in EE courses requires a grade of C- or better in all prerequisite courses. Please consult the current Schedule of Courses for confirmed offerings each semester.

EE 101 Electrical Engineering I (3) Electrical engineering subjects in a skill acquisition context at the freshman level. Learning, creative problem solving, brainstorming, technical information assimilation, and presentation skills development. Repeatable two times. DP

EE 160 Programming for Engineers (4) (3 Lec, 1 3-hr Lab) Introductory course on computer programming and modern computing environments in C, with an emphasis on algorithm and program design, implementation, and debugging. Includes a hands-on laboratory to develop and practice programming skills. A-F only. Pre: MATH 241 (or concurrent) or MATH 251A (or concurrent) or consent.

EE 196 Freshmen Project (V) Freshman level individual or team project under EE faculty direction and guidance. The project provides design experience and develops practical skills. Repeatable unlimited times. Pre: sophomore standing or consent.

EE 315 Signal and Systems Analysis (3) Discrete- and continuous time signals and systems linear systems, convolution, Fourier series, Fourier transform, sampling. Pre: 213 and either MATH 244 or MATH 253A or consent.

EE 323 Microelectronic Circuits I (3) Semiconductor structures, operating principles and characteristics of diodes and active electronic devices. Their application as circuit elements in building basic digital, analog, and integrated circuit subsystems. Pre: 213. DP

EE 331L Microelectronic Circuits I Lab (1) (3 Lec, 1 3-hr Lab) Experiments on linear and logic properties of diodes and transistor networks. Pre: 213. Co-requisite: 323. DY

EE 324 Physical Electronics (3) Review of quantum mechanics fundamentals. H-atom, and chemical bonding. Introduction to band structure models and materials. Semiconductor doping, charge carrier statistics and charge transport, including ambipolar transport. Metal-semiconductor and PN junctions. Pre: MATH 243 or MATH 253A, and PHYS 274; or consent. DP

EE 326 Microelectronic Circuits II (3) Principles and design of linear electronic circuits including differential, operational, feedback, and tuned amplifiers; integrated circuits, current mirrors, signal generators, filters, and stability. Pre: 323. DP

EE 326L Microelectronic Circuits II Lab (1) (3 Lec, 3 3-hr Lab) Laboratory for 326, experiments on linear and analog electronics. Pre: 325L. Co-requisite: 326. DY

EE 327 Theory and Design of IC Devices (3) Band structure models and carrier transport physics review. Theory and design of semiconductor IC devices: Schottky diodes, bipolar devices (PN junction diodes, BJTs), FETs (MOSFETs, JFETs, and MESFETs). Pre: 324 and either MATH 243 or MATH 253A or consent.

EE 328 Microelectronic Fabrication (3) Technology principles, materials, and methods for the design and fabrication of semiconductor devices, integrated circuits, and microelectromechanical systems. Pre: 327 or consent. Co-requisite: 328L. DP

EE 328L Microcircuit Fabrication Lab (1) (3 Lec, 1 3-hr Lab) Hands-on laboratory where students make various electronic and electromechanical micro-devices using IC technology. Devices are also tested and analyzed. Pre: 324 or consent. Co-requisite: 328. DY

EE 341 Introduction to Communication Systems (3) Signal representation, Fourier analysis; amplitude and angle modulated systems; sampling theorems, pulse and digital modulation systems; carrier modulation by digital signals. Pre: 315.
EE 451 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. Repeatable one time. Pre: 315 or 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, image restoration, color spaces and transformations, the last 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, non-linear applications. Design project. Basic transducers. 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 theory, ADC, DAC, and optical instrumentation 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 and MOS devices, heterojunction devices, new device trends. Topics from the most current literature included. Pre: 327 and either MATH 243 or MATH 253A, or consent. DP

EE 427 Computer-Aided Circuit Design (3) Application of the computer to the analysis, design, simulation, and construction of analog and digital circuits. Pre: 330, or consent. DP

EE 442 Digital Communications (3) Baseband transmission, intersymbol interference and pulse shaping, partial response signaling, equalization, bandpass modulation and demodulation, channel coding, synchronization, multiplexing and multiple access, spread spectrum techniques. Pre: 341 and 342, or consent.

EE 446 Information Theory and Coding (3) Models of communication systems. Channel noise, measurement, and coding of information. Intrinsic limits of performance of communication systems. Pre: 341 and 342, or consent.

EE 449 Computer Communication Networks (3) ISO Reference Model, Physical Layer, Data Link Layer protocols, local- and wide-area networks, routing, congestion and flow control, higher layer protocols, network design, ISDN, performance evaluation, high level and protocol analysis. Pre: 315 and one of 342, MATH 371 or MATH 471; or consent.

EE 480L Biomedical Engineering Lab (1) (3-hr Lab) Measurement of bioelectrical signals, computer and electronic simulation of biological systems, design and evaluation of electronic circuits for biomedical measurement and regulation of instruments for patient safety. Pre: 323 and 323L. Co-requisite: 480.


EE 482 Biomedical Instrumentation (3) (2 Lec, 1-3-hr Lab) Principles, applications, and design of biomedical instrumentation. Transducers, IC and microcomputer applications, patient safety. Pre: 326, 480; or consent.

EE 491 (Alpha) Special Topics in Electrical Engineering (3) Content will reflect special interests of visiting/permanent faculty; to be oriented toward juniors and seniors. (B) artificial intelligence; (C) circuits; (D) communications; (E) computer hardware; (F) computer software; (G) computer vision; (H) control; (I) devices; (J) fields; (K) power. Pre: consent.

EE 494 Provisional Topics (3) Upper division course with subject matter to be announced.

EE 495 Ethics in Electrical Engineering (1) Equip electrical engineers with the necessary background for ethical reasoning, as it pertains to technology, society, workplace issues, and the environment. EE majors only. A-F only. Pre: senior standing or consent. (Once a year)

EE 496 Capstone Design Project (V) Significant project integrating the design content of previous courses and incorporating engineering standards and realistic constraints. Written report must document all aspects of the design process: reliability, safety, economics, ethics. Repeatable unlimited times. A-F only. Pre: 396 or consent.

EE 499 Directed Reading (V) Investigation of advanced engineering problems. Pre: senior standing and consent.

EE 500 Master’s Plan B/C Studies (1)

EE 602 Algorithm I (3) Design and evaluation of machine representations, techniques and algorithms for sorting, pattern processing, computational geometry, mathematical computations, and engineering applications. Introduction to computational issues of time, space, communication, and program correctness. Pre: 367 or consent.

EE 604 Artificial Intelligence (3) LISP for machine intelligence applications, or related constraint object and logic-oriented languages. Pre: 467 or knowledge of LISP/PROLOG.

EE 606 Intelligent Autonomous Agents (3) Theory, methods and practical applications of autonomous agents system, including common applications of both software and hardware (robotic) agents. In-depth practical experience with autonomous agents through programming assignments and projects. Pre: 467 or ICS 513 (or equivalent), graduate standing; or consent. (Once a year) (Cross-listed as ICS 606)

EE 607 Advanced Network Algorithms (3) Network algorithms and protocols, and packet switching systems for the internet including TCP/IP, routing algorithms, transmission scheduling, link management, buffer management, and simple network management. Pre: 367 or consent.

EE 608 Optical Networks (3) Propagation of signals in fibers, evaluation of modulation and demodulation, transmission system engineering, network systems and architectures, network design, control and management and packet switching. Pre: 342, 367, and 371; or consent.

EE 609 Computer and Network Security (3) Basic security theory, current practices, and emerging research issues. First covering the fundamentals of computer and network security, then will work on research projects on computer and network security. Pre: consent.

EE 615 Advanced Digital Signal Processing (3) An advanced course in digital processing. Topics include fast DFT algorithms, multirate systems and filter banks, power spectrum estimation, linear prediction, optimum linear filters, and adaptive filtering. A-F only. Open to nonmajors for CR/NC only. Pre: 415 or 540, or consent.

EE 616 Digital Image Processing (3) Human visual perception, image formation, sampling and quantization, enhancement and restoration, color image processing, wavelets and multiresolution representations, image and video compression. Pre: 415 or equivalent.

EE 617 Linear and Convex Optimization (3) Algorithms for linear, nonlinear, and convex optimization. Emphasis is on methodology and the underlying mathematical structures. Topics include simplex method, network flow methods, optimality conditions, duality, Newton’s method and interior point methods. EE, ME, MIS and MATH majors only. Pre: MATH 311 or consent. (Alt. years)

EE 618 Dynamic Programming and Stochastic Control (3) Sequential decision-making via dynamic programming. Optimal control of stochastic dynamic systems. Applications in linear-quadratic control, inventory control, resource allocation, scheduling and control of queues. Rollout and other suboptimal methods. Value and policy iteration. Pre: 342 or MATH 371 or MATH 471, or consent.


EE 621 Advanced Solid-State Devices (3) Advanced physical principles and design of modern solid-state electronic devices. Heterostructures, photodetectors, LED, junction lasers, and other devices of current importance identified from the current literature. Pre: 327.

EE 622 Optical Electronics I (3) Fundamentals of optical radiation, including stimulated and spontaneous processes. Optical electronics including optical resonators, lasers, optical detectors, light-guiding, and applications. Pre: 327 or consent.

EE 624 Microsensors and Microactuators I (3) Technology methods and physical principles of microsensors and microactuators. Vacuum technology, thin film deposition and characterization techniques, solid mechanics, micromachining, acoustics, piezoelectricity and principles of current microtransducers. Pre: 327 or consent.

EE 627 Advanced Topics in Physical Electronics (3) Recent developments in phenomena and devices of physical electronics. Pre: 327.


EE 642 Detection and Estimation Theory (3) Fundamentals of signal detection and estimation theory. Hypothesis testing, parametric and nonparametric detection, sequential detection, parametric estimation, linear estimation, robust detection and estimation, and applications to communication systems. Pre: 640.


EE 645 Machine Learning (3) Learning theory, pattern recognition and regression; gradient based algorithms and least square algorithms; Kernel methods; Bayesian learning algorithms; ensemble learning and boosting; principal component analysis; independent component analysis, and clustering; reinforcement learning and approximate dynamic programming. EE, ME, ICS, MATH majors only. Pre: 342.

EE 666 Advanced Information Theory (3) Measure of information, coding for discrete sources, discrete memoryless channels and capacity, the noisy channel coding theorem, source coding with fidelity criterion, rate-distortion theory, multichannel codes. Pre: 640.

EE 668 Error-Control Coding I (3) Linear block codes, soft and hard decision decodings, correction of random errors, cyclic codes, BCH codes, Reed-Solomon codes, majority logic decodable codes, burst-error correcting codes, concatenated codes. Pre: MATH 311 or consent.

EE 670 Error-Control Coding II (3) Convolutional codes, Viterbi algorithm, turbo codes, multistage decoding, concatenated coded modulation, probabilistic decoding, turbo codes, low density parity check codes and iterative decoding. Pre: 468.

EE 675 Linear System Theory (3) State space theory of linear systems, controllability, observability, stability, irreducible realizations. Pre: 452.


EE 688 Telecommunication Networks (3) Telecommunication-network architecture; switching, broadcast, and wireless networks; protocols, interfaces, routing, flow- and congestion-control techniques; intelligent network architecture; service creation capabilities; multimedia, voice, data, and video networks and 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 681 Biosensors and Bioelectronics (3) Advanced topics in the design of biological detection technologies. Topics include fundamentals of electro-
chemistry, electrochemical biosensors, DNA and protein biosciences, and bioelectronics for bio-signal conditioning and processing. Prec. 324 and 326, or consent. (Once a year)

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; (G) computer vision; (H) control; (I) devices; (J) fields; (K) power. Prec. consent.

EE 699 Directed Reading or Research (V) Repeatable unlimited times. CR/NC only. Prec. graduate standing and consent.


EE 790 Directed Instruction (V) Student assists in undergraduate classroom and/or project instruction under direction and close supervision of faculty member. CR/NC only. Prec. admission to PhD candidacy.

EE 800 Dissertation Research (V) Research for doctoral dissertation. Prec. candidacy for PhD in electrical engineering.

Engineering (ENGR)
College of Engineering
Preference in registration is given to declared engineering majors. Please consult the current Schedule of Courses for confirmed offerings each semester.

ENGR 100 Engineering Freshman Seminar (1) Overview of the engineering field, the different disciplines, and opportunities. Success strategies for studying engineering. Repeatable one time. CR/NC only.

ENGR 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 methods and mentoring relationships with experienced peer leaders. (Cross-listed as IS 250)

ENGR 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)

ENGR 401 Engineering Management (3) Introduction to engineering management with emphasis on development of skills for professional advancement. Repeatable one time.

ENGR 493 Field Experience (1) Supervised internship in engineering practice under professional and faculty direction. Repeatable one time. CR/NC only. Prec. junior standing in engineering and consent.

English (ENG)
College of Languages, Linguistics and Literature

ENG 100 Composition I (3) Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; instruction in composing processes, search strategies, and writing from sources. Prec. placement. Freshman only. FW

ENG 190 Composition for Transfer Students to UH Mānoa (3) Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; instruction in composing processes, search strategies, and writing from sources. Restricted to students with more than 24 credits. Students may not earn credit for both ENG 100 and ENG 190. A-F only. Prec. placement. FW

ENG 200 Composition II (3) Further study of rhetorical, conceptual, and stylistic demands of writing; instruction develops the writing and research skills covered in Composition I. Prec. FW. NI

ENG 209 Business Writing (3) Practice in informative, analytical, persuasive writing. Prec. FW. Students may not earn credit for both ENG 209 and BUS 209. NI

ENG 270-275 courses fulfill the UH Mānoa General Education Literatures (DL) requirement. Credits for these courses are considered "non-introductory." A significant portion of class time is dedicated to writing instruction, and the courses require a minimum of 4,000 words of graded writing.

ENG 270 Introduction to Literary: Literary History (3) Study of significant works of selected historical periods. A significant portion of class time is dedicated to writing instruction. Requires a minimum of 4,000 words of graded writing. Prec. FW. NI DL

ENG 271 Introduction to Literature: Genre (3) Study of significant works of selected genres. A significant portion of class time is dedicated to writing instruction. Requires a minimum of 4,000 words of graded writing. Prec. FW. NI DL

ENG 272 Introduction to Literary: Culture and Literature (3) Study of significant works of selected cultures and cultural constructs. A significant portion of class time is dedicated to writing instruction. Requires a minimum of 4,000 words of graded writing. Prec. FW. NI DL

ENG 273 Introduction to Literature: Creative Writing and Literature (3) Study of significant works through analytical and creative writing. Prec. FW. No waiver. NI DL

ENG 300 Introduction to Rhetoric (3) History of theory and practices of rhetoric from Classical to contemporary periods; e.g., Plato, Aristotle, Cicero, Quintilian, Augustine, Sidney, K. Burke, DeMan. Prec. one ENG DL course or consent. DL

ENG 302 Introduction to the English Language (3) Basic concepts and methods for the study of the English language; general history of the language; grammar and usage, issues of language diversity and standardization; English as a world language. Prec. one ENG DL course or consent. DH

ENG 306 Argumentative Writing I (3) Theory and practice of written argumentation with an emphasis on the role of invention in argumentative discourse and on the nature of rhetorical proof. Prec. FW and either 200 or one ENG DL course, or consent.

ENG 307 Rhetoric, Composition, and Computers (3) Introduction to computer-based writing and reading technologies; study of principles of traditional and online composition. Writing traditional and multimedia essays. Prec. one ENG DL course or consent.

ENG 308 Technical Writing (3) Combined lecture/lab preparing students to write about technical subjects for specialists and laypersons. Introduces theory of technical communication and document design and teaches students to make use of relevant technology. A-F only. Prec. FW and either 200 or one ENG DL course, or consent. DA

ENG 311 Autobiographical Writing (3) Writing clear, effective prose based on the writer’s own experiences and ideas. Prec. one ENG DL course or consent.

ENG 313 Creative Writing (3) Basic principles of the craft as developed through writing in two of the following genres: fiction, poetry, drama, screenwriting, and creative nonfiction. Prec. one ENG DL course or consent.

ENG 320 Introduction to English Studies (3) Introduction to the purpose, practice, and potential of literary and rhetorical study of texts. Precipitate for 400-level work for ENG majors. Prec. one ENG DL course or consent.

Each semester, selected "large-enrollment" 300-level courses are designed largely for non-majors. Prerequisites are waived for these particular courses. Please see the Registration Guide for these designated courses. English majors can use at most two "large enrollment courses" to fulfill major requirements.

ENG 321 Backgrounds of Western Literature (3) Sources of European and American literary themes and allusions; myth, legend, and folklore of Western cultures; e.g., Classical texts, Arthurian romances, King James Bible. Prec: one ENG DL course or consent. DL

ENG 322 The Bible as Literature (3) Narrative, generic, and stylistic forms in the Bible in English. Related writings may be considered in comparative analysis. Prec. one ENG DL course or consent. DL

ENG 323 Literature in English to 1660 (3) Basic concepts and representative texts for the study of literature in English to 1660. Prec: one ENG DL course or consent. DL

ENG 324 Literature in English 1660-1900 (3) Basic concepts and representative texts for the study of literature in English from 1660-1900. Prec: one ENG DL course or consent. DL

ENG 325 Literature in English after 1900 (3) Basic concepts and representative texts for the study of literature in English after 1900. Prec: one ENG DL course or consent. DL

ENG 326 Literature and (Post) Colonialism (3) Basic concepts and representative texts for the study of colonial, post-colonial, and/or colonial literature from regions such as Africa, India, the Pacific, and the Caribbean. Prec: one ENG DL course or consent. DL

ENG 327 Literary Criticism and Theory (3) Survey of representative texts from Greek to modern times; e.g., Plato, Aristotle, Sidney, Johnson, Arnold, Eliot, Barthes, Derrida, Foucault, Kristeva. Prec: one ENG DL course or consent. DH

ENG 330 Medieval British Literature (3) Basic concepts and representative texts for the study of British literature before 1500. Prec: one ENG DL course or consent. DL

ENG 331 Renaissance British Literature (3) Basic concepts and representative texts for the study of British prose and poetry from 1500 to 1660. Prec: one ENG DL course or consent. DH

ENG 332 Restoration/18th-Century British Literature (3) Basic concepts and representative texts for the study of British prose, poetry, and drama from 1660 to 1780, exclusive of Milton. Prec: one ENG DL course or consent. DH

ENG 333 Romantic British Literature (3) Basic concepts and representative texts for the study of British prose and poetry from 1780 to 1832. Prec: one ENG DL course or consent. DH

ENG 334 Victorian British Literature (3) Basic concepts and representative texts for the study of British prose and poetry from 1832 to 1900. Prec: one ENG DL course or consent. DA

ENG 335 British Literature After 1900 (3) Basic concepts and representative texts for the study of British prose, poetry, and drama from 1900 to the present. Prec: one ENG DL course or consent. DL

ENG 336 American Literature to Mid-19th Century (3) Basic concepts and representative texts for the study of American literature through the middle of the 19th century. Prec: one ENG DL course or consent. DL

ENG 337 American Literature Mid-19th to Mid-20th Century (3) Basic concepts and representative texts for the study of American literature since approxi-
1. The Islanders Pre: one ENG DL course or consent. DL
2. ENG 350 18th-Century Novel in English (3) Basic concepts and representative texts for the study of the novel in English before 1800. Pre: one ENG DL course or consent. DL
3. ENG 351 19th-Century Novel in English (3) Basic concepts and representative texts for the study of the novel in English between 1800 and 1900. Pre: one ENG DL course or consent. DL
4. ENG 352 20th-Century Novel in English (3) Basic concepts and representative texts for the study of the novel in English after 1900. Pre: one ENG DL course or consent. DL
5. ENG 353 History of Poetic Forms (3) Basic concepts and representative texts for the historically organized study of poetic genres and forms before the 20th century and primarily in English. Pre: one ENG DL course or consent. DL
6. ENG 354 Poetry in English After 1900 (3) Basic concepts and representative texts for the study of poetry in English after 1900. Pre: one ENG DL course or consent. DL
7. ENG 355 Drama in English to 1900 (3) Basic concepts and representative texts for the study of drama in English from the Middle Ages through the end of the 19th century. Pre: one ENG DL course or consent. DL
8. ENG 356 Drama in English After 1900 (3) Basic concepts and representative texts for the study of drama in English after 1900. Pre: one ENG DL course or consent. DL
9. ENG 360 Prose Fiction (3) Basic concepts and representative texts for the study of the form, function, and development of prose fiction genres such as short story and novel. Pre: one ENG DL course or consent. DL
10. ENG 361 Poetry (3) Basic concepts and representative texts for the analysis of imagery, sound, language, form, and structure in poems. Pre: one ENG DL course or consent. DL
11. ENG 362 Drama (3) Basic concepts and representative texts for the study of the form, function, and development of the genre of drama. Pre: one ENG DL course or consent. DL
12. ENG 363 Film (3) Basic concepts and representative texts for the study of the form, function, and development of cinematic narrative techniques. Pre: one ENG DL course or consent. DH
13. ENG 364 Non-fiction Prose (3) Basic concepts and representative texts for the study of non-fiction prose such as essays, biographies, autobiographies, speeches, political and legal documents, conversion and captivity narratives, testimonies, science writing, and travel writing. Pre: one ENG DL course or consent. DL
14. ENG 365 Mixed Genres (3) Basic concepts and representative texts for the study of works that incorporate more than one genre. Pre: one ENG DL course or consent. DL
15. ENG 366 Shakespeare and Film (3) Comparative analysis of selected plays by Shakespeare and films which appropriate, re enact, adapt, or offer variations on his texts. Pre: one ENG DL course or consent. DL
16. ENG 370 Ethnic Literature of Hawai‘i (3) Writings of various ethnic groups in Hawai‘i, ancient to contemporary. Songs, stories, poetry, fiction, essays that illustrate history of Hawai‘i. Pre: one ENG DL course or consent. (Cross-listed as ES 370) DI
17. 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 PACS 371) DL
18. 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) DI
19. ENG 373 African American Literature (3) Basic concepts and representative texts for the study of African American literature by writers from a variety of backgrounds. Pre: one ENG DL course or consent. DL
20. 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. DL
21. ENG 375 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 IP 363) DI
22. ENG 376 Philippine Literature and Folklore in Translation (3) Philippine folklore translated into English: epics, myths, legends, and other folklore. Classic works of vernacular writers. Pre: one ENG DL course or consent. (Cross-listed as IP 396) DI
23. ENG 380 Folklore and Oral Tradition (3) Basic concepts and representative texts for the study of folktales, legends, ballads and other folklore genres in various cultures; consideration given to folklore/literature relationships. Pre: one ENG DL course or consent. DL
24. 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. DI
25. 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) DI
26. 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. DL
27. 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. DI
28. 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. DL
29. ENG 393 Junior Honors Tutorial (3) Tutorials in literature. Consult the English department’s Honors director for particulars; offered fall semester. Repeatable one time. Pre: enrollment in Honors Program and one ENG DL course or consent. DL
30. ENG 394 Junior Honors Tutorial (3) Tutorials in literature. Consult the English department’s Honors director for particulars; offered fall semester. Repeatable one time. Pre: enrollment in Honors Program and one ENG DL course or consent. DL
31. ENG 395 Honors Tutorial (3) Tutorials in literature. Consult the English department’s Honors director for particulars; offered fall semester. Repeatable one time. Pre: enrollment in Honors Program and one ENG DL course or consent. DI
32. ENG 396 Studies in Literature and Culture (3) Intensive study of selected topics, problems, themes, and/or writers in composition, rhetoric, and/or English language. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DI
33. ENG 401 Form and Theory of Poetry (3) Poetic theories and techniques for students interested in writing poetry. Pre: 313 or consent. DL
34. ENG 402 Nonfiction Writing (3) Workshop analysis of nonfiction as a literary form. Repeatable one time. Pre: 306 or 313; or consent. DA
35. ENG 403 Modern English Grammar (3) Introduc tion to the structure of present-day English for native speakers and others with advanced competency. Pre: two ENG DL courses or consent. DH
36. 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 education, from 1820 to present. Pre: two ENG DL courses or consent. DH
37. ENG 405 Teaching Composition (3) Theory, observation, and practice in teaching writing, especially the use of one-on-one and small group instruction. Pre: two ENG DL courses; or consent. Recommended: 306.
38. ENG 405l Teaching Composition (1) 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.
39. 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.
40. 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.
41. 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: 306, 311, 313, 403, or 405; or consent.
42. ENG 409 Studies in Composition/Rhetoric/ Language (3) Intensive study of selected topics, problems, issues, and/or writers in composition, rhetoric, and/or English language. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DI
43. ENG 410 Form and Theory of Poetry (3) Poetic theories and techniques for students interested in writing poetry. Pre: 313 or consent. DL
44. ENG 411 Poetry Workshop (3) Writing, evaluating poems. Repeatable one time. Pre: 410 or consent. DA
45. ENG 412 Nonfiction Writing (3) Workshop analysis of nonfiction as a literary form. Repeatable one time. Pre: 306 or 313; or consent. DA
46. ENG 413 Form and Theory of Fiction (3) Narrative techniques for students interested in writing fiction. Pre: 313 or consent. DL
47. ENG 414 Fiction Workshop (3) Writing, evaluating fiction. Repeatable one time. Pre: 415 or consent. DA
48. 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. DA
49. 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. DL
50. 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. DL
51. 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: 320 and one other 300-level ENG course; or consent. DH

Key to symbols & abbreviations: see the first page of this section.
ENG 430 Studies in Medieval Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in Old/Middle English literature from 500-1500, including works in modern translation. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 431 Studies in 16th and 17th Century Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in texts written during the period 1500-1700. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 432 Studies in 18th Century Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in texts written during the period 1760-1830, the “long” 18th century. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 433 Studies in 19th Century Literature (3) Intensive study of selected problems, issues, writers, traditions, or movements in texts written during the 19th century. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 434 Studies from 20th Century to Present (3) Intensive study of selected problems, issues, writers, traditions, or movements in texts written from the 20th century to the present. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 440 (Alpha) Single Author (3) Intensive study of the works and literary milieu of a single author: (A) Beowulf (B) Emily Dickinson; (C) George Eliot; (D) William Faulkner; (E) Ben Jonson; (F) James Joyce; (G) Mark Twain; (H) Walt Whitman; (I) Virginia Woolf; (J) William Wordsworth; (K) Charles Dickens; (M) Toni Morrison; (N) Jane Austen; (P) Wole Soyinka; (Q) Salman Rushdie. Repeatable one time for a different alpha. Pre: two ENG DL courses or consent. DL

ENG 442 Geoffrey Chaucer (3) Intensive study of the works and literary milieu of Geoffrey Chaucer. Pre: two ENG DL courses or consent. DL

ENG 445 William Shakespeare (3) Intensive study of the works and literary milieu of William Shakespeare. Repeatable one time. Pre: two ENG DL courses or consent. DL

ENG 447 John Milton (3) Intensive study of the works and literary milieu of John Milton. Pre: two ENG DL courses or consent. DL

ENG 455 U.S. Women’s Literature and Culture (3) Reading of selected works of U.S. women’s literature and culture (such as art and film). Emphasis on historical and cultural context and diverse expressions of women’s gendered identities. (Cross-listed as AMST 455 and WS 445) DL

ENG 460 Studies in Fiction (3) Intensive study of selected problems, issues, writers, traditions, or movements in prose fiction. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 461 Studies in Poetry (3) Intensive study of selected problems, issues, writers, traditions, or movements in poetry. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 462 Studies in Drama (3) Intensive study of selected problems, issues, writers, traditions, or movements in drama. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 463 Studies in Film (3) Intensive study of selected topics in film, e.g.: genres, major filmmakers, film theory/criticism, and film and literature. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DH

ENG 464 Studies in Life Writing (3) Intensive study of forms and theories of life writing in forms such as biographies, autobiographies, oral histories, diaries, journals, letters, film, drama, and portrai- ture. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 466 Special Topics: Genre Studies (3) Intensive study of selected texts that combine traditional genres, cross disciplines, challenge categorization, or are overlooked in the study of larger genre categories such as poetry, fiction, or drama. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 470 Studies in Asia/Pacific Literature (3) Intensive study of selected problems, issues, traditions, genres, or writers relating to Asia and the Pacific. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 471 Studies in Postcolonial Literature (3) Intensive study of selected problems, issues, traditions, genres, or writers in postcolonial literatures and theories. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 472 Studies in Diasporic Literature (3) Intensive study of literature, cultural and theoretical issues of diasporic experiences such as immigration, assimilation, nation, and transnationalism. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 479 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: two ENG DL courses; second may be taken concurrently; or consent. (Cross-listed as HWS 494) DL

ENG 480 Studies in Literature and Folklore (3) Intensive study of selected problems, issues, traditions, or genres in folklore and oral traditions and their performance and transformations within specific social and cultural contexts. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 481 Studies in Literature and Popular Culture (3) Intensive study of selected problems, issues, traditions, writers, movements, or genres in the field of popular literature and/or popular culture. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 482 Studies in Literature and Sexuality and Gender (3) Intensive study of selected problems and issues in the construction and representation of sexuality and gender in specific genres, social and cultural contexts, or thematic/figurative clusters. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. (Cross-listed as WS 483) DL

ENG 491 Senior Honors Tutorial (3) Studies in history of ideas, periods, genres, or themes in literature. Includes research paper. Repeatable one time. Pre: enrollment in Honors Program, 320 and two 300-level ENG courses; or consent. Offered fall semester. DL

ENG 492 Senior Honors Tutorial (3) Studies in history of ideas, periods, genres, or themes in literature. Includes research paper. Repeatable one time. Pre: enrollment in Honors Program, 320 and two 300-level ENG courses; or consent. Offered spring semester. DL

ENG 494 Study Abroad (V) Intensive study in the English language of selected topics, issues or writers from the host country in a UH Mānoa-approved study abroad location. Repeatable one time. A-F only. Pre: two ENG DL courses or consent. DL

ENG 495 Internship (3) Faculty supervised participation in the operations of an organization. A-F only. Pre: two ENG DL courses, junior standing, or consent.

ENG 499 Directed Reading (V) Repeatable one time. A-F only. Pre: two ENG DL courses or consent.
ENG 727 Seminar in Literary Criticism (3) Intensive study of selected topics in literary theory and its practical application; topics to be announced. Repeatable two times. Pre: graduate standing or consent.

ENG 730 (Alpha) Seminar in English Literature (3) Study of one or more authors, English or American literature. (H) Twentieth-century English and American literature; (C) Chaucer; (N) 14th century poetry; (P) extended Victorian lyric; (Q) modern British fiction; (R) early 17th century poetry; (S) dominant Victorian the 1840s; (T) Baroque and English literature; (U) literature and social change; (X) literature and history; (Y) studies in literature. Repeatable one time.

ENG 735 (Alpha) Seminar in American Literature (3) Study of authors or a period. (B) American modernism; (C) race in American literature; (D) 19th century American poetry; (E) American literature and theory; (F) African American literature and theory; (G) American transcendentalism; (H) 19th century American novel; (I) contemporary American poetry; (J) poetry by 20th century American women; (K) women writers and multiculturalism; (L) Asian American literature; (M) literature and theory; (N) nature of romance; (O) Victorian poetry; (P) poetry by 20th century American women; (Q) women writers and multiculturalism; (R) Asian American literature and theory; (S) relocating American literature; (T) early American literature; (U) H. Melville and T. Morrison. Repeatable one time for different alphas.

ENG 740 (Alpha) Seminar in Major Author (3) Study of one or more authors, English or American. (A) Thomas Pynchon; (B) William Faulkner; (C) Virginia Woolf; (D) Thomas Hardy; (E) Henry James; (F) Emily Dickinson; (G) Jonathan Swift; (H) Henry David Thoreau; (I) William Shakespeare; (J) James Joyce; (K) Emily Bronte; (L) D.H. Lawrence; (M) William Golding; (N) Virginia Woolf; (O) Samuel Beckett; (P) Angela Davis; (Q) Toni Morrison; (R) Joseph Conrad; (S) Virginia Woolf; (T) Virginia Woolf; (U) Angela Davis; (V) Frederick Douglass; (W) Jean Rhys. Repeatable one time. A-F only. Pre: graduate standing or consent.

ENG 745 Seminar in Shakespeare (3) Intensive study of Shakespeare. Pre: graduate standing or consent.

ENG 760 (Alpha) Seminar in Literary Genres (3) Study of one or more authors, English or American literature. (B) modern American short story; (C) sonnet and sonnet sequences; (D) Rest., 18th century dramatic comedy; (H) 18th century literature and art; (I) medieval drama; (J) narrative theory and criticism; (K) reinventing the author; (L) laughter and the comic arts; (N) nature of romance; (O) Victorian novel; (P) Jacobean drama; (Q) science fiction; (R) essay, past and present; (S) Eng. hymn in Western culture; (W) 18th century British women novelists; (Y) English romanticism; (Z) English novel and criticism. Repeatable one time. A-F only. Pre: graduate standing or consent.

ENG 763 Seminar in Film Theory and Criticism (3) Classic theories of representation and aesthetics; modern and contemporary cultural, psychoanalytic, and aesthetic theories as they apply to film. Pre: one social sciences core course.

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.

ENG 770 Seminar in Cultural Studies in Asia/Pacific (3) Intensive study of selected issues in cultural studies in Asia and the Pacific; topics to be announced. Repeatable one time.

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 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. (B) African literature; (C) contemporary literature; (D) folklore and literature; (F) theory/practice of poetry; (H) contemporary drama; (I) mythic method; (J) postmodern fiction; (M) modernism; (N) colonial/postcolonial; (P) postmodernism and postcolonialism; (W) medieval women writers. Repeatable one time for different alphas.

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 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 100, 101, 200, 300, 400.

ELI 070 Listening Comprehension I (0) Intensive work in understanding lectures, taking lecture notes, writing examinations, and study skills. Language laboratory required.

ELI 072 Reading for Foreign Students (0) Instruction and practice in improving reading comprehension and speed, and in use of textbooks and reference materials. Work on study skills; individual conferences and tutoring.

ELI 073 Writing for Foreign Students (0) Extensive practice in expository writing. Analysis and use of rhetorical devices. Individual conferences and tutoring as required.

ELI 080 Listening Comprehension II (0) Further development of listening discrimination skills. Language laboratory required. Pre: 070 or placement by examination.

ELI 082 Advanced ESL Reading (0) Advanced ESL study skills and extensive reading strategies; focus on vocabulary and reading in student’s major. Pre: 072 or placement by examination.

ELI 083 Writing for Foreign Graduate Students (0) Individual instruction in specific writing problems: term papers, projects, foreign graduate students only except by permission. Pre: 073 or placement by examination.

ELI 100 Expository Writing: A Guided Approach (3) Extensive practice in writing expository essays; linguistic devices that make an essay effective. (Full-composition requirement for nonnative speakers of English only.) Pre: English proficiency. (Summer only)

ELI 111 Practicum for International Teaching Assistants (3) Extensive practice for international teaching assistants in speaking 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

ES 101 Introduction to Ethnic Studies (3) Basic concepts and theories for analyzing dynamics of ethnic group experiences, particularly those represented in Hawai’i, and their relation to colonization, immigration, problems of identity, racism, and social class.

ES 221 Hawaiians (3) Relationship between changes in Hawaiian lifestyle and development of Hawaiian economy; land use and tenure; participation in government, labor, and industry; Hawaiian institutions. Pre: junior standing and (or concurrent); or consent. (Cross-listed as AMST 201 (or concurrent), AMST 202 (or concurrent), SOC 100 (or concurrent), or SOC 214 (or concurrent); or consent.

Ful 118 Afro American Survey (3) History of selected African immigrant groups from the 19th century to the present. Topics include: immigration and labor history, African American movements, literature and cultural productions, community adaptations and identity formation. Pre: junior standing and one of AMST 201 (or concurrent), AMST 202 (or concurrent), SOC 100 (or concurrent), or SOC 214 (or concurrent); or consent. (Cross-listed as AMST 318) DS

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 on Pacific peoples. Pre: one social sciences core course. DH

ES 330 Japanese in Hawai’i (3) Issei roots in Japan; the role of Japanese in labor, politics, and business; sansei and perspectives on local identity and culture. The Japanese in light of changing economic, social, and political conditions in Hawai’i today. Pre: one social sciences core course. DH

ES 331 Chinese in Hawai’i (3) Ethnohistorical and contemporary view of the experiences of the Chinese in Hawai’i and the U.S. mainland; specific roles and contributions; immigration, social organization, and identity. Pre: one social sciences core course. DH

ES 332 Caucasians in Hawai’i (3) Historical and current views of white ethnic groups in Hawai’i; significance in economic and social development of Hawaiian society. Pre: one social sciences core course. DH

ES 333 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 social sciences core course or consent. DH

ES 335 Koreans in Hawai’i (3) Historical and contemporary experiences, causes and patterns of migration, conditions on plantations, ties to Korea, community development and roles in society. Pre: one social sciences core course. DH

ES 338 American Indian Experience (3) Provides a comprehensive look at the indigenous foundation of life and society in the Americas and elaborates on historical and contemporary importance of American Indian rights issues. Pre: one social sciences core course. DH

ES 339 South Asian Migrants: Culture and Politics (3) Historical and contemporary experiences of South Asian migrants in the Americas, Pacific, Caribbean, and/or African diasporas; causes and patterns of migration, inter-ethnic relations policies; role of race, gender, culture in community, identity formation. A-F only. Pre: DS or WS course in the 100, 200 or 300 level; or consent. (Once a year) (Cross-listed as WS 339) DS

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 development on ethnic communities. Pre: one social sciences core course. DH

ES 350 Economic Change and Hawai‘i’s People (3) Development of modern Hawaiian economy and Reconstruction. Pre: one social sciences core course or consent. DS

ES 306 African American Experience II (3) Afrocentric socio political analysis. The struggle for freedom: Reconstruction period, reign of terror, intellectual and cultural awakenings, civil rights movements, contemporary view. Pre: one social sciences core course or consent. DS

Key to symbols & abbreviations: see the first page of this section.
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 social sciences core course. DS

ES 360 Immigration to Hawai‘i and U.S. (3) Historical overview: “push and pull factors”; effect of changing economy; experiences of various ethnic groups; problems of recent immigrants; immigration policies in the U.S. and Hawai‘i. Pre: one social sciences core course. DH

ES 365 Pacific/Asian Women in Hawai‘i (3) Adaptive strategies of Hawaiian, Chinese, Japanese, Korean, Filipino, and Southeast Asian women in Hawai‘i; feminist anthropological and historical analysis. Pre: one ANTH, SOC, or WS course. (Cross-listed as WS 360) DS

ES 370 Ethnic Literature 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: 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 372) DL

ES 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 AMST 373) DS

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. Pre: consent.

ES 381 Social Movements in Hawai‘i (3) Role of various contemporary movements for social change in Hawai‘i’s community, ethnic, labor, student, etc. Theories of social movements and social change. Pre: one social sciences core course. DS

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 race/ethnic activism in the mainland and Hawai‘i. A-F only. Pre: 101, WS 151, or Social Science Cores. (Cross-listed as WS 390) DS

ES 392 Change in the Pacific—Polynesia (3) Impact of cultural and physical change and their inter-relationships. Pre: one 200, 300, or social sciences courses. DS

ES 399 Directed Reading/Research (V) Repeatable up to 6 credits. Pre: consent only.

ES 410 Race, Class, and the Law (3) Historical context and implications of landmark court decisions and legal issues affecting social change in ethnic communities in Hawai‘i and the continental U.S. Pre: one 300-level course in ES, POLS, or SOC. DS

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. Pre: one 300-level ES or WS course, or SOC 300-level course. (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. Pre: 101 or consent.

ES 440 Contemporary African Diaspora and Black Communities Beyond the U.S. (3) Analysis of social, political, and cultural circumstances that inform the experiences of contemporary African Diaspora and Black communities outside of the U.S.; Black identity. Pre: one of 301 or 305 or 306, or consent. (Spring only) DS

ES 443 Filipino Americans: Research Topics (3) A research seminar on the study of Filipino Americans. Special themes in film/video/media, the performing arts, or literature may be offered. Pre: junior standing or consent. (Cross-listed as AMST 401) DS

ES 455 (Alpha) Topics in Comparative Ethnic Conflict (3) Critical issues of ethnic conflicts with attention to problem resolution; (B) Middle East; (C) Hawaiian sovereignty in Pacific context. Repeatable three times. Pre: 320 or 392, or consent for (C). DS

ES 456 Racism and Ethnicity in Hawai‘i (3) The historical and contemporary nature of racism and ethnicities in Hawai‘i. Pre: SOC 300 or one 300-level course, or consent. (Cross-listed as SOC 456) DS

ES 480 Qualitative Research Methods (3) Introduction to qualitative data collection methods; explore methods of analyzing data including grounded theory method, discourse analysis, and narrative analysis and those used in ethnic, gender, and community studies. A-F only. Pre: 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, language, gender, sex, class, land, and residence. Pre: 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 multiethnic nations: Canada and the U.S. A-F only. Pre: 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 designs. Students develop and execute an oral history project. Pre: upper-division standing and HIST 151 and HIST 152, or HIST 281 and HIST 282; or consent. DH

ES 495 Hawaiian Labor History (3) Conditions of work under varying political, social, and economic transformations in Hawai‘i; anthropological, sociological, and historic data. Pre: HIST 151 and HIST 152. DH

Family Medicine and Community Health (FMCH) School of Medicine

FMCH 531 Unit VI 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 behavioral care, caring for the underserved, sports medicine, preventive care, common acute/chronic ambulatory problems. CR/NC only. Pre: BIOM 555. Co-requisites: MED 531, OBGN 531, PED 531, PSTD 531, and SURG 531.


FMCH 545 (Alpha) Unit VII Electives in Family Medicine and Community Health (V) Fourth-year elective in which students may study a topic of interest within the field of family medicine and community health: (B) primary care preceptorship; (C) topics in community health; (D) sub-internship in family medicine; (E) extramural elective in family medicine and community health-miscellaneous: (F) sports medicine preceptorship. CR/NC only. Pre: 531 or 532.

FMCH 599 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

Family Resources (FMAR) College of Tropical Agricultural and Human Resources

FMAR 230 Human Development (3) Concepts, issues, theories of human growth and development from conception to death; systems approaches to inquiry into factors affecting growth and development. DS

FMAR 331 Infancy and Early Childhood (3) Growth and development from prenatal period to age 5. Historical and current issues and research based on ecological, cross-cultural perspective. Focus on optimal development. Pre: 230 or consent. DS

FMAR 332 Childhood (3) Intensive investigation into developmental aspects of 6–12 year old children. 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

FMAR 333 Adolescence and Early Adulthood (3) Physical, psychosocial, and emotional development related to development from puberty through early adulthood. Examination of biological, cognitive, social, and cultural factors affecting the individual. Pre: 230 or consent. DS

FMAR 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

FMAR 340 Intimacy, Marriages and Families (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

FMAR 341 Parenting (3) Parenting theories, methods, skills, issues, and resources; parent-child relations in various cultural contexts. Pre: 340 or consent.

FMAR 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: 230 or APDM 200, or consent.

FMAR 352 Community Needs and Resources (3) Theory and practice in determining community needs and resources; community resources development based on needs identification. Pre: 230 or consent. DS

FMAR 360 Family Resource Management (3) Concepts, principles, and practices in managing family and household resources. Pre: 230 or consent.

FMAR 361 Family Financial Planning (5) 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.

FMAR 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.

FMAR 380 Research Methodology (3) Fundamentals of scientific methodology and techniques in design and data collection; introduction to statistics for decision-making and program evaluations in agriculture and human resources. Pre: 230 or APDM 200, or consent. Co-requisite: 380.

FAMR 380L Research Methodology Lab (1) 3-hr Lab Test design, computer use, data analysis. Co-requisite: 380.
FAMR 425 Partnerships with Families and Professionals (4) Lecture, discussion and hands-on course, prepares students for direct, educational work with parents and children and for continued graduate work in child and family studies, counseling, psychology, social work and family life education. A-F only. Pre: 341 or consent.

FAMR 442 Marriage Development (3) Marital interaction and development; divorce and remarriage; resources and techniques for marital adjustment, enrichment, and growth. Pre: 340.

FAMR 444 Contemporary Family Issues (3) Investigation of social impact upon family quality of life, with emphasis on the interdependent nature of families and their environments. Pre: 340 or consent. DS

FAMR 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.

FAMR 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.

FAMR 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: 352. DS

FAMR 455 Consumer Communications (3) Development, production, analysis, and evaluation of consumer materials for print media. Use of desktop publishing computer programs. Pre: 360 or an ECON course, or consent.

FAMR 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: 360 or an ECON course, or consent.

FAMR 482 Capstone Portfolio (3) Preparation of a senior portfolio to be used as assessment of competence relative to national FCS standards. Includes extensive instruction on writing. Pre: 230, 340, 360, 380 and 380L; or consent.

FAMR 491 Topics in Family Resources (V) Study and discussion of significant topics, problems. Offered by visiting faculty and/or for extension programs. Repeatable.

FAMR 492 Internship (3) Supervised work in child and family studies, counseling, psychology, social work and family life education. A-F only. Pre: 230, 340, 360, 380 and 380L.

FAMR 499 Directed Research and Research (V) Independent research and research on a topic, done under supervision of a faculty member; outcomes contracted in writing with faculty member at beginning of semester. Pre: consent.

Filipino (FIL) College of Languages, Linguistics and Literature

FIL 101 Beginning Filipino (4) Listening, speaking, reading, writing skills. Structural points introduced inductively. Co-curricular cultural activities included. Meets four hours weekly. HSL.

FIL 102 Beginning Filipino (4) Continuation of 101. Pre: 101 or consent. HSL.

FIL 201 Intermediate Filipino (4) Continuation of 102. Co-curricular cultural activities included. Meets four hours weekly. Pre: 102 or consent. NI HSL.

FIL 202 Intermediate Filipino (4) Continuation of 201. Pre: 201 or consent. NI HSL.

FIL 224 Filipino 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. NI HSL.

FIL 225 Filipino for Education (4) Continuation of 202 or 224. NI HSL.


FIL 302 Third-Level Filipino (3) Continuation of 301.

FIL 303 Accelerated Third-Level Filipino (6) FIL 315 Filipino Aural Comprehension (3) Training in comprehension of spoken authentic/simulated authentic materials presented in news broadcasts, songs, documentary narration, formal lectures, radio and television soap operas, etc. Pre: 202 or consent.

FIL 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

FIL 401 Fourth-Level Filipino (3) Continuation of 302. Advanced reading in current literature; discussion of cultural implications; advanced conversation and composition. Co-curricular cultural activities included. Meets three times weekly. Pre: 302 or consent.

FIL 402 Fourth-Level Filipino (3) Continuation of 401.

FIL 415 Advanced Filipino Aural Comprehension (3) Continuation of 315. Training in comprehension and analysis/criticism of spoken authentic materials through films. Pre: 315 or consent. DL.

FIL 435 Filipino Translation Techniques (3) Techniques of bilingual translation: Filipino to English and English to Filipino. A-F only. Pre: 302 or consent.

FIL 451 Structure of Filipino (3) Introduction to phonology, morphology, syntax. Pre: 202 or consent. DH

FIL 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. DL.

FIL 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. DL.

Finance (FIN) Shiller 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, savings 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 media and capital markets. Topics include the analysis of security returns using techniques such as beta, filter rules, and portfolio theory. Pre: BUS 314.


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 valuation and deal 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 412 Options and Other Derivatives (3) Options and other derivatives. Equity options, index options and options on futures, Black-Scholes Model. Trading strategies and tactics. Contemporary developments in financial engineering. A-F only. Pre: BUS 314 or consent.


FIN 430 Bank Financial Management (3) Analysis of financial institution management within the domestic economy and regulatory environment. Topics include federal reserve activities, interest rates, regulation, lending, investments, and asset/liability management. Pre: BUS 314.

FIN 444 Asian Finance (3) Financial systems, regulatory structure over financial institutions in the Asia-Pacific 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. Combined lectures, case studies, and discussions. A-F only. Pre: 314 or consent. (Once a year)

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 312 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 is an urgent issue. Status and role of Asian business; current technological, economic, and financial developments; impact on world economy. Pre: ASAN 201, ASAN 312 or BUS 314; or consent. (Cross-listed as ASAN 470)

FIN 490 (Alpha) Advanced Topics in Finance (3) In-depth analysis of selected current practices and issues in finance. (C) Japanese financial management; (D) financial analysis (repeatable four times); (E) retirement and employee benefit planning; (F) finance estate planning, A-F only for (E) and (F). Pre: BUS 314 or BUS 629 for (C); 311 or 634 for (D); 301 for (E) and (F).
FIN 625 Monetary Systems and Financial Markets (3) Supply and demand for capital in national and international markets. Nature of capital movements and role of capital in industrialization of regions and nations.
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 management. 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, basis 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 (3) Commercial, investment, and merchant banking in the international area. Includes international lending, Euro-markets, 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, appraising the venture owner and the entrepreneur(s), financial aspects of strategic planning, analyzing the tradeoffs between alternative financing choices and flexibility and control, creating the investment. Pre: BUS 629 or consent.
FIN 645 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 focus on portfolio optimization, 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 financial econometrics as volatility and correlation modeling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)
FIN 656 Inflation 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. (Once a year)
FIN 659 Mortgages/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. (Once a year)
FIN 660 Seminar in Finance (3) In-depth analysis of selected current practices 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 701 Theory of International Finance (3) Concise framework of conceptual knowledge to understand the literature on financial theory and related empirical evidence. Includes fundamentals of capital markets, capital budgeting, utility theory, asset pricing, and international finance. A-F only. Pre: PhD student status in international management or consent.
FIN 702 Seminar in International Investments (3) Seminar covers research issues and methodologies in investments and capital markets. Main topics include theories and empirical characteristics of asset pricing, portfolio diversification and performance evaluation, derivatives, and risk management. A-F only. Pre: PhD student status in international management, or consent.
FIN 703 International Corporate Control and Restructuring (3) Provides and understanding of some of the scholarly research in corporate control and restructuring. Topics include mergers and takeovers, international corporate governance, corporate restructuring, raising capital, and entrepreneurship. A-F only. Pre: PhD student status in international management, or consent.
FIN 704 International Asian Finance (3) In-depth review of scholarly journal articles and working papers relevant to Asian or consent to prepare PhD students for scholarly research work. A-F only. Pre: PhD student status in international management, 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 statement of objectives, 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)

FHSN 100 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, career opportunities, and the resources necessary to succeed in college. FSHN and ANSC majors only. A-F only. Pre: consent. (Cross-listed as ANSC 101)
FHSN 141 Culture and Cuisine: The Global Diversity of Food (3) A timeline of the world history of food and how it relates to culture, diversity, ethnicity, and religion. International food demonstrations and tastings included. FGB
FHSN 181 The Chemical Nature of Food (3) Lectures, discussions, and demonstrations on how food components contribute to the functional, sensory, and other characteristics of food. Changes occur in foods due to preparation, processing, and storage.
FHSN 181L Food Preparation Lab (1) (3 hr Lab) Experiments in foods emphasizing ingredient function and standard preparation methods for food groups. Co-requisite: FHSN 181
FHSN 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
FHSN 244 Comparative Nutrition (3) Digestive systems and nutrient functions, interrelationships and metabolism are compared among 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. (Fall only) (Cross-listed as ANSC 244, DB
FHSN 311 Restaurant and Club Management (3) Critical and essential aspects of managing food and beverage operations and personnel in restaurants and clubs; understanding marketing, menu development and costing, purchasing procedures and inventory control for food and beverages; procurement methods; legislation on dietary menu claims; institutional sanitation responsibility. Pre: 181 and 181L (or concurrent), or consent.
FHSN 312 Quantity Foods and Institutional Purchasing (4) (3 Lec, 1 3-hr Lab) Quantity food and beverage operations and purchasing and food safety characteristics of foods, and what changes occur in foods due to preparation, processing, and safety characteristics of foods, and what changes occur in foods due to preparation, processing, and storage. Pre: BUS 629 or consent. (Cross-listed as ANSC 312, DB
FHSN 322 Marketing Nutrition and Food (3) 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. Pre: BUS 629 or consent. (Cross-listed as TIM 322)
FHSN 324 Marketing Nutrition and Food (3) 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. Pre: BUS 629 or consent. (Cross-listed as TIM 322)
FHSN 325 Population Nutrition (3) Nutritional requirements and food needs during infancy, early childhood and adolescence, and aging. One credit provided for each age group module. One to three credits. Pre: C or better in CHEM 161L, B or better in 1815; or consent. Co-requisite: PHYL 142/142L, or consent. (Spring only)
DB
FHSN 389 Experimental Foods (4) (3 Lec, 1 3-hr Lab) 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. Pre: 181, 181L, CHEM 152 or similar organic chemistry course, the equivalent of two years of high school algebra; or consent. DB
FHSN 389 Nutritional Assessment (2) Addresses concepts and uses of nutrition assessment tools at individual and community levels. Students will be introduced to national surveys and new, more
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Co-requisites</th>
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<tbody>
<tr>
<td>FSHN 403</td>
<td>Microbiology of Foods (3) Microorganisms encountered in foods; types of food spoilage; microbial hazards in food; methods of food preservation. Pre: MICR 130 and MICR 140L, or consent. (Alt. years: DB)</td>
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<td>FSHN 411</td>
<td>Food Engineering (3) (2 Lec, 1 3-hr Lab) Principles and application of thermodynamics, electricity, fluid mechanics, heat transfer, psychrometry, and material and energy balances of food processing and preservation. Pre: BIOL 171, CHEM 162 or CHEM 181A, MATH 245, PHYS 151 or PHYS 170, or consent. (Alt. years: spring) (Cross-listed as BE 411)</td>
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<tr>
<td>FSHN 420</td>
<td>Sensors and Instrumentation for Biological Systems (3) Principles of common physical and chemical sensors. Interfacing sensors to different electronic circuits and instrumentation systems. Electronic detection and quantification of biomolecules (biosensors). Applied control for biological processes. Pre: EE 160, EE 211, and BE 350; or consent. (Cross-listed as BE 420)</td>
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<tr>
<td>FSHN 420L</td>
<td>Sensors and Instrumentation for Biology Lab (1) Practical accompaniment to topics in 420, including interfacing representative physical and chemical sensors to data acquisition and control systems, simple wired and wireless data communication, basic biosensors, and control of biological systems. Pre consent. Co-requisite: 420. (Once a year) (Cross-listed as BE 420L)</td>
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<tr>
<td>FSHN 430</td>
<td>Food Chemistry (3) Chemical properties of food constituents studied in relationship to their effects on processing, nutrition, and spoilage. Pre: CHEM 272/272L, or consent. DB</td>
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<tr>
<td>FSHN 430L</td>
<td>Food Chemistry Lab (1) (1 3-hr Lab) Application of different chemical methods in the study of foods—proteins, lipids, carbohydrates, pigments, enzymes, etc. Pre: 430 (or concurrent). (Alt. years: fall only)</td>
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<td>FSHN 440</td>
<td>Food Safety (3) Discussion of potential microbiological, parasitic, chemical, and natural food hazards; food laws and standards; and related aspects of consumer protection. Pre: 181, BIOL 171, and CHEM 272; or consent. (Alt. years: Spring only)</td>
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<td>FSHN 445</td>
<td>Food Quality Control (3) Fundamental principles of quality control in the food industry: measurement of quality parameters, utilization and integration of the individual test procedures into grades and standards of quality, sampling, and reporting results.</td>
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<td>FSHN 451</td>
<td>Community Nutrition (3) (2 Lec, 1 3-hr Lab) Concepts and methods of nutrition program planning; analysis of nutritional problems of local, national, and international communities. Pre: 370 and either FAMR 380 or NREM 310; or consent.</td>
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<td>FSHN 452</td>
<td>Concepts in Nutrition Education (3) (2 Lec, 1 2-hr Discussion) Concepts, methods, and materials used in nutrition education of community, clinical, and school populations. Strategies used to educate groups or individuals. Pre: 451 and consent.</td>
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<td>FSHN 460</td>
<td>Food Processing Operations (3) (2 Lec, 1 2-hr discussion) Principles and applications of food dehydration, thermal processing, low temperature preservation, chemical and biochemical preservation, irradiation, packaging, manufacturing, plant sanitation, and water and nutrient management. Pre: 403, 430, PHYS 151/151L; or consent.</td>
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<td>FSHN 467</td>
<td>Medical Nutrition Therapy I (V) Development of dietary, anthropometric and clinical lab assessment skills measuring nutritional status. Understanding pathophysiology of disease processes, medical terminological and nutritional intervention, utilizing case studies. Pre: 486 or consent. DB</td>
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<td>FSHN 468</td>
<td>Medical Nutrition Therapy II (3) Understanding of the pathophysiology of disease processes and nutritional intervention, using medical terminology and case studies. Pre: 467 or consent. DB</td>
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<tr>
<td>FSHN 469</td>
<td>Nutrition Counseling Skills (2) Theory and practice in nutritional counseling. Combined lecture and discussion on nutrition/dietary counseling. Knowledge and theories. Application through lab experiences, including role playing, case presentations, and performing actual counseling sessions. A-F only. Pre: 467 or concurrent or consent.</td>
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<tr>
<td>FSHN 475</td>
<td>Human Nutrition for Health Professionals (3) Basic principles and practices; includes sources and functions of nutrients, nutritional needs and habits. Intended for students in pre-nursing and nursing, and graduate students in health professions. Pre: CHEM 151 (or higher) or BIOL 241 (or higher); PHYL 141 or ZOOI 141. DB</td>
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<tr>
<td>FSHN 476</td>
<td>Cultural Aspects of Food Habits (3) Study of eating from behavioral perspectives. Implications for health practitioners and health education. Pre: two courses: ANTH 151 or higher or SOC 100 or higher or PSY 100 or higher. (Alt. years: spring)</td>
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<tr>
<td>FSHN 477</td>
<td>Food Analysis (2) Principles of sample preparation and chemical and physical analysis of food components using current methodology. Pre: 430 or higher or BIOL 402 or MBBE 402 or PEPS 402. (Alt. years: spring)</td>
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<tr>
<td>FSHN 477L</td>
<td>Food Analysis Lab (2) (2 3-hr Lab) Application of different chemical and physical methods for the identification and quantification of food components. Co-requisite: 477. (Alt. years: spring)</td>
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<tr>
<td>FSHN 480</td>
<td>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: 185 or consent. (Cross-listed as KRS 480) DB</td>
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<td>FSHN 485</td>
<td>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: PHYL 142/142L or PHYL 302/302L; BIOL 341 or higher or MBBE 375 or MBBE 402 DB.</td>
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<tr>
<td>FSHN 486</td>
<td>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</td>
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<tr>
<td>FSHN 488</td>
<td>Obesity, Science, and Issues (2) In-depth study of obesity, including research, etiology, treatment, and prevention. Pre: 480 and 486.</td>
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<tr>
<td>FSHN 491</td>
<td>Topics in Food Science and Human Nutrition (V) Study and discussion of significant topics, problems, or laboratory experiments. Repeatable one time with instructor consent.</td>
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<tr>
<td>FSHN 492</td>
<td>Internship (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: senior standing in FSHN. (Cross-listed as ANSC 492)</td>
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<tr>
<td>FSHN 494</td>
<td>Food Product Development Capstone (3) Combination lecture-lab designed to integrate knowledge and skills from all FSHN courses to develop novel and innovative food products. Students deal with shelflife, marketing, packaging, labeling, sensory evaluation, and quality assurance. Repeatable one time. FSHN majors only. A-F only. Pre: 381 and 460, or consent.</td>
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<tr>
<td>FSHN 499</td>
<td>Directed Reading and Research (V) Pre: 500 and consent.</td>
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<tr>
<td>FSHN 500</td>
<td>Master’s Plan B/C Studies (1)</td>
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Key to symbols & abbreviations: see the first page of this section.
issues, policies, and strategies for improvement. Prec: statistics and consent. (Alt. years: fall) (Cross-listed as PH 683)

FSHN 685 Nutrition and Disease: Cellular and Molecular Aspects (3) In-depth lecture, discussion, and student presentations on selected topics relating to the etiology and prevention of chronic diseases at the cellular and molecular level. Repeatable one time. Prec: 485 and 486; statistics or consent.

FSHN 687 Advanced Lab Techniques (3) (1 Lec, 2 3-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. Prec: graduate standing or consent. (Cross-listed as ANSC 687 and MBBE 687)

FSHN 689 Nutritional Epidemiology (3) Dietary, biochemical, anthropometric and clinical methods used for evaluating nutrition and diet in the etiology and epidemiology of disease. Prec: 685 and PH 663, or consent. (Cross-listed as PH 689)

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. Prec: graduate standing in nutritional sciences.

FSHN 699 Directed Reading and Research (V) Independent study of approved readings with faculty supervision. Repeatable one time. A-F only. Prec: graduate standing or consent. (Spring only)

FSHN 701 Topics in Food Science (1) Advanced topics in food science and technology, from basic to applied research, including current issues in food science and technology and critical analysis of current research literature. Repeatable one time. A-F only. Prec: graduate standing or consent.

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 colorectal cancer, inflammatory bowel disease, heart disease, diabetes, and immune function. Prec: 485 and 486 (or equivalent), statistics, physiology, or consent. (Once a year)

FSHN 785 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 pathophysiology. Repeatable one time. Prec: 685 and 689, or consent. (Alt. years)

French (FR)

College of Languages, Linguistics and Literature

All courses are conducted in French.

FR 101 Elementary French (3) Conversation, grammar, and reading. HSL

FR 102 Elementary French (3) Conversation, grammar, and reading. Prec: 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. Prec: 102 or equivalent. N/ HSL


FR 210 Immersion French-Intermediate (6) Content of 201-202 covered in one semester. Three two-hour sessions per week. Prec: 102. 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. Prec: 102 or equivalent. N/ HSL

FR 259 Intermediate French Abroad (3) Continuation of 258. N/ 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. Prec: 202 or consent. DH

FR 302 Reading in French (3) Development of language skills through reading of cultural and literary texts. Prec: 202 or consent.

FR 306 Structure of French (3) Structure of contemporary French as analyzed by descriptive linguists. Prec: 202. DH


FR 312 Composition (3) Emphasis on strengthening facility with language through further training in syntax, structure, and composition writing. Prec: 202.

FR 321 Advanced Conversation (3) Systematic and advanced practice for control of spoken French, advanced development for accurate, mature expression. Prec: 311 or consent.

FR 331 Survey of French Literature (3) Major authors and movements. Prec: 311 (or concurrent) and 312; only 311 may be concurrent. DL

FR 332 Survey of French Literature (3) Continuation of 331. Prec: 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. Prec: 202 or 259 or equivalent.

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. Prec: 202 or equivalent.

FR 361 Contemporary French Civilization (3) Survey of culture and institutions of modern France. Prec: 202. 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. Prec: 202 or consent. DH

FR 391 (Alpha) Topics in French Literature (3) French film; (C) Francophone literature. Repeatable two times with consent. Prec: 311 or 312, or consent. DL

FR 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times. A-F only. Prec: consent.

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. Prec: 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. Prec: 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 translation. Prec: 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 meaning in the modern language. Graduates who have not taken prerequisites may request consent. Prec: 306 or 405 (or equivalent); or consent.

FR 410 Masterpieces of 16th-Century Literature (3) Samplings from all major writers of the period. Readings in original text in editions giving modern French equivalents for difficult words. Prec: 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. Prec: 331 or consent. DL

FR 413 Masterpieces of 18th-Century Literature (3) Prec: 332 or consent. DL


FR 421 20th-Century French Theater (3) Major French playwrights and their works: Claudel, Giraudoux, Anouilh, Sarte, Camus, etc. Prec: 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. Prec: 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. Prec: 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. Prec: 360 or equivalent.

FR 491 (Alpha) Seminar in French Literature (3) (B) French literature by period; (C) Francophone literature; (D) French film; (E) topic in French literature. Repeatable one time for different alphas. Prec: 331 (or concurrent) and 332 (or concurrent), or consent. DL

FR 499 Directed Reading and Research (V) Independent study of approved readings and research with faculty supervision. Repeatable two times. A-F only. Prec: 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 movement and their impact on the social, political, and literary life of the period and the modern era.


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. Repeatable two times with consent.

FR 681 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) 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 or consent is required for all 300-level courses except as noted. Junior standing or higher or consent is required for all 400-level courses except as 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). DY

GEOG 102 World Regional Geography (3) World’s major cultural regions; geographic aspects of contemporary economic, social, political conditions. FGB


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 temperature, precipitation, atmospheric circulation. Climatic classifications. Pre: 101 or MET 101 or MET 200, or consent. DP

GEOG 302 Environmental Geography (3) Use and abuse of natural resources and humanity’s progress toward developing a sustainable relationship with its supporting environment. A-F only. Pre: 101 or consent. (Once a year)

GEOG 303 General Geomorphology (3) Introduction to geomorphological concepts, process mechanisms, 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. DS

GEOG 309 Introduction to Biogeography (3) Introduction to ecosystem concept; environmental adaptations for energy and nutrient transfer; characteristics, dynamics, productivity, and distribution of principal vegetation communities. Human dominance. Pre: sophomore standing or higher, or consent. DB

GEOG 322 Globalization and Environment (3) Debates on globalization and development, population and resources; root causes of environmental degradation; impacts of globalization on environmentalism and environmental change; social approaches to managing environmental change. Pre: sophomore standing or higher, or consent. (Once a year) DS

GEOG 324 Geography of Global Tourism (3) Tourist landscape in relation to resources, spatial patterns of supply and demand, and tourism development, and models of tourist space. Flows between major world regions. Pre: sophomore standing or higher, or consent. (Cross-listed as TIM 324) DS

GEOG 325 World Resources and Economic Development (3) The pattern of world economic development in history, contemporary and future tourism development. Pre: sophomore standing or higher, or consent. (Cross-listed as TIM 325) DS

GEOG 330 Culture and Environment (3) Introduction to cultural geography, the cultural landscape, and perceptions of the environment across different cultures. Pre: 102 or 151, or consent. DS

GEOG 335 Politics, Nations, and States (3) Examines the political organization of space in the sovereign state system. Contemporary and historical analyses of boundaries, geopolitics, homelands, nations, nationalism, and territory. Pre: 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, industry, agriculture, and transportation/communication networks. Pre: 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. Environmental, economic, social, cultural, and political factors in development. DS

GEOG 356 Geography of Southeast Asia (3) Southeast Asia in world economy. Human and physical resources; returns achieved by various methods of land use. Natural resource economics; problems and prospects of modernization. DS

GEOG 365 Geography of the Pacific (3) Physical character of the Pacific; cultural, political, economic geography of Melanesia, Micronesia, Polynesia (except Hawaii) DS

GEOG 366 Geography of Honolulu (3) Development of Honolulu and O’ahu from 1778. Evolution of function, land use, and social patterns. Contemporary planning and environmental issues arising from urban growth. DS

GEOG 368 Geography of Hawaii (3) Regional, physical, cultural geography. Detailed study of people and resources. DS

GEOG 370 Aerial Photo and Image Interpretation (3) (2 Lee, 1-3 hr Lab) Introduction to the measurement, interpretation, analysis, and use of aerial photographs and digital imagery. Pre: 104, or consent.

GEOG 375 Introduction to Cartography and Air Photo (3) (2 Lee, 1-3 hr Lab) Principles of cartography: construction of thematic maps from aerial photographs, alternate forms of data presentation, symbolism, design, and map projection. DS

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. Pre: junior standing or higher, or consent.

GEOG 380 Statistical Methods in Geography (3) Quantitative statistical methods will be explored for describing and interpreting geographic/environmental phenomena. Topics will include data display, measurement, sampling, spatial statistics, dimension analysis, nonparametric and parametric models. Pre: 101 or 102 or 151 (or concurrent) or consent.

GEOG 385 Research Methods in Human Geography (3) Introduction to the methodologies and practices of research in human geography. Lecture, laboratories, lectures, workshops, and assignments. Students will conduct and report upon their own research. Pre: 102 or 151, or consent. DS

GEOG 387 GIS Data Visualization (3) Display techniques for statistical and terrain data. Cartographic communication models, data models, algorithms and symbol conventions. Techniques for assessing map design. Pre: 380 or SOCS 225 or ECON 321, or consent. DS


GEOG 399 Directed Reading (V) Limited to seniors majors with a minimum 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 history; evolution of terrestrial ecosystems; effects of global warming. Pre: 101 or 300 or 401 or 402 or 405 or MET 101 or MET 200 or MET 302 or MET 303 or MET 310, or consent. DP

GEOG 401 Climate Change (3) Approaches to the study of past and future climate change. Pre: 101 or 300 or 401 or 402 or 405 or MET 101 or MET 200 or MET 302 or MET 303 or MET 310, or consent. DP

GEOG 402 Agricultural Climatology (3) Analyzing climatic data; relation to photosynthesis, pheno logical development, and crop yields. Crop-weather models as guides to improved land-use planning and agronomic practices. Pre: 101 or 300 or 401 or 402 or 405 or MET 101 or MET 200 or MET 302 or MET 303 or MET 310, or consent. DP

GEOG 403 Fluvial Geomorphology (3) Introduction to the single most important geomorphic agent shaping the terrestrial environment. Focus on fluvial process, fluvial dynamics, fluvial landforms, and sediment transport. Pre: 101/101L or 303 or GG 101/101L. DP

GEOG 404 Atmospheric Pollution (3) Examination of air quality problems from scientific and policy perspectives. Includes case studies that explore economic, political, technical, and legal aspects of pollution control. Pre: junior standing or higher, or consent. DS

GEOG 405 Water in the Environment (3) Water fluxes in the environment; occurrence and movement of water; methods of quantification. Water balance of soil-plant system: precipitation, interception, infiltration, runoff, soil moisture, evapotranspiration, and groundwater recharge. Pre: 101 or 300 or 401 or 402 or MET 101 or MET 200 or MET 302 or MET 303 or MET 310, or consent. DP

GEOG 408 Conservation and Evolutionary Biogeography (3) Topics of introductory biogeography. Lectures, laboratories, and assignments. Students will conduct and report upon their own research. Pre: 309, BIOL 265 or ZOOL 485, or consent. (Alt. years)

GEOG 409 Cultural Biogeography (3) Coevolution of human societies and plants over the last

Key to symbols & abbreviations: see the first page of this section.
10,000 years. Foraging, farming and urban societies economies; spread and modification of selected plants; issues of preservation of genetic resources and traditional plant knowledge. The form and function of gardens. A-F only. Pre: junior standing or higher, or consent. (Cross-listed as TPSS 409) DS

GEOG 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 for human habitation. Pre: one of 101, BIOL 101, BIOL 123 and either 326 or BIOL 310; or consent. (Cross-listed as BIOL 410) DB

GEOG 411 Paleoenvironmental Change (3) Study of past environments to understand present and future global change. Focus on terrestrial Quaternary environments and global processes. Pre: junior standing or higher, or consent. DP

GEOG 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) DS

GEOG 413 Resource Management (3) (2 Lec, 1-3 hr Lab) Hands-on development of analytical models for application to problems of water resource, coastal fisheries, agroforestry, and/or land management. Focus on problems facing Hawaii’s and the Pacific Pre: junior standing or higher, DS

GEOG 414 Building Community Resilience (3) Intended to give you a good understanding of the natural forces behind the most common natural disasters, and the human actions that reduce or increase vulnerability to natural disasters. A-F only. Junior standing only. (Spring only) (Cross-listed as PLAN 414) DS

GEOG 421 Urban Geography (3) Origins, functions, and internal structure of cities. Problems 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: 102 or 151 or 330, or consent. DS

GEOG 422 Agriculture, Food and Society (3) Examines historical and contemporary development of the global agro-food systems. The impacts of technological, political and economic changes to food security and development. Open to nonmajors. Pre: junior standing or higher, or consent. DS

GEOG 423 Human Dimensions of the Coastal Ocean (3) The coastal ocean as an ecosystem of global significance where human influences concentrate. Application of science and social values to environmental problems of oceans. Open to nonmajors and graduate students. Pre: junior standing or higher, or consent. (Once a year) DS

GEOG 424 Regional Analysis (3) Spatial dynamics and environmental implications of urban and rural development. Concepts of regions, process of regional development, patterns of spatial interaction, and theoretical bases for development strategies; emphasis on Hawaii’s. Pre: junior standing or higher, or consent. DS

GEOG 425 The Geography of Film (3) Landscapes of film. How movies work by conveying a sense of place and a sense of place. Centres and landscapes. Pre: junior standing or higher, or consent. DH

GEOG 426 Environment, Resources and Society (3) Human interaction with the environment. How market, property institution, and technological change affect the environment. Epistemological basis of environmental policies. Debates on controversial environmental issues. Pre: junior standing or higher, or consent. DS

GEOG 435 Political Geography of Oceans (3) The oceans’ evolution and relation to problems of economic development, resources, seapower, shipping, trade. 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. DS

GEOG 453 Geography of China’s Modernization (3) Applies geographic principles and approaches to explore the rapid transformation of the spatial structure of recent socio-economic development in China. Emphasis given to resource management and environmental quality, which are important factors in sustainable development. Pre: 102 or 151, or consent. DS

GEOG 468 (Alpha) Topics in Geography (3) Selected topics in geography not offered in the regular geography curriculum. Pre: 102 or 101, or consent.

GEOG 470 Remote Sensing (3) (2 Lec, 1-3 hr Lab) Introduction to the principles of remote sensing and image processing skills. Topics include electromagnetic spectrum, sensors, aerial photo and satellite imagery interpretation, geometric and radiometric correction, digital image processing. Research project, lab. Pre: 370 or consent.

GEOG 472 Field Mapping (3) Techniques for field measurement and analysis of cultural and physical data. Field sketching, Brunton surveying, plane table mapping, oblique photo compilation, topographic mapping, and representation of field data. Pre: junior standing or higher, or consent. DS

GEOG 476 Advanced Cartography (3) (3-2 hr Lab) Special topics: computer mapping, relief representation, map reproduction methods, use of color, analytic map interpretation, experimental cartography. Pre: consent.

GEOG 489 Applied Geographical Information Systems (3) (2 Lec, 1-2 hr lab) Application of GIS technologies to special issues in social, natural, and environmental sciences. Research project, lab. Pre: 388 or consent. (Once a year)

GEOG 490 Senior Thesis (3) Preparation of research paper under individual faculty supervision. Recommended for admission to graduate program. Pre: senior GEOG major and consent.

GEOG 492 Practicum in Geography (V) Internship in applied geography, professional and faculty supervision. Field placement integrated with academic study. Repeatable up to six credit hours maximum. Pre: senior major and consent.


GEOG 600 Seminar in Climatology (3) Methods of determining energy budget and water balance; applications in agriculture, hydrology, climatic classifications, climate and climatic change. Bibliography. Pre: 300 or 4001 or 402 or 405 or MET 303 or MET 310 or MET 320; or consent.

GEOG 618 Human Environment Systems (3) Role and potential of systems science in analysis of human environment interaction, especially resource management. Methodology for problem structuring; overview of techniques. Pre: graduate standing or advanced undergraduate standing with consent.

GEOG 621 Coastal Planning and Management (3) Theories and practice of coastal planning and management in the U.S. and abroad. Case studies of various aspects of coastal planning will be used to investigate topics such as coastal land conservation, marine protected areas, coastal hazards and coastal aquaculture.

GEOG 622 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. Pre: graduate standing. (Cross-listed as PLAN 622) DS

GEOG 628 (Alpha) Resource Systems (3) Resource development and use in a time perspective. Ecological and socioeconomic impacts, concepts, definitions, and methodology. Pre: junior standing or higher, or consent. (Cross-listed as ASAN 638 and PLAN 638)

GEOG 630 Urban and Regional Planning in Asia (3) Key issues and policies in urban planning, rural-urban relations, rural-urban planning, and frontier settlement in Asia and the Pacific. Repeatable one time. Pre: PLAN 600 or consent. (Cross-listed as PLAN 630)

GEOG 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 PLAN 637)

GEOG 638 China’s Economic and Regional Development (3) A review of contemporary China’s economic and regional development, examining the changing plans, policies and performances in the Socialist Development and Market Transition eras, and the implications on spatial patterns. Pre: 535 or PLAN 630; or consent. (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. Pre: 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. (Cross-listed as ASAN 652)

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 Melanie- sia, Micronesia, Polynesia. Repeatable with consent of instructor. Pre: consent.

GEOG 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 up of point measurements to fields, regions, and watersheds. State-space modeling also will be included. A-F only. Pre: 388 or ZOOL 631; or consent. (Cross-listed as TPSS 680)

GEOG 692 Faculty Seminar Series (1) Graduate seminar required of all MA students and recommended for PhD students. Single credit course in which faculty present ongoing research in their fields. Pre: consent. Co-requisite: 695.

GEOG 693 Technology and Natural Risks Methods of Analysis (3) Survey of tools for evaluating risks to human health from technological and natural hazards. Historical and international context of methods. Pre: 455 or consent.


GEOG 696 Research Design/Methods in Geog- raphy (3) Elements of research design, practical field experience, exposure to research and ideologies, broad exposure to heritage and ethos of the discipline. Pre: 695.
present circum-Pacific societies. Credit not given for both 103 and 104. GG 105 Voyage through the Solar System (3) An illustrated voyage through the Solar System. The origin, evolution, and present state of the sun and each planet based on recent results. (Spring only) (Cross-listed as ASTR 150) DP

GG 106 Humans and the Environment (3) Prepares students to make decisions such as where to build/buy a house, sustainable use of natural resources, and what environmental actions relevant to society and Earth’s ecosystem are appropriate on a local and global scale. (Spring only) DP

GG 130 Geological Hazards (3) Introductory covering the causes of, and effects from, earthquakes, tsunami, volcanic eruptions, landslides, rockfalls, and other natural geologic phenomena. Open to non-majors. Field trips. (Alt. years) DP

GG 170 Physical Geology (4) (3 Lec, 1-3 hr Lab) Structure, composition and evolution of Earth; processes responsible for formation, deformation and transformation of rocks; plate tectonics. Emphasis on quantitative methods, problem solving and critical thinking to geology. Laboratory and field trips required. DP DY

GG 200 Geological Inquiry (4) (3 Lec, 1-3 hr Lab) Origin and age of the solar system and earth: interior of the earth; plate tectonics and records of biological evolution and past environments. Pre: 170 (or 101L and 101L or concurrent), or 103 and 101L (or concurrent); or consent. DJ/DY

GG 250 Scientific Programming (3) (2 Lec, 1-3 hr Lab) Introduction to solving scientific problems by computer programming. Overview of the MatLab programming language and environment. Emphasis placed on good style, logical reasoning and applied mathematics. Pre: MATH 241 (or concurrent) or departmental approval. DP

GG 300 Volcanology (3) Volcanic eruptions and their consequences. Includes models for volcanic eruptions including explosive eruptions and lava flows, monitoring of active volcanoes, evaluation and impacts of volcanic hazards, and mitigation of volcanic risk. Field trips. Normally fall. Pre: 200 or consent. DP

GG 301 Mineralogy (4) (3 Lec, 1-3 hr Lab) Crystallography, crystal chemistry, phase equilibria, and crystal structures. Also covers mineral optics and identification and includes an introduction to modern methods of mineralogy and crystallography. Pre: 200 and (CHEM 162L or CHEM 171/171L); or consent. DJ/DY

GG 302 Igneous and Metamorphic Petrology (3) (2 Lec, 1-3 hr Lab) Survey of composition, classification, and occurrence of igneous and metamorphic rocks. Hand specimen identification and optical petrography of igneous and metamorphic rocks. Development of critical thinking and writing skills. Pre: 301 or consent. DP

GG 303 Structural Geology (3) (2 Lec, 1-3 hr Lab) Introduction to (a) the geometry, kinematics, and mechanics of crustal deformation, and (b) continuum mechanics in geology. Develops skills in three-dimensional thinking through geologic maps, cross sections, various projections, experiments, and vector analyses. Pre: 200, 250, MATH 241 or MATH 251A, and PHYS 151 or PHYS 170; or consent. DP

GG 304 Physics of Earth and Planets (4) (3 Lec, 1-3 hr Lab) Essentials of geophysics: formation of Solar System and Earth, gravity, seismology, heat flow, geomagnetism, isotasy, plate tectonics. Coursework involves application of basic physics to understanding Earth structure. Labs include field surveys and computer analyses. Pre: 250, 303, MATH 241, MATH 242, and PHYS 272; or consent. DP

GG 305 Geological Field Methods (3) Methods used in geological investigations in the field. Eight hours on Saturday in the field. Pre: 302, 303, and 309. DP

GG 309 Sedimentology and Stratigraphy (4) (3 Lec, 1-3 hr Lab) Principles of sedimentology, sedimentary petrology, geochemistry and stratigraphy. Description and discussion of modern and past processes and environments. Study of sediments; properties of sedimentary rocks; interpretation of these properties and stratigraphic relationships in terms of Earth history. Repeatable one time. Pre: 200 and 301, or consent. (Spring only) DP DY

GG 312 Geomathematics (3) Mathematical methods of geologic and geophysical studies. Emphasis on application to earth-science problems using linear algebra, vector calculus, ordinary differential equations, and numerical solutions. Pre: MATH 242 or consent. (Cross-listed as OCN 312)

GG 325 Geochemistry (3) Theory and applications of chemical principles and chemical analysis to Earth, ocean and environmental sciences; chemistry of hydrosphere-geosphere-biosphere system, origin/ differentiation of Earth/Solar system, volcanic processes, natural radioactivity, organic/inorganic chemistry. Pre: 200, 250, MATH 241 or MATH 251A, CHEM 162 (or concurrent); or consent. (Fall only) DP

GG 399 Directed Reading (V) Individual reading in geology and geophysics. Pre: consent.

GG 402 Hawaiian Geology (3) Consists of lectures, discussions, and field trips about the geology of the Hawaiian islands. Focus on geological processes and the geologic history of all islands will be covered. Pre: 302 and 303; or consent. DP

GG 406 Natural Disasters: Geothetics and the Layman (3) Evaluates ethical practice of geoscience as it relates to studies of natural disasters that result from geological and meteorological phenomena and the means that earth scientists interact with the laymen. Pre: 101, 103, 104, or 170. (Once a year)

GG 407 Energy and Mineral Resources (3) Lecture and discussion on the origin, distribution and exploitation of fossil fuels, renewable energy resources and ore deposits. Coverage and detail will depend partly on student interest and background. Pre: consent. DP

GG 410 Undergraduate Seminar (2) Gain professional training, practical experience, and evaluate peers on giving scientific presentations emphasizing topics in geology, geophysics, and planetary science. 60% of the grade is based on the equivalent of three hours on Saturday in the field. Pre: 302, 303, and 309. hours on Saturday in the field. Pre: 302, 303, and 309. DP

GG 421 Geologic Record of Climate Change (3) Explores the climatic responses of Earth’s major systems and subsystems (ice, water, vegetation, land) and traces their interactions through geologic history. Open to non-majors. A-F only. Pre: 200 or MET 310, OCN 310, OCN 310; or consent. DP

GG 423 Marine Geology (3) Sediments, structure, geophysics, geochemistry, history of ocean basins and margins. Pre: 200 and 302 or consent. (Cross-listed as OCN 423) DP

GG 425 Environmental Geochemistry (3) Theory and applications of geochemistry to contaminant/pollutant distribution in the hydrosphere-geosphere-biosphere system. Topics include aqueous geochemistry, thermodynamics, kinetics, organic and isotopic
chemistry of environmental contaminants. Prereq: 325 or consent. (Fall only) DP

GG 430 Geology and Mineral Resources of Asia (3) Geologic setting of ore, industrial mineral, and fuel deposits of Asia, its adjacent islands, and shallow seas. Probability of future discoveries in major provinces. Prereq: 170 (or 101 or 103) or consent. (Alt. years) DP

GG 444 Plate Tectonics (3) (2 Lec, 1 3-hr Lab) Quantitative geometrical analysis techniques of plate tectonics theory; instantaneous and finite rotation poles; triple-junction analysis; plate boundary stresses. Prereq: 200 or consent. (Alt. years) (Cross-listed as OCN 444)

GG 450 Geophysical Methods (4) Combined lecture/lab covering basic geophysical theories, exploration, and interpretation. Seismic reflection and refraction, gravity, and electromagnetics. Constraints on models of Earth’s internal structure and composition. Prereq: 250, 303, MATH 241, MATH 242, and PHYS 272; or consent. DP DY

GG 451 Earthquakes (3) Earthquake seismology. Elastic properties of rocks, earthquake waves, causes, detection, location, and prediction of earthquakes; tsunami generation and other effects of earthquakes. Prereq: 306 or consent. (Alt. years) DP

GG 455 Hydrogeology (4) (3 Lec, 1 3-hr Lab) Occurrence, characteristics, movement, quality, development, and contamination of water in the Earth’s crust. Prereq: MATH 242 or MATH 252A, or consent. DP

GG 460 Geological Remote Sensing (4) (3 Lec, 1 3-hr Lab) Use of satellite and airborne remote sensing. Lab work will consist of computer image processing. Field trips. Open to nonmajors. Prereq: 200 or consent. (Spring only) DP

GG 461 Geospatial Information (3) Combined lecture/lab covering the collection, analysis and use of geospatially registered field data. Prereq: 200 or equivalent. (Alt. years)

GG 466 Planetary Geology (3) Comparative geology of the terrestrial planets (moon, Mars, Mercury, Venus, and Earth); impact cratering, volcanism, tectonism, geomorphology, weathering; manned and unmanned space exploration. Prereq: any 100-level GG course. DP

GG 499 Undergraduate Thesis (3) Directed research in which the student carries out a scientific project 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. Prereq: consent.

GG 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Prereq: 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 graduate degrees.

GG 600 Equations of Geophysics (3) Least-square approximation of functions by orthogonal series; potential, wave heat flow equations; boundary value problems; Bessel Hankel functions, spherical harmonics, potential theory, plane waves, spherical waves; emphasis on geophysics application. Prereq: MATH 244 or MATH 253A, PHYS 400, or consent.

GG 601 Explosive Volcanism (3) Explosive volcanic eruptions: 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. Prereq: 300 or consent.

GG 602 Theoretical Petrology (3) Derivation of phase diagrams from basic thermodynamics principles. Equilibria of natural silicate systems. Crystal chemistry, kinetics, diffusion, etc., Applied to igneous and metamorphic petrology. Prereq: 302, 325, and CHEM 351 (or consent). (Alt. years)

GG 603 Petrology of Ocean Lithosphere (3) (2 Lec, 1 3-hr 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. Prereq: 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 the forces and processes underlying natural hazards; and human attempts to respond to these through mitigation and planning activities. Prereq: PLAN 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, lava flows, lava lakes, dome growth and modeling. Field trips to Kilauea and Makapuu. A-F only. Prereq: 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. Prereq: 300 (or consent)

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. Prereq: 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 the responsibilities required by the instructor. GG graduate students only. CR/NC only. Prereq: consent of instructor and department chair.

GG 610 Graduate Seminar (1) Seminar in which students present a 20-minute talk on their research or a related topic. May present once with two to three talks per meeting. 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 continents, global change, energy sources, environmental geology, and natural hazards. Saturday field trips. (Spring only)

GG 614 Advanced Field Study (V) Shipboard and land-based projects. Repeatable eight times. Prereq: consent.

GG 615 Electron Microprobe Analysis (2) Combined lecture/lab on the principles of electron microscopy and X-ray fluorescence. Hands-on experience with the electron microprobe. Required to operate the UH electron microprobe. Prereq: 301 or consent.

GG 620 Petrological Mineralogy (3) Origin of the terrestrial planets, moon, Mars, Mercury, Venus, and Earth; impact cratering, volcanism, tectonism, geomorphology, weathering; manned and unmanned space exploration. Pre: 300 or concurrent. (Alt. years)

GG 625 Seminar in Marine Geology and Geophysics (V) Current research topics. Repeatable eight times. Prereq: 423 or OCN 622, or consent.

GG 630 Numerical Modeling of Physical Systems (3) Finite difference, 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 637 Macroevolution and Earth History (3) Evolutionary biology in the context of Earth history: fossil record of life; fundamentals of macroevolution; speciation, molecular evolution and phylogeny; geologic history of the Earth; evolution of genomes, development, and behavior; and case studies in evolution. A-F only Prereq: BIOL 171 or equivalent. (Alt. years)

GG 638 Earth System Science and Global Change (3) Global view of the planet and how it functions as an integrated unit. Biogeochemical processes, dynamics, and cycles, and analysis of natural and human-induced environmental change. Chemical history of ocean-atmospheric-sediment system and co-evolution of the biosota. Repeatable one time. Prereq: BS in environmentally related science or one year of chemistry, physics, and calculus; or consent. (Cross-listed as OCN 638)

GG 639 Stable Isotope Biogeochemistry (3) Stable isotope biogeochemistry applied to questions of biogeochemical cycling in the oceans, sediment diagenesis, paleoecography, environmental geochemistry and ecology. Prereq: 325 or consent. (Alt. years)

GG 640 Coastal Geochemistry (3) Geochemistry at the land-ocean interface: coastal hydrology, subterranean estuaries and coastal mixing and their importance in governing the distribution of selected radioisotopes, trace metals and nutrients. Combined lecture/lab with field trips and group projects. Prereq: CHEM 162, and MATH 241 or MATH 251A; or consent. (Alt. years)

GG 641 Origin of Sedimentary Rocks (3) (2 Lec, 1 3-hr Lab) Environment of deposition and subsequent diagenesis of modern and ancient sediments. Petrogenesis of siliciclastic, carbonate and orthochemical rocks. Sedimentology, sedimentary petrology and geochemistry. Repeatable one time. Prereq: consent. (Alt. years) (Cross-listed as OCN 641)

GG 642 Elemental Composition Changes (2) Changes in the chemical composition of meteorites, bulk Earth, Earth’s mantle and crust, sedimentary rocks, hydrosphere and biosphere, and underlying principles. Prereq: consent. (Alt. years) (Cross-listed as OCN 642)

GG 644 Sedimentary Geochemistry (3) Geochemical thermodynamics and kinetics and their use in interpreting the origin of sediments, sedimentary rocks, and natural waters over a range of pressure-temperature conditions. Prereq: CHEM 171, or CHEM 161 and CHEM 162, or PHYS 241, or MATH 252A; and consent. (Alt. years) (Cross-listed as OCN 644)

GG 650 Seismology (3) Elasticity, wave equations, body waves, surface waves, free oscillations, seismometry, seismogram interpretation, tectonics, inversion, source theory, and waveform modeling. Prereq: 600 or consent.

GG 651 Geomagnetism and Cosmic Magnetism (3) Magnetic fields of Earth, planets, stars, and galaxies; dynamo theories; paleomagnetism; terrestrial and lunar rock magnetism; planetary, regional, and local geomagnetic sounding. Prereq: consent. (Alt. years)

GG 652 Gravimetry, Magnetics, Heat Flow (3) Uses of potential field data and electromagnetic methods in tectonics or in exploration. Processing and interpretation techniques; modeling and inversion. Prereq: consent. (Alt. years)
GG 655 Groundwater Modeling (3) Introduction to the finite-difference method; steady-state and transient groundwater flow in saturated and unsaturated media; applications to groundwater recharge and aquifer evaluation. A-F only. Pre: CEE 627 or consent. (Fall only) (Cross-listed as ASTR 657 and CHEM 657)

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 latest trends. Pre: consent. (Fall only) (Cross-listed as ASTR 657 and CHEM 657)

GG 660 Introduction to the Solar System and Planetary Processes (3) Geology and geophysics of solar system bodies (terrestrial planets, satellites, asteroids, comets) and the processes that made and modified them (nuclear chemistry, planetary accretion, impact cratering, volcanism, tectonism, geomorphology, weathering). Pre: graduate student only. (Alt. years)

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 Planets: Origin and Exploration (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, meteorite inclusions; theory of formation and dynamics; atmospheres, oceans, habitability, biosignatures. (Alt. years)

GG 670 (Alpha) Geology of Planetary Bodies (3) Composition and geologic evolution of the planets and their moons; impact cratering, volcanism, tectonism; remote sensing; manned and unmanned exploration and future missions. (B) the moon; (C) Mars. Pre: 666 or consent.

GG 671 (Alpha) Remote Sensing (3) Spectroscopic, radar, thermal, and other methods for 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 material and the implications for the origin and history of the solar system. The subject is treated in two full-semester courses: (B) meteorites; (C) petrology of the Moon and Mars. Pre: consent.

GG 674 Palaeoclimatology (3) Study of the palaeoclimatographic and palaeoclimate evolution of the Earth’s oceans, atmosphere and biosphere. Repeatable one time. Pre: consent. (Alt. years) (Cross-listed as OCN 674)


GG 681 Continuum Mechanics (3) Continuum mechanics in geophysics, planetary physics, and structural geology. Tensors; stress, strain, flow; conservation of mass, momentum, and energy, geophysics; geophysical fluid dynamics. Pre: PHYS 400, MATH 402, or consent.

GG 691 Geological Data Analysis II (3) Analysis of sequential data, Markov processes, series of events, spectral analysis, autoregressive and crossregressive map analysis, and introduction to fractals. Pre: 413, MATH 241 or MATH 251A; or consent.

GG 695 Geophysical Inverse Theory (3) Linear and nonlinear techniques for parameter estimation and forecasting, including least squares and MCMC. Models for signal and noise. Resolution, error, constraints, prior and posterior information. Use of information criteria for model selection. Pre: 600 or 691. (Alt. years)

GG 699 Directed Research (V) CR/NC only. Pre: consent.

GG 700 Thesis Research (V)

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. Pre: consent. (Alt. years)

GG 703 Fractures and Faults (3) Lecture on elastic theory, fracture mechanics and boundary element modeling, with application to faults and fractures in the Earth. Pre: consent.

GG 710 Selected Topics in Geology and Geophysics (2) Content to be announced. Repeatable eight times. Pre: consent.

GG 711 Special Topics in Geology and Geophysics (3) Content to be announced. Repeatable eight times. Pre: consent.

GG 800 Dissertation Research (V)

**Geriatric Medicine (GERI)**

School of Medicine

GERI 541 Geriatric and Palliative Care (V) This four-week immersion provides medical students with an overview of geriatric and palliative medicine in outpatient, inpatient, home care 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 placements will be provided at several teaching sites including Kuakini Medical Center, Queen’s Medical Center, the VA, several nursing homes on Oahu, Kaiser Permanente, Hospice Hawai‘i, St. Francis Hospice, Kapiolani Hospital, Straub Hospital, and the Pain & Symptom Management Program at Queen’s Medical Center. CR/NC only.

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 at a local meeting. Basic principles of epidemiology and statistics will be taught. Repeatable one time. CR/NC only. Pre: departmental approval.

GERI 545 Geriatric and Palliative Medicine Elective (6) 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 first- and second-year students to clinical, research, and academic experiences in geriatrics, under the mentorship of faculty members. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

GERI 202 Intermediate German (3) Conversation, grammar, reading and writing. Pre: 201. NF HSL

GERI 260 Intensive Intermediate German Abroad (V) Intensive course of formal instruction on the second-year level in German language and culture in Germany. Pre: 102. NF HSL


GERI 303 Reading and Writing (3) Further development of reading and writing skills through the study of modern short stories by major German authors such as: Böll, Borchert, Frisch, Kafka, and Novak. Pre: 202. DL

GERI 304 Advanced German: Business and Related Fields (3) Advanced German conversation, reading, and writing with a special emphasis on the vocabulary and cultural context of the German business world. Pre: 202.

GERI 305 Media Topics in Composition and Conversation (3) Intensive practice in speaking and writing with selected grammar review. Pre: 202 or consent.

GERI 307 German for Reading I (3) Development of reading skills through the study of short scholarly, technical, and literary texts. Pre: 202 or consent.

GERI 308 German for Reading II (3) Pre: 202 or consent.

GERI 312 Introduction to German Literature I (3) Reading and discussion of representative works of German literature from 1700 to 1850. Pre: 303 or consent. DL

GERI 313 Introduction to German Literature II (3) Reading and discussion of representative works of German literature from 1850 to present. Pre: 303 or consent. DL

GERI 360 Intensive Third-Level German Abroad (V) Intensive course of formal instruction on the third-year level in German language and culture in Germany. Pre: 202 or 260.

GERI 361 Germanic Civilization to World War II (3) German cultural heritage and history in Germany, Austria, and Switzerland until World War II. Pre: 202 or consent. DH

GERI 362 Modern Germanic Civilization (3) German cultural heritage and civilization in Germany, Austria and Switzerland since World War II. Pre: 202 or consent. (Once a year) DH

GERI 371 Practical German for use in Hawai‘i (3) Use of German in practical situations in Hawai‘i, e.g., in travel industry. Pre: 202.

GERI 409 Enlightenment—Sturm und Drang (3) Lessing and his contemporaries: early dramas of Goethe and Schiller; Goethe’s early lyrics. Pre: 306 or consent. DL

GERI 410 Classicism (3) Classical writings of Goethe and Schiller; some reference to other writers. Pre: 306 or consent. DL

GERI 411 Romanticism (3) Novalis, Tieck, E. T. A. Hoffmann, Eichendorff, etc. Pre: 306 or consent. DL

GERI 412 Poetic Realism (3) Masterworks by Büchner, Raabe, Storm, Keller, Meyer, Hebbel, and others. Pre: 306 or consent. DL

GERI 415 Contemporary German Literary Activity (3) Handke, Becker, Weiss, Bernhard, Walser, Böll, Grass. Pre: 306 or consent. DL

GERI 428 Survey of German Lyric Poetry (3) Individual interpretation complements lectures on theoretical and historical background. Pre: 306 or consent. DL
HAW 206 Intensive Intermediate Hawaiian (8)
Content of 201 and 202 covered in one semester.
Meets two hours daily, plus lab work. Pre: 202 or exam, or consent. N/HSL

HAW 261 Hawaiian Literature in Translation (3)
Survey of Hawaiian literature, including prose narration and poetry with reference to Polynesian and Western themes and forms. DL
Pre: 202 or consent. HAW

HAW 284 Papa Mele I (Mele in the Hawaiian Language Classroom) (3)
The incorporation of mele and the performance thereof for the enhancement of second language acquisition in Hawaiian. Pre: 201, N/HSL

HAW 301 Third-Level Hawaiian (3)
Continuation of 202. Conducted in Hawaiian. Advanced conversational 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 331 Hawaiian Composition (3)

HAW 332 Listening Comprehension and Translation (3)
Development of listening comprehension through transcription and discussion of tape recordings. Pre: 202.

HAW 345 Ula ka Hoi (3)
Study offering focused 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.

HAW 383 Hana ‘Oe 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 topics on live radio. Repeatable one time. Pre: 302 or 384 (or concurrent with consent), or consent.

HAW 384 Ka Haku Mele (3)
Composers and Their Compositions. Provides a venue which will allow students to analyze, dissect 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.

HAW 402 Fourth-Level Hawaiian (3)
Continuation of 401. Pre: 401 or exam, or consent.

HAW 420 Mo’olelo Hawai’i (3)
Survey of the major works by Hawaiian scholars writing about the history and culture of Hawaii’s including David Malo, Kamakua, Kepelino, and John Papa I’i. Pre: 301-302.

HAW 422 Ka’a’o Hawai’i (3)
Survey of the core literary works by Hawaiian scholars, including both historical and mythological epics and folk tales. Pre: 202.

HAW 427 ‘I Lea ka Hula 1 Ka Ho’oppa’a (Mo’olelo, Ka’ao, Mele and Hula) (3)
The incorporation of mele and hula performance with mo’olelo and ka’ao. Pre: 302 or consent.

HAW 428 Ka Mana’o Hawai’i—Political Thought in Hawaiian (3)
Intensive study of Hawaiian political thought in writing and speech. Pre: 302 (or concurrent) or consent. (Cross-listed as POLS 303C) DH

HAW 429 Ka Hō’ike Honua (3)
Survey of Hawaiian land tenure practices through readings and discussions of audiotoapes, written primary sources, maps, wind names, rain names, ʻālelo 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 Ka ‘Ike (3)
Study of traditional Hawaiian language and cultural practices through hands-on applications and lectures. Pre: 302 (or concurrent) or consent.

HAW 433 I Pa’i Ke Kahua (3)
An experiential approach to the acquisition of vocabulary, which will allow students to broaden and deepen 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 435 (Alpha) Problems in Translation (3)
Problems in translation of: (B) legal documents, (C) newspapers. Pre: 302 or consent.

HAW 445 Nā Poliitika ma ka Nāhū Hawai’i—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) and LING 102, 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.

HAW 462 (Alpha) Ha’uki: 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 intercultural 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 or 452, and consent.

HAW 466 Kuleana Kula Kaiaipuni (3)
Examination of the political struggles of the Kula Kaiaipuni (Hawaiian Immersion Program)—past and present. Special attention given to federal and state government, Department of Education, and internal political struggles. Pre: 401 (or concurrent with consent).

HAW 470 Ho’omihāla Ha’awina Kaiaipuni (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 Hawaii’s. Pre: 302 or consent.

HAW 484 Hawaiian Poetry (3)
Historical survey and analysis of poetry found in traditional chants, folk songs, modern poetry written in Hawaiian. 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 Kahua 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 'Ololo No'eau (3) Survey and analysis of traditional methods and their kula or symbolic meanings. A-F only. Pre: 402 or consent. DH

HAW 490 Ka Makan'oleo A'o Kula Kaipu Hāwai'i (1) Assess the linguistic competence of prospective Hawaiian language immersion teachers to assure that all teachers entering the state DOE Hāwaii Immunization Program meet the requirements of the program with respect to Hawaiian language proficiency. CR/NC only. Pre: 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 Kūkā Mō'olelo (3) Analyzes various genres of written Hawaiian literature. HAW majors only. Pre: graduate standing and 402, or consent.

HAW 602 Kūkā'ōlelo Oratory (3) A survey of oral performance styles to build increased oral skills. Pre: graduate standing and 601, or consent.

HAW 603 Ka Hana No'i'i (Research Methods) (3) Research methods utilizing active research in the major repositories of Hawaiian language materials and Hawaiian-related knowledge. A-F only. Pre: graduate standing and acceptance in the Hawaiian MA program, or consent. (Once a year)

HAW 612 Nā Mana o Polihi Hāwaii (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 303; or consent. (Cross-listed as POLS 612)

HAW 614 Haku Palapala Noi Lae'o'o/Writing a Hawaiian Thesis Proposal (3) Seminar to select and develop students' research topic, thesis proposal, and organizational plan for thesis completion. Course will benefit HAW MA students preparing to write their Plan A graduate thesis. A-F only. Pre: 601 and one of 603 or 612, or consent. (Once a year)

HAW 615 Kuana'ike (3) The examination of Hawaiian ways of thinking, 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: 402 or consent for Section 1.

HAW 625 Mō'olelo Hāwaii (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 Mō'olelo (3) Intensive study of an individual author, his/her works and nuances of his/her works. (E) J. H. Kane'pu'u; (I) S. M. Kamakau. Pre: 601 or consent. (Once a year)

HAW 643 Ke A'o 'Ololo Hou 'Ana (Teaching Hawaiian As a Second Language) (3) Study 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-project. Pre: 401 and 452 or consent.

HAW 652 Pilima 'Ololo (3) In-depth examination and research into the grammar of Hawaiian including discussion of theories of language and incorporation of meta-language. Pre: 452 and 602, or consent. (Once a year)

HAW 684 No'i'i Mele (3) Intensive study focusing on original compositions of Hawaiian poetry and song. Pre: 402 and 484, or consent.

HAW 695 Papahana Lae'o (V) Internship with cultural practitioner for MA students choosing Plan B. Repeatable up to six credits. 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.

HAW 700 No'i'i Pe'a Lae'o (Thesis) (V) Research for master's thesis. Repeatable unlimited times.

Hawaiian Studies (HWST) School of Hawaiian Knowledge

HWST 107 Hawai'i: Center of the Pacific (3) An introduction to the unique aspects of the native point of view in Hawai'i and in the larger Pacific with regards to origins, language, religion, land, art, history, and modern issues. DH

HWST 207 Hawaiian Perspectives in Ahupua'a (3) Examination of the ahupua'a system: its mythologies, place names, history, poetry and early documents of the Hawaiian nation, as it was conceptualized by the ancient Hawaiians and exploration of its relevance in modern society. A-F only. Pre: 107. NI

HWST 220 Introduction to Hawaiian Visual Culture Studio (Fall only) Introduction to a variety of fibers used in the Hawaiian culture. Emphasis on cultivation, preparation, uses, and conservation. Repeatable one time. A-F only. Pre: 107(C) or consent. NI

HWST 222 Introduction to Hawaiian Fiber Arts Studio-Hana No'eau Ma'awe (3) Introduction to a variety of fibers used in the Hawaiian culture. Emphasis on cultivation, preparation, uses and conservation of the fibers. Areas explored are kapa, plaiting, netting and twining. A-F only. Pre: 107 or 107C, or consent. (Once a year)

HWST 224 Introduction to Hawaiian Painting and Drawing Studio (3) Research and express personal relationship to specific Hawaiian paradigms through Hawaiian visual culture. Introduction to painting and drawing media and exploration of various materials and techniques as applied to individual student styles. A-F only. Pre: 107 or 107C, or consent. (Once a year) NI DA

HWST 225 Introduction to Hawaiian Printmaking Studio (3) Introduction to Native Hawaiian perspectives and world view in images used 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 or 107C; 225; or consent. (Once a year)

HWST 341 Hawaiian Genealogies (3) Survey of major Hawaiian chiefly lineages from the four main islands: Hawai'i, Maui, O'ahu and Kaua'i. Political history from the Kumulipo to Western contact. Pre: HWST 202.

HWST 342 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.

HWST 343 Myths of Hawaiian History (3) Thematic exploration of some common myths of Hawaiian history, including infanticide, slavery, feudalism, constant warfare, human sacrifice, and a limited pre-contact population, to determine the role of myth making in perceptions of Hawaiian history. Pre: junior standing or consent. DL

HWST 351 Mahi'ai Kalo I: Taro Cultivation (3) Historical, cultural and philosophical foundations of the cultivation and uses of taro. A-F only. Pre: 107. (Fall only)

HWST 352 Mahi'ai Kalo II: Advanced Taro (3) In-depth study of taro cultivation techniques and systems. A-F only. Pre: 551.

HWST 353 Malama Loko I'a (4) Study of traditional Hawaiian fishpond management with hands-on experience at He'eia fishpond near Kane'ohe, merging traditional Native knowledge and ways of seeing with Western science. A-F only. Pre: 107 or HAW 101 or BOT 105, or consent. (Once a year)

HWST 362 Pana O'ahu: Famous Place Names (3) A survey of the famous place names in each ahupua'a of O'ahu, including stories of myths, natural features, heiaus, fishponds, winds, rainbows, and their metaphorical value in Hawaiian literature. Pre: 270, or GEOG 101; and HAW 202.

HWST 365 Pana Pemoku o Kanaloa: The Northwestern Hawaiian Islands (3) Will look at the use of the Northwestern Hawaiian Islands during pre-contact times, the historical period of the Kingdom of Hawai'i, after the islands were ceded to the
experience will be broadened and supplemented by "hands-on" internship in an environmental or systems, ecotourism and scientific research. A-F only. Pre: 270 (or concurrent) and HAW 201 (or concurrent), or consent.

HWST 385 L’a’au Lapa’au II: Advanced Medicinal Herbs (4) (3 Lee, 1 Lab) Advanced study and preparation of Hawaiian medicinal herb combinations. Pre: 107 and consent. DH

HWST 390 Issues in Modern Hawai’i (3) Cultural and political aspects of the current Hawaiian movement; historical colonization; conflicts over tourism, the military, and agriculture; forms of native self-determination. Pre: junior standing or consent. DH

HWST 396 Native Hawaiian Rights and Practices (3) Students will strengthen their cultural, political, and legal foundations by: (1) reviewing Hawai’i’s historical traditions and customs, (2) learning legal analysis techniques, and (3) applying those techniques to issues that govern native Hawaiian “rights” today. Sophomore or higher standing. Pre: 107, 270, and 341 (or concurrent) and HAW 102. (Fall only) DH

HWST 421 Visiting Artist Seminar (3) Explore indigenous concepts through the media of a visiting indigenous master artist by looking at traditional media in indigenous cultures, and the possibilities for contemporary expression in other media. Repeatable two times. HWST majors only. A-F only. Pre: 107/107C, one course in 220 level (222, 224, 225), one course in 320 level (322, 324, 325); or consent. (Once a year)

HWST 440 Mâhele Land Awards (3) Practical guide to the researching of land awards and change in title for a single ahupua’a, 1848 to present. Focus on field trips. Pre: 342.

HWST 441 Ceded Lands: Focus on Crown and Government Lands (1848 to Present) (3) Inventing “Ceded Lands” in Hawai’i with emphasis on historical, legal, and cultural changes from the Kingdom through statehood. A-F only. Pre: 440 or consent.

HWST 445 Hawaiian Institutions (3) Comprehensive analysis of institutions like Bishop Estate/ Kamehameha Schools, OHA, Lili’uokalani Trust, Department of Hawaiian Home Lands and The Queen’s Hospital. Pre: 342.

HWST 457 ‘Aina Mauliola: Hawaiian Ecosystems (3) Comprehensive review of traditional Hawaiian and modern resource management practices. Rigorous overview of the dominant physical and biological processes from the uplands to the oceans in Hawai’i. Pre: 107, BOT 105, and junior standing or consent. (Cross-listed as BOT 457)

HWST 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 resources policies today explored from Native Hawaiian and other viewpoints. Extensive use of case studies. Pre: 457 or BOT 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 study. Topics include traditional Hawaiian methods, modern development, threatened ecosystems, ecotourism and scientific research. A-F only. Pre: 457 or BOT 457 (or concurrent), or consent. (Cross-listed as BOT 459)

HWST 460 Hui Konohiki Practicum (3) A “hands-on” internship in an environmental or 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 or BOT 457, 458 or BOT 458 (or co-requisite), 459 or BOT 459; or consent. (Spring only) (Cross-listed as BOT 460)

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. Explores local and contemporary society. A-F only. Pre: 107 or 343 or 390; or consent. (Fall only)

HWST 485 Mahi L’a’au Lapa’au: Hawaiian Medicinal Horticulture (4) The science of planting and harvesting Hawaiian medicinal plants and exploring production and marketing strategies. Pre: 107, 285, and consent. (Fall only)

HWST 487 Hawaiian Aquatic Medicine (4) Identification, extraction and preparation of complexes of aquatic herbs to formulate a healing combination to contribute to maintaining overall health. A-F only. Pre: 107, 285; or consent. (Fall only)

HWST 490 Senior Seminar in Hawaiian Studies (3) Critical examination of existing research; individual or team development, execution, and evaluation of selected projects. Repeatable three times. Pre: senior major in Hawaiian studies or consent.

HWST 493 Hawaiian Political Speech: Hā’i ‘Olelo Ku’e (3) Senior seminar in short, extemporaneous speeches in persuasive, passionate and dynamic styles of Native Hawaï’i. Pre: 107, 270, 341, 342, or HAW 202; or consent. (Once a year)

HWST 494 Modern Pacific Women’s Poetry (3) Critical examination of modern indigenous women’s poetry from the Pacific Islands. Thematic concentra- tion on land, family, sexual and national oppression. Pre: two ENG DL courses; second may be taken concurrently; or consent. (Cross-listed as ENG 479) DL

HWST 495 Kumu Kanawai: Western Law and Hawai’i (3) The rise of Western law in Hawai’i, its influence law and law enforcement. 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 490 (or concurrent). (Once a year)

HWST 496 Kána’wai II: Practical Application of Rights (3) Historical analysis of land use, race and self-determination; introduced to legal case briefing, analysis of legal precedent, practical impacts of rules and regulations and the socio-political factors that influence law and law enforcement. A-F only. Pre: 340 or consent.

HWST 497 Directed Reading/Research (V) Individual reading/research. Pre: 301, two upper division Hawai’i-related courses, and consent.

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 existing 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 Hawai’i- an subjects. This makes up part of the Hawaiian Studies graduate core. 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. Course will be team-taught by HWST faculty. Repeatable one time. A-F only.

HWST 620 ‘Ike Pono-Visual/Cultural Interpretations (3) Graduate seminar and visual studio that examines (from a Kanaka Maoli viewpoint) colonial imaging; collecting and site of contestation; resilience and resistance; and re-tightening. A-F only. Pre: 107C, and one course from 220-225, and one course from 320-325; or consent. (Fall only)

HWST 621 ‘Ike Maka-Visual/Cultural Knowledge (3) Graduate seminar and visual studio that carefully examines and develops critical consciousness—from a Kanaka Maoli viewpoint—visual hegemony, rhetorical tropes; and representation—imag(in)ing and re-imag(in)ing. HWST majors only. A-F only. Pre: 620 or consent. (Spring only)

HWST 640 Mo’olelo ‘Ōiwi: 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 researcher 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) or 490 (or concurrent). (Once a year)

HWST 670 Kumu Kaliski: Comparative Hawaiian and Tahitian Cosmogonies (3) Seminar comparing Gods/myths from Ancient Tahiti by Teitara Henry (600 pages) with the six volumes of Hawaiian historians Kamakau and Malo. A-F only. Pre: 341 or consent. (Alt. years)

HWST 671 Kumu Kaliski: 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 690 Kākule 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); or consent.

HWST 691 Kākule Aupuni: Sovereign Hawaiian State, Domestic Kingdom Law, Governance and Politics (3) Research seminar on the subject of domestic law, governance, 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 Research and Research (V) Repeatable unlimited times. A-F only. Pre: consent.

HWST 700 Thesis Research (V) Research for master’s thesis. (F) Full-time. S/U for (F). Only. Repeatable up to eight credits; Repeatable two times for (F). Pre: 700 for (F).

Key to symbols & abbreviations: see the first page of this section.
for a number of countries in Southeast and South Asian region.

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.

Hebrew (HEB)

College of Languages, Linguistics and Literature

Students choosing Hebrew should realize it may not be offered if demand is limited. A grade of C- or better in the prerequisite courses is required for continuation.

HEB 101 Elementary Hebrew (3) Conversation, grammar, reading and writing. (Fall only) Pre: consent.

HEB 102 Elementary Hebrew (3) Conversation, grammar, reading and writing. (Spring only) Pre: 101 or consent.

HEB 201 Intermediate Hebrew (3) Conversation, grammar, reading and writing. (Fall only) Pre: 102 or consent. NI

HEB 202 Intermediate Hebrew (3) Conversation, grammar, reading and writing. Intro to biblical Hebrew. (Spring only) Pre: 201 or consent. NI

Hindi (HNDI)

College of Languages, Linguistics and Literature

Students choosing Hindi for the language requirement should realize 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. HSL

HNDI 102 Elementary Hindi (4) Continuation of 101. HSL

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. NI

HNDI 202 Intermediate Hindi (4) Continuation of 201. NI HSL

HNDI 301 Third-Level Hindi (3) Continuation of 202. Advanced listening, reading, writing, conversational skills, language structure, and culture integrated in a variety of communicative and creative activities. Pre: 202 or equivalent.

HNDI 302 Third-Level Hindi (3) Continuation of 301.

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. FGA

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. 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; freshmen in SSP only. FGA

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; freshmen in SSP only. FGB

HIST 231 European Civilization 1500-1800 (3) Political evolution and major economic, social, and cultural development of European states. 1500–1800. DH

HIST 232 Modern European Civilization 1800- (3) Continuation of 231. Major political, social, economic, and cultural trends from Napoleon to the present.

HIST 241 Civilizations of Asia (3) Survey of major civilizations of Asia from earliest times to 1500; East Asia, Southeast Asia, South Asia. (Cross-listed as ASAN 241) 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. (Cross-listed as ASAN 242) 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 chieftoms to Hawaiian Kingdom to American territory and state. DH

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

Upper-division standing or consent is a prerequisite to all history courses numbered above 300.

HIST 301 India and South Asia to 1700s (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. DH

HIST 302 India and South Asia since 1700s (3) Historical survey of India and South Asia from the Mughal Empire to the new millennium, tracing political, social, religious, economic, cultural, 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

HIST 312 History of China (3) Continuation of 311. Period since the 17th century. DH

HIST 313 History of Japan (3) Survey of culture, government, economics, and institutions, to 1700. DH

HIST 322 History of Japan (3) Continuation of 321. Period from 1700. DH

HIST 323 Way of Tea in Japanese History and Culture (3) History and culture of Japan as revealed in study and practice of the tea ceremony (urakense): Zen, aesthetics, calligraphy, architecture, ceramics, gardens, politics. (Cross-listed as ASAN 323) DH

HIST 324 The Samurai of Japan (3) A social, military, and cultural history of Japan’s samurai (warrior) class. DH

HIST 327 History of Korea (3) Survey of political, economic, social, and cultural developments from earliest times to 1400. DH

HIST 328 History of Korea (3) Continuation of 327. From 1400 to the present. DH

HIST 331 Ancient Greece I (3) Political, social, and cultural history of the Minoan, Mycenaean, and Archaic periods. DH

HIST 332 Ancient Greece II (3) Political, social, and cultural history of the Classical and Hellenistic periods. DH

HIST 333 Ancient Rome: The Republic (3) Political, social, cultural history from the Etruscans to Augustus. Emphasis on discussion of literary and archaeological materials. (Alt. years: fall) DH

HIST 334 Ancient Rome: The Empire (3) Political, social, and cultural history from Augustus to 476 A.D. Emphasis on literary and archaeological materials. (Alt. years: spring) DH

HIST 335 Early Middle Ages 300–900 (3) Interaction of three major forces forming Western European civilization: Classical tradition, Christian religion, Germanic society. DH

HIST 336 High Middle Ages 900–1300 (3) Topical examination of Medieval European culture: economy, society, religion, politics, thought, and the arts. DH

HIST 337 European Intellectual History (3) Undergraduate seminar on great debates in Western thought. Discussion of primary source materials; the scientific revolution and Enlightenment. DH

HIST 338 European Intellectual History (3) Continuation of 337. European thought from French Revolution to the present. DH

HIST 339 Renaissance and Reformation (3) Political, social, cultural, and intellectual developments in Europe from 1300 to 1600. Emphasis on cultural and intellectual history and its impact on social and political developments; humanism and its influence on thought and reforming movements, Protestant and Catholic Reformations. (Alt. years: fall) DH

HIST 340 Comparative Economic History (3) Comparative historical study of economic ideas and change since around 1700. Considers the histories of capitalism, poverty, industrialization and labor in Europe, Asia, the U.S., and other regions. DH

HIST 342 The History of Economic Thought (3) Introduces major western economic theorists and ideas since around 1700. Considers the history of views on work, poverty, the market and government, and the relationship of those doctrines to society, philosophy, and public policy. Pre: 151, 152, ECON 130, or ECON 131; or consent. (Alt. years) (Cross-listed as ECON 342) DH

HIST 344 Modern Germany (3) Political, social, economic, and cultural history since 1547. Rise of Austria and Prussia, unification, Bismarckian era, World War I and Weimar Republic, Hitler’s Third Reich, post-World War II. DH

HIST 345 France in the Old Regime (3) Major social, political, and intellectual developments: Renaissance, Reformation, religious wars, Richelieu, Louis XIV, Enlightenment, and Revolution. DH

Key to symbols & abbreviations: see the first page of this section.
HIST 346 Modern France (3) Political, social, economic, and intellectual developments from Revolu
tion and Napoleon to the present. DH
HIST 347 Tudor-Stuart Britain (3) Traces major
developments in British politics, society, and culture
between the late Medieval and Modern Eras. DH
HIST 348 Modern England (3) Interaction of
17th-, 18th-, and 19th-century intellectual, political,
economic, and social changes, which together pro-
duced the British Empire and modern Britain. DH
HIST 349 British Empire (3) Origins and expa
sion of the British Empire between the seventeenth
and twentieth centuries. Includes imperial policies
affecting Britain, Asia, Ireland, India, and Southern
Africa. Open to nonmajors. DH
HIST 350 Iberia in Asia and the Pacific (3) Compara
tive exploration of the Iberian empires—Spain and
Portugal—and their political, economic, and
social interactions with indigenous societies in Asia
and the Pacific. A-F only. Pre: sophomore standing
or consent. DH
HIST 351 East European Empires (3) Comparison
of Austrian, Polish, Ottoman, and Russian empires
by examining political ideologies, religions, lifestyles,
and ethno-linguistic identities. Pre: sophomore
standing or consent. (Alt. years) DH
HIST 352 France and Empire (3) Lecture/discus-
sion exploring the history of France’s relationship
with imperialism from the Renaissance to the pres-
tent. Pre: upper division standing or consent. (Once
a year) DH
HIST 354 Introduction to Islamic History (3) Muham
dad, the Arab conquests, the Caliphate; fundamen-
tals of Islam; classical Islamic civilization; develop-
ment of Islam into modern times with em-
phasis on the Middle Eastern heartland. DH
HIST 355 The Making of the Modern Middle
East (3) Survey of developments that created the
system of nation-states in the Middle East. History
of the Ottoman Empire and the Republic of Turkey;
Egypt; the Arab world; Israel and Iran. Recom-
mended: 354. DH
HIST 356 Survey of African History (3) The
history of Africa from earliest times to the present:
the rise of indigenous civilizations, European and
Muslim impact, colonialism and nationalism, and
current issues. DH
HIST 358 The World of Mekong (3) Historical
survey, from BC period to present, of the peoples of
the Mekong region, an area covering southwestern
China, Thailand, Cambodia, Laos, and southern
Vietnam. Open to nonmajors. Pre: upper division
standing or consent. DH
HIST 361 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
norms about gender and sexuality, and shared
and divergent experiences among women. (Cross-listed
as AMST 316 and WS 311) DH
HIST 362 Gender and Sexuality in the Classical
World (3) Critical examination of the construction
of gender identity and sexuality in ancient Greece
and Rome. Pre: 151, 161, LLEE 122, LLEE 123,
LLEE 124, LLEE 227, LLEE 228, or any course
in WS, GRK, or LATIN; or departmental approval.
(Once a year) DH
HIST 371 U.S. Foreign Relations to 1898 (3) Sur-
vey of U.S. foreign relations from initial encounters
between Europeans and Native Americans through
the 1890s. DH
HIST 372 U.S. Foreign Relations From 1898
(3) Survey of U.S. foreign relations from the years
of 1898 to the present. DH
HIST 373 American Thought and Culture (3)
Politics, family, philosophy, technology, etc.; their
interrelationship within the total society. Pre-Colo-
nial to end of the 19th century. Pre: 151 or HIST
152 or AMST 150 or AMST 201 or AMST 202 or
AMST 211 or AMST 212; or consent. (Cross-listed
as AMST 343) DH
HIST 374 American Thought and Culture (3)
Continuation of 373: the 20th century. Pre: 151 or
152 or AMST 150 or AMST 201 or AMST 202 or
AMST 211 or AMST 212; or consent. (Cross-listed
as AMST 344) DH
HIST 378 History of American Business (3)
The evolution of business enterprise from colonial
times to the present. Emphasis on entrepreneurship,
technological change, labor-management relations,
government-business relations, and economic
thought. Case studies of industrial development.
(Cross-listed as MGT 348) DH
HIST 379 American Empire (3) Examines the
interplay between an “American culture of empire”
and the rise of the U.S. as a superpower. Topics: Im-
perialism and political culture, social movements and
international affairs, race, gender and class relations.
(Cross-listed as AMST 365) DH
HIST 386 Caribbean History (3) Survey of the his-
tory of the Caribbean region from 1500 to the pres-
tent. A-F only. Pre: sophomore standing or higher,
or consent. DH
HIST 391 History of Warfare (3) Classical and
guerrilla warfare, revolution, and military systems
and institutions. DH
HIST 392 History of Warfare (3) Continuation of
391, from 1850 to present. DH
HIST 393 U.S. Military History (3) Survey of
development of American military forces from War
of Independence to war in Vietnam. DH
HIST 394 History of Science to 1700 (3) Evolu-
tion of scientific thought and its cultural context.
Antiquity to 1700. DH
HIST 395 History of Science Since 1700 (3) Con-
tinuation of 394; science, technology, and society
since 1700. DH
HIST 396 (Alpha) Introduction to the Study of
History (3) Introduction to the discipline; current
trends in Asian, European, American, and Pacific
historiography; preparation for senior thesis (496).
(B) historiography; (C) education. Pre: history major
or consent.
HIST 401 History of the Indian Ocean World
(3) Explores the transnational history of the Indian
Ocean world, especially the region connected by
the western maritime trade, trade, religion, colonialism, nationalism, diaspora, and
 globalization, including actors like slaves, sailors,
women, and merchants. A-F only. Pre: junior or
senior standing or consent. (Alt. years) DH
HIST 403 Vietnam: History and Memory (3)
Survey of Vietnamese history with particular atten-
tion to the multiple ways that the Vietnamese past
has been remembered and represented by different
peoples. Open to non-majors. DH
HIST 406 Modern Philippines (3) Survey of major
developments from pre-colonial through Spanish and
American colonial periods, the revolution, Japanese
occupation, and post-war republic. DH
HIST 407 Modern Malaya (3) History of Malay
peninsula and northern Borneo, emphasizing
developments since 18th century: trade, commerce,
foreign migrations, pluralism, nationalism, and
Islam. DH
HIST 408 Modern Indonesia (3) Indonesia from
14th century to present. Emphasis on period from
late 18th-century Western colonial impact to struggle
for independence and problems of nationhood. DH
HIST 410 Twentieth-Century China (3) An
examination of the political, intellectual, economic,
cultural, and social transformations of China in
the twentieth century. This lecture studies 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 government 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 1900, stressing provincial
reform, Sinen and sub-Sinien politics, warlordism,
Kuomintang tutelage, and the Chinese Communist
movement and rule. DH
HIST 416 Chinese Intellectual History (3)
An interpretive survey of Chinese thought from 1600
to the contemporary period, with special emphasis on
the themes of cultural collision and change. DH
HIST 417 Chinese Intellectual History (3) Inter-
pretive 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) System-
atic review from traditional times, with emphasis on
modern and contemporary history, analyses of for-
eign policy formulation, objectives, and implementa-
tion. Recommended: 312. DH
HIST 419 The Chinese Revolution (3) Origins,
development, and meaning of modern revolution in
China, 19th century to People’s Republic. Recom-
mended: 311 and 312. DH
HIST 420 People’s Republic of China (3) Salient
developments from 1949 to the present. Social revo-
 lution and modernization, critically relevant foreign
relations. Recommended: 312 or 419. 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, economic, and social develop-
ment since institutional consolidation of Meiji state
c.1890. Pre: upper division standing or consent.
DH
HIST 425 Women in Japanese History (3) Survey
of the changing political, social, economic, and
cultural positions of women in Japan from ancient
times to the present. Pre: one course in Japanese
history or consent. 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 literary and archaeological materials.
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, revolutions 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 medi-
 eval period (circa 300-1500). Class discussion and
written work emphasize analysis of primary source
documents using cultural and world history theories.
Regional focus and readings vary by semester.
Repeatable one time. DH
HIST 434 History of Christianity to 1500 (3)
Historical analysis of the main traditions of Chris-
tianity 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. (Alt. years: 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

Key to symbols & abbreviations: see the first page of this section.
present. Topics include invader species and biotic exchange; environmental politics; and the ecological impact of industrialization, urbanization, science, technology, war, etc. Pre: junior standing or consent. (Once a year) DH

**HIST 438 European Cult of the Primitive (3)** Historical investigations of European beliefs in the superiority of primitive societies. Topics include how primitivist ideas shaped historiography, religion, art, gender, political economy, and empire. Pre: upper division standing or consent. (Alt. years: spring) DH

**HIST 439 The Darwinian Revolution (3)** Social and intellectual history 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 European colonization 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 and consequences of violence, including military conflicts. Pre: upper division standing or consent. (Once a 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 progression 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; Portugal’s captivity and the defeat of the Spanish Armada. DH

**HIST 450 Topics in African History (3)** Selected themes important 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. (Once a year) DH

**HIST 451 (Alpha) History and Literature (3)** Explores the many relationships between history and literature, including how literature has reflected and shaped society in the past and our relationship to the past; (B) United States; (C) Europe; (D) Asia/Pacific; (E) World/Comparative; (F) Provisional topics. Repeatable one time for different alphas, not repeatable for (C). Pre: 151 or 152, or consent. DH

**HIST 452 (Alpha) History and Film (3)** Explores the many relationships between history and film including how film has reflected and 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 454 Tsarist Russia (3)** Development of the Russian state to the early 20th century. Russian state and early development of culture and art; Mongol era; rise of Moscow, autocraty, 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, and the demise of the Soviet Union. DH

**HIST 457 Russian in East Asia and the Pacific (3)** Siberia, Russian/Soviet Far East, Russian activities in Pacific basin; 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 anti-slavery, 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, and 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 ideology, and the force 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 relates to 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 surveying the conquest, colonization, 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 American Labor History (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-Columbian civilizations: Spanish and Portuguese colonization; political, economic, social, and religious conditions to 1810; independence. (Cross-listed as LATS 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 and colonization 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 Hawai‘i 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 WS 492) DH

**HIST 495 (Alpha) History Colloquium (3)** Extensive or intensive treatment of special problems. (B) Philippines and Indonesia; (C) U.S. foreign relations; (D) history in Oceania; (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 a 20-25 page minimum final research paper. Required for majors except those in...
HIST 650 Seminar: Comparative Asia (3) This reading seminar in the comparative history of modern Asia will introduce graduate students to themes, particularly in social, cultural, and intellectual history, which lend themselves to comparison across the region. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 656 Topics in Southeast Asia (3) Reading and research seminar on themes about the past and present of Southeast Asia in a comparative framework. Pre: graduate standing or consent.

HIST 657 Historiography of Southeast Asia (3) Examinations of contested boundaries of Southeast Asia, the various historiographic traditions, the colonial legacy, and the current issues emerging from a dialogue of historians from the “region” and the outside world. Repeatable one time.

HIST 658 Seminar in Modern Southeast Asian History (3) Graduate level reading seminar in modern Southeast Asian history. Repeatable one time. Pre: graduate standing or consent.

HIST 659 The Seas in Southeast Asian History (3) Seminar on the seas in Southeast Asian history. (Alt. years)

HIST 660 Seminar: Vietnamese History (3) Reading and research seminar on Vietnamese history. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 661 (Alpha) Seminar in Chinese History (3) Problems and readings in political, social, and cultural history. (B) early; (C) middle; (D) modern. Repeatable one time.

HIST 662 Seminar: Islam and Islamic Civilization (3) Readings on the rise, spread, and development of Islamic cultures and civilizations throughout the world down to modern times. Repeatable one time. Pre: graduate standing or consent. Recommended: 554.

HIST 663 Seminar in South Asian History (3) Graduate-level reading and research seminar on topics in Indian and South Asian history. Repeatable one time.

HIST 666 (Alpha) Seminar in Japanese History (3) Problems, principal sources of bibliographic information. (B) traditional period to c.1600; (C) early modern 1600–1868; (D) 1868 to present; (E) 20th-century diplomatic.

HIST 667 (Alpha) Seminar in Korean History (3) Reading major interpretive works, and research in selected topics. (B) reading; (C) research. Pre: graduate standing or consent.

HIST 667 Seminar in Pacific History (3) Reading and research on major themes and issues. (B) South Pacific; (C) Micronesia; (D) 19th century; (E) 20th century. Pre: graduate standing or consent.

HIST 677 Seminar in History of Hawai‘i (3) Reading seminar with short papers required. Covers Kingdom of Hawai‘i and 20th-century Hawai‘i in alternate years. Repeatable one time. (Alt. years: fall)

HIST 699 Directed Research (V) Individual research seminar. (B) American; (C) Pacific; (D) Japanese; (E) European; (G) English; (H) Chinese; (J) Russian; (K) Hawaiian; (L) Southeast Asian; (M) Korean.

HIST 700 Thesis Research (V) Pre: consent.

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 current 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) Pre: consent.

Honors (HON)

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-F only.

HON 120 Mathematical Modes of Thinking (3) Mathematics as both a language and a thought process expressed in that language. Historical and contemporary relations to culture.

HON 190 Honors Tutorial (1) Supplements a 100 or 200 level lecture course or 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. (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. NDFB for (B); DH for (H); DP for (P); DA for (R); DS 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 field trips. 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 Civil Engagement, Volunteerism & Community Service (3) Seminar on history and theory 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 380 Peer Mentoring (3) Students function as peer mentors in and out of class sessions. Emphasis on understanding dynamics of leadership skills within the context of small groups. Pre-semester training sessions, on-going training and supervision. Repeatable one time. A-F only. Pre: 101 or departmental approval.

HON 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 current 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) Pre: consent.
Honors Project. Limited to candidates for the Honors degree. Repeatable one time. CR/NC only.

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. Prec: 495 or consent.

Selected Studies students also have the option of taking A-section courses from the following list when they are offered by departments:

- AMST 202A Diversity in American Life
- ANTH 151A Emerging Humanity FGA
- ANTH 152A Culture and Humanity FGB
- ART 101A Introduction to Visual Arts
- ASAN 241A Civilizations of Asia
- ASAN 242A Civilizations of Asia
- ASAN 312A Contemporary Asian Civilizations DS
- ASTR 110A Survey of Astronomy
- ASTR 120A Astronomical Origins
- BOT 101A General Botany
- BOT 105A Ethnobotany FGC
- CHEM 181A Honors General Chemistry
- ECON 130A Principles of Microeconomics
- ECON 131A Principles of Macroeconomics
- ECON 300A Intermediate Economics: Macroeconomics Analysis
- ECON 301A Intermediate Economics: Price Theory DS
- ECON 317A the Japanese Economy DS
- ENG 100A Composition I
- ENG 270A Introduction to Literature: Literary History N/DF
- ENG 271A Introduction to Literature: Genre N/DF
- ENG 272A Introduction to Literature: Culture and Literature N/DF
- ENG 273A Introduction to Literature: Creative Writing and Literature N/DF
- GG 101A Introduction to Geology
- HIST 161A World Cultures in Perspective
- HIST 162A World Cultures in Perspective
- ICS 101A Tools for the Info Age
- ICS 111A Introduction to Computer Science
- ICS 211A Introduction to Computer Science II N/II
- MATH 251A Accelerated Calculus I N/I
- MATH 252A Accelerated Calculus II N/I
- MATH 253A Accelerated Calculus III
- MICR 140A Microbiology Laboratory
- PHIL 100A Introduction to Philosophy: Survey of Problems
- PHIL 101A Introduction to Philosophy: Morals and Society
- PHIL 102A Introduction to Philosophy: Asian Traditions DH
- PHIL 110A Introduction to Deductive Logic
- PHYS 272A General Physics II DP
- POLS 110A Introduction to Political Science
- POLS 335A Political Philosophy and Theory DS
- PSY 371A Abnormal Psychology DS
- REL 151A Religion and the Meaning of Existence DH
- REL 210A Understanding Christianity DH
- SOC 100A Introduction to Sociology
- SOC 300A Principles of Sociology Inquiry
- SP 251A Principles of Effective Public Speaking

Human Resources Management (HRM)

Shidler 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 creativity 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 integration of corporate goals with the organizational culture.

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 chair and faculty advisor.

HRM 453 Personnel Compensation (3)
Selected topics. Emphasis on trends, recent issues, job evaluation, incentive systems, salary administration, executive compensation, profit sharing, benefit programs, retirement plans. Prec: 351.

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. Prec: 351.

HRM 463 Negotiation and Workplace Dispute Resolution (3)
Theory and practice in negotiating; design and operation of different kinds of workplace dispute resolution (such as mediation, arbitration, and various alternatives); features exercises on bargaining and negotiation and advocacy and decision skills. Prec: 361 or consent. (Spring only)

HRM 465 Labor and Social Legislation (3)
Evolution, interpretation, and application of labor and social welfare legislation with special emphasis on impact of labor-management relations. Prec: 361.

HRM 467 Labor-Management Relations/Public Sector (3)
Review and analysis of basic factors that distinguish private from public employment relations; examination of the development of recent legislation and programs at the federal, state, and municipal levels. Specific consideration given to current problems on the mainland and Hawai’i. Prec: 361 or consent.

HRM 469 Labor Problems in Asia (3) Survey and comparison of labor markets, economic development, and the role of trade unions in developing countries with particular reference to Asia and the Pacific. Prec: 361. DS

HRM 663 Human Resource Management (3)
Analysis and critical evaluation of basic issues, policies, and trends in personnel administration.

HRM 664 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 665 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 667 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 668 Labor Relations (3) Critical evaluation of theories and models of trade unionism and labor relations; evolution and contributions to social sciences.

HRM 669 International Collective Bargaining (3) Expanded and comparative analysis of wage determination systems through collective bargaining in selected developed and underdeveloped countries—the impact of industrialization and international trade on wage-setting.

Ilokano (ILO)

College of Languages, Linguistics and Literature

ILO 101 Beginning Ilokano (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets four hours weekly. HSL

ILO 102 Beginning Ilokano (4) Continuation of 101. Prec: 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, Dentistry, 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. Prec: 102 or consent. N/H HSL

ILO 202 Intermediate Ilokano (4) Continuation of 201. Prec: 201 or consent. N/H HSL


ILO 302 Third-Level Ilokano (3) Continuation of 301. Prec: 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 broadcasts, formal lectures, plays, natural conversations, songs, and student-created sitcoms and dramas. Prec: 202 or consent.

ILO 331 Contemporary Ilokano Literature (3) Conducted in Ilokano, this course explores the literary landscape of Ilokano literature from the perspective of Ilokano writers based in the Philippines as well as those outside of the country. Prec: 301 or consent.


ILO 402 Fourth-Level Ilokano (3) Continuation of 401. Prec: 401 or exam, or consent.
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. Pre: 101. HSL

IND 103 Beginning Indonesian 1 (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) Pre: 103. HSL

IND 201 Intermediate Indonesian (4) Continuation of 102 or 104. Pre: 102 or equivalent. NI HSL

IND 202 Intermediate Indonesian (4) Continuation of 201. Pre: 201. NI HSL

IND 203 Intermediate Indonesian 1 (3) Intermediate Indonesian language study for the purpose of communication, travel, further study, and enjoyment. Pre: 102 or 104 or equivalent language skills in Indonesian or Malay, or consent. (Fall only) NI HSL

IND 204 Intermediate Indonesian 2 (3) Intermediate Indonesian language study for the purpose of communication, travel, further study, and enjoyment. Pre: 201 or 203 or equivalent language skills in Indonesian or Malay. (Spring only) NI HSL

IND 301 Third-Level Indonesian (3) Continuation of 202 or 204 or equivalent language skills in Indonesian or Malay. Meets two hours a week. Reading, discussion, composition, and projects. Pre: 202 or consent.

IND 302 Third-Level Indonesian (3) Continuation of 301. Pre: 301.

IND 305 Third-Level Indonesian 2 (3) Online course consists of modular, thematic, proficiency-based units exploring the language of the contemporary Indonesian media with an emphasis on reading, writing, and learning comprehension. Not open to students who have taken IND 301. Pre: 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 302. Pr: 301 or 305 (or equivalent), or consent. (Spring only)

**IND 307 Third Level Indonesian Conversation (2)** Topic-based course aimed at enhancing students' listening and speaking skills in the Indonesian language. Not open to students who have taken 301. Pr: 202, 204, or consent. Co-requisite: 306. (Fall only)

**IND 308 Third Level Indonesian Conversation (2)** Topic-based course aimed at enhancing students' listening and speaking skills in the Indonesian language. Not open to students who have taken 302. Pr: 301 or 307, or consent. Co-requisite: 306. (Fall only)


**IND 402 Fourth-Level Indonesian (3)** Continuation of 401. Pr: 401 or 405.

**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. Pr: 302, 306, or consent. (Fall only)

**IND 407 Fourth Level Indonesian Conversation (1)** Topic-based course aimed to enhance students' listening and speaking skills in the Indonesian language. Pr: 302, 306, or consent. Co-requisite: 405. (Fall only)

**IND 452 Structure of Indonesian (3)** Introduction to grammar; some sociolinguistic background. Pr: 302 or equivalent, or consent. DH

**IND 454 History of Indonesian (3)** Social and linguistic development of Indonesian from roots in earlier Malay to contemporary form and function. Pr: 202 and 452, or consent. DH

**IND 461 Modern Indonesian Literature (3)** Selected readings, 1900 to present. Discussion and composition. Pr: 402 or consent. DL

### Information and Computer Sciences (ICS)

**ICS 101 (Alpha) Tools for the Information Age (4)** Fundamental concepts and terms of computer technology, application software for problem solving, computer technology trends and impact on individuals and society. (B) general; (1) education. (T) intended for students interested in careers in education.

**ICS 110 Introduction to Programming Through 3D Animations (3)** Introduction to computer programming and object-oriented programming concepts using movies and games where the concept of “object” is visible and animated in 3D. (Once a year)

**ICS 111 Introduction to Computer Science I (4)** Overview of computer science, writing programs. Pr: Recommended: computer experience.

**ICS 141 Discrete Mathematics for Computer Science I (3)** Logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting techniques, probability theory. FS

**ICS 210 Information Systems in Society (3)** Lecture/discussion critically explores socio-political dimensions of Information and Communication Technology (ICT), and the information professions. A-F only. Pr: departmental approval. (Once a year)

**ICS 211 Introduction to Computer Science II (3)** Algorithms and their complexity, introduction to software engineering, data structures, searching and sorting algorithms, numerical errors. Pr: grade of “B” or higher in 111 or consent. NI

All students wishing 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, programming environments, implementation of a module from specifications, the C and C++ programming languages. Pr: 211 or consent. NI

**ICS 215 Introduction to Scripting (3)** Introduction to scripting languages for the integration of applications and systems. Scripting in operating systems, web pages, server-side application integration, regular expressions, event handling, input validation, selection, repetition, parameter passing, Perl, JavaScript, and PHP. A-F only. Pr: 211 (or concurrent), or consent. (Once a year) NI

**ICS 241 Discrete Mathematics for Computer Science II (3)** Program correctness, recursion relations and their solutions, divide and conquer relations, and their properties, graph theory, trees and their applications, Boolean algebra, introduction to formal languages and automata theory. Pr: 141 or consent. NI/FS

**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 (3)** 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. Pr: 211 and 241, or consent.

**ICS 312 Machine-Level and Systems Programming (3)** Machine organization, machine instruction sets, addressing modes, assembler language, subroutine linkage, linking to higher-level languages, interface to operating systems, introduction to assemblers, loaders and compilers. Pr: 212 (or concurrent), or consent.

**ICS 313 Programming Language Theory (3)** Syntax, semantics, control structure, data type binding and scopes, data and control abstractions. Programming in functional (LISP) and logic (Prolog) programming styles. Pr: 212 and 241, or consent.

**ICS 314 Software Engineering I (3)** System specification, modeling and analysis, prototyping, hierarchical design, program design methods, cost estimation, project management, computer-aided software design. Team-oriented software-design project. Pr: 211 or consent.

**ICS 315 Web Design and Management (3)** Web design principles, XML and HTML, tables, forms, and frames, multimedia objects, security, scripting for web applications, web servers, commercial aspects, new technology. A-F only. Pr: 215 or consent. (Once a year)

**ICS 321 Data Storage and Retrieval (3)** Data storage devices, timing and capacity, programming for files, hashed and indexed files, introduction to relational databases. Pr: A-F only. Pr: 211 or concurrent.

**ICS 331 Logic Design and Microprocessors (4)** (1-3-hr Lab) Basic machine architecture, microprocessors, bus organization, circuit elements, logic circuit analysis and design, microcomputer system design. Pr: 312 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. Pr: 211.

**ICS 351 Network Design and Management (3)** Overview of the internet and its capabilities; introduction to HTTP, TCP/IP, internet, and wireless 802.11; routers, switches, and NAT; network and wireless security; practical experience in designing and implementing networks. Pr: 141 and 211, or consent. (Once a year)

**ICS 361 Introduction to Artificial Programming (3)** Introduction to the theory of Artificial Intelligence and the practical application of AI techniques in Functional (Common LISP), and/or Scheme and Logic (Prolog) programming languages. Students gain practical experience through programming assignments and projects. A-F only. Pr: 241 and 212 or 215, or consent.

**ICS 390 Computing Ethics for Lab Assistants (3)** A lecture/discussion/internship on ethical issues and technology for students assisting in a laboratory section of ICS 101. The class uses multiple significant writing and oral presentation activities to help students learn course content. Pr: 101 (Alpha) and consent.

**ICS 414 Software Engineering II (3)** Continuation of 413. Project management, quality, and productivity control, testing and validation, team management. Team-oriented software-implementation project. Pr: 413.

**ICS 415 Introduction 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. Pr: 311 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. Pr: two ICS 300-level courses with grade of B or higher, or consent. (Once a year)

**ICS 421 Database Systems (3)** Principles of database systems, data modeling, relational models, database design, query languages, query optimization, concurrency control data security. Pr: 311 and 321, or consent.

**ICS 422 Data Processing (3)** Role of data processing in organizations, programming practices, ethics, sequential and indexed file processing, report writing, online transaction processing. Pr: 321 or consent.

**ICS 423 Computer Security (3)** Legal, ethical and technological issues in computer access, confidentiality, authentication, privacy and intellectual property. Pr: both 311 and 312, or consent.

**ICS 424 Application Frameworks (3)** Experience producing applications with at least two different applications frameworks. A-F only. Pr: 321, 311, and 313 or consent.

**ICS 425 Computer Security and Ethics (3)** Theoretical results, security policy, encryption, key management, digital signatures, certificates, passwords. Ethics: privacy, computer crime, professional ethics. Effects of the computer revolution on society. A-F only. Pr: at least one ICS 300-level course or consent. (Once a year)

**ICS 426 Computer System Security (3)** Information flow, confinement, information assurance, malicious programs, vulnerability analysis, network security, writing secure programs. A-F only. Pr: 351 or 351, or consent.

ICS 432 Concurrent 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 with Java. Introduction to cluster computing. A-F only. Pre: 311 or consent. (Once a year)


ICS 441 Theory of Computation (3) Grammars, sequential machines, equivalence, minimalization, analysis and synthesis, regular expressions, computability, unsolvability, Gödel’s theorem, Turing machines. Pre: 313.

ICS 442 Analytical Models and Methods (3) Applications of mathematical methods in computer science with emphasis on discrete mathematics, numerical combinatorics, algebraic models, operations research. Pre: 311 or consent.

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 consent.

ICS 452 Software Design for Robotics (3) Sensors, actuators, signal processing, paradigms of robotic software design, introduction to machine learning, introduction to computer vision, and robot-to-human interaction. A-F only. Pre: 311 or consent. Recommended: 312 and 313. (Once a year)

ICS 461 Artificial Intelligence (3) Survey of artificial intelligence: natural language processing, vision and robotics, expert systems. Emphasis on fundamental concepts: search, planning, and problem solving, logic, knowledge representation. Pre: 311 or consent.

ICS 464 Human Computer Interaction I (3) Application of concepts and methodologies 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 consent.

ICS 465 Introduction to Hypermedia (3) Basic issues of interactive access to information in various formats on computers. Available hardware and software: editing, integration, programming. Implementation of a sample information system. Pre: 311.

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 consent. (Spring only)

ICS 469 Cognitive Science (3) Introduces basic concepts, central problems, and methods from cognitive science. Includes contributions from disciplines such as cognitive psychology, linguistics, artificial intelligence, philosophy, and neuroscience. Pre: 311 or consent.

ICS 471 Probability, Statistics, and Queuing (3) A hands-on introduction to probability, statistical inference, stochastic processes, queuing theory. Use of an interactive statistical graphics environment such as R. Pre: 241 and 311, or consent.

ICS 475 Introduction to Bioinformatics Sequences and Genomes Analysis (3) Introduction to bioinformatics to computer science students by focusing on how to deal with molecular sequences. Bioinformatics algorithms and databases can be used for the storage, analysis, prediction and simulation of biological sequences (DNA, RNA and proteins). A-F only. Pre: 311 or consent. Once a year.

ICS 476 Bioinformatics Algorithms and Tool Development (3) Study of commonly used bioinformatics algorithms, with an emphasis on string, tree, and graph algorithms. Presentation of probabilistic and clustering methods. Implementation of the studied algorithms and applications. Pre: 475 or consent. (Once a year)

ICS 481 Introduction to Computer Graphics (3) Fundamentals of computer graphics including graphics hardware, representation, manipulation, and display of two- and three-dimensional objects, use of commercial software. Pre: 311 and either MATH 216, MATH 242, or MATH 252A; 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 stereo, segmentation, tracking, object recognition and application. A-F only. Pre: 212 and 311, or consent. Once a year.

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 classes or consent.

ICS 499 Computer Project (V) Individual or small group projects in computer science 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) Theories, 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: 313 or EE 467 (or equivalent), graduate standing, or consent. (Once a year) (Cross-listed as EE 606.)

ICS 611 Compiler Theory and Construction (3) Design and implementation of compilers, syntactic and semantic descriptions of programming languages, algorithms for syntactic 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. Pre: 312.

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 I (3) Introduction to the field of medical informatics, which is found at the intersection of clinical science, public health, information science, computer technology and communications technology. Concentration on current issues. Pre: consent.

ICS 616 Information Architecture and Web Design (3) User-centered design of websites; survey Information Architecture (IA) systems (organization, navigation, labeling experience) in methodologies for creating IA, tools for IA, web standards and usability tests. 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 algorithmic models, comparison, measures, applications. Pre: 311.

ICS 622 Systems Modeling and Evaluation (3) Mathematical modeling, analysis, optimization, and simulation techniques, applications to design and evaluation of computer software systems. Pre: 311 or consent.

ICS 623 Data Security (3) Symmetric encryption algorithms, secure hashing, algorithms, unicity distance, large number and finite field algebra and arithmetic, public key algorithms for encryption, digital signatures, and key exchange. Pre: 311 or consent.

ICS 624 Advanced Data Management (3) Exploration of information retrieval and object-relational tools and methods for 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 635 Active Learning (3) Introduction to key theoretical concepts of machine learning. Practical experience with decision free methods, artificial neural networks. Bayesian belief networks and contemporary statistical methods including regression, clustering and classification. Pre: consent. (Once a year)

ICS 636 Information Theory in Machine Learning (3) Basics of information 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 651 Computer Networks (3) Elementary principles of modern computer networking. Detailed coverage of overall architecture and the physical data link, and network layers, with emphasis on the network layer. Pre: 451.

ICS 661 Advanced Artificial Intelligence (3) Current issues in artificial intelligence, including expert systems, knowledge representation, logic programming, learning, natural language processing. Pre: 461 or consent.

ICS 663 Pattern Recognition (3) Nature of the problem in pattern recognition and clustering; explanation of various algorithms. Pre: MATH 371.

ICS 664 Human-Computer Interaction II (3) Studies of human performance in designing and using computer 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 construction of interfaces between computers and their users. Hypermedia information structures, guidelines, problems, and tradeoffs. Discussion of selected readings, implementation of prototypes. Pre: 465.

ICS 667 HCI 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 to a major system design 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: 464 or 465 or 664 or 665 or LIS 677, or consent.

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

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

ICS 675 Bioinformatics: Sequences Analysis (3) To expose students to bioinformatics at the biological sequences analysis level (DNA, RNA, proteins). Several bioinformatics methods and algorithms are introduced. Students are required to present one paper and to participate in a small 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. Collaboration and source project to develop a modular general framework for the analysis of cDNA arrays and gene chips. 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. (Once a year)

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 culture, 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. CR/NC only.

ICS 691 Topics in Software (3) Reflects special interests of faculty in theoretical computer science. Repeatable in different topics. Pre: consent.

ICS 699 Directed Reading/Research (V) Pre: graduate standing and consent.


Information Technology Management (ITM)

ITM 115 Using Computers and Applications (3) Using Windows computers, browsers, Microsoft Office (or equivalent) and other applications. A-F only.

ITM 352 Programming Application Systems (3) Introduction to applications programming. Fundamentals, essential logic, file handling, report writing. Emphasis on system development and disciplined programming. A-F only. Pre: ICS 101(Alpha) or equivalent, or consent.

ITM 353 Information Systems 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. Pre: BUS 311 or consent.

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. Pre: 353 (or concurrent) and BUS 311, or consent.

ITM 360 Current Topics in ITM (3) Repeatable with permission of department chair. Pre: varies with topic.

ITM 366 Information Systems in Organizations (3) Practice of information systems in organizations. Capstone course A-F only. Pre: 353 and 354 (or 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 or business statistics: (B) software systems economics; (C) database systems; (D) web-based application development; (E) advanced technology in MIS; (F) systems development; (G) database systems; (H) advanced business applications; (J) ethics of technology; (K) business intelligence. Repeatable with permission of department chair. Pre: varies with topic.

ITM 399 Directed Reading and Research (V) Reading and research in 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.

ITM 431 Networking (3) Basic concepts in data networking, standards, architectures. Local and wide area networks, PC networking. The internet. Telephony. A-F only.

ITM 433 Information Security (3) Fundamentals of corporate computer and network security management and technologies, viruses, worms, hacking, firewalls, cryptographic protections, incident and disaster response cyberwar. Repeatable one time. Pre: 431 or consent. (Once a year)

ITM 660 Current Topics in Information Systems (3) Selected current practices and trends in decision sciences and MIS. May be repeated with change in topic. Pre: BUS 630 and BUS 631, or consent.

ITM 680 Project Management, Information Technology and Change (3) Lectures and discussions to contextualize knowledge and techniques of project management in organizational change, globalization and outsourcing, global teamwork, intercultural awareness, negotiation and leadership. Semester long group project. Open to all graduate students. (Once a year)

ITM 685 Electronic Commerce (3) Overview and discussion of the latest developments in e-commerce, hardware and software developments to support e-commerce, cases studies of successes and failures, and e-commerce applications with special emphasis on developing countries in Asia. A-F only. Pre: BUS 630 or consent. (Once a year)

ITM 699 Directed Research (3) Reading and research in ITM under the direction of a faculty member. A-F only.

ITM 704 Doctoral Seminar in Information Systems (3) Extensive and critical review of the IS research literature. Can be taken for credit. Repeatable three times. A-F only. Pre: CIS 703 (or concurrent) or consent.

ITM 706 International IT Organizational Research Methods (3) Overview of current survey methodology and analysis in global information systems research. A-F only. Pre: PhD student status in international management or consent.

ITM 799 Directed Reading and Research (V) Reading and research in an area of information technology management under the direction of faculty member(s). A-F only. Pre: PhD student status in international management or consent.

Institute for Teacher Education (ITE)

College of Education

ITE 312 Introduction to Teaching, Elementary (V) Standards-based planning, assessment, instruction, reflection; inclusive classroom management; unique multicultural environment; issues in education and curriculum. Developing knowledgeable, effective, caring professionals to support student’s academic, social, emotional, physical needs. Emphasis on writing instruction. Repeatable two times. A-F only. Co-requisite: 317.

ITE 313 Literacy and Literature I (V) First of two methods courses focusing on theories and research-based practices related to literacy teaching-learning in elementary classrooms. Emphasis on writing instruction. Repeatable two times. A-F only. DL

ITE 314 Literacy and Literature II (V) Second of two methods courses focusing on theories and research-based practices related to literacy teaching-learning in elementary classrooms. Emphasis on writing instruction. Repeatable two times. A-F only. DL

ITE 316 Field Experience (2) Supervised field experience in schools. Minimum of 8 hours per week in conjunction with professional education courses. Repeatable three times. CR/NC only.

ITE 317 Field Experience (V) Supervised field experience in schools. Minimum of 2 full days per week in classrooms, plus mandatory seminar scheduled by UH Mānoa field supervisor. Taken in conjunction with professional education courses. Repeatable three times. CR/NC 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 322 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. Repeatable two times. A-F only.

ITE 323 Science, Elementary (V) Science education in elementary school; methods and materials; laboratory activities selected from new science curricula. Repeatable two times.

ITE 324 Mathematics, Elementary (V) Inquiry-based approach to concepts and algorithms of whole numbers and introduction to geometry/measurement. Laboratory experiences with appropriate manipulatives. Repeatable two times. Pre: MATH 111 and MATH 112.

ITE 325 Mathematics, Elementary II (V) Inquiry-based approach to concepts and algorithms of fractions, decimals, graphing, and probability and statistics. Laboratory experiences with appropriate manipulatives. Repeatable two times. Pre: 324 or consent.

ITE 326 Visual Art, Elementary (V) Scope and organization of art in PK-6 school curriculum; creative use of art media through laboratory experiences. Repeatable two times.

ITE 329 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 preK-6 lessons that integrate the performing arts. Repeatable two times. A-F only.

ITE 343 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. Repeatable two times. A-F only.

ITE 346 Methods of Instruction, Industrial/Agricultural Facilities (3) Organization of instruction; handling supplies; maintaining equipment and tools; purchasing materials; making inventories.


ITE 349 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 grades K–6. For students in elementary education. Not intended for elementary music majors.

ITE 360 Introduction to Multicultural Education (2) Concepts and methods to develop sensitivity and awareness of cultural influences on behavior as these relate to the schooling process. (Cross-listed as EDEF 360) DS


ITE 380 Managing Classrooms (3) Analysis of the factors that contribute to learning in the classroom, and the development of teacher behaviors that promote such learning.

ITE 390 (Alpha) Student Teaching (V) Full-time supervised experience in school. (B) dual preparation in ECE and elementary education; (C) elementary; (D) secondary; (E) community college; (S) dual preparation in elementary and special education. Pre: completion of all other program requirements. Co-requisite: 391. CR/NC only.

ITE 391 (Alpha) Seminar for Student Teaching (V) With student teaching as context, examination of knowledge, skills, and dispositions for teaching; standards-based planning, teaching, assessment, and reflection; inclusive classroom management; professional growth and development; integration of research, theory, and practice. Emphasis on writing instruction and ethical issues in teaching. (B) dual preparation in ECE and elementary education; (C) elementary; (D) secondary; (E) community college; (S) dual preparation in elementary and special education. Pre: successful completion of all required courses. Co-requisite: 390. Repeatable nine times. CR/NC only.

ITE 392 (Alpha) Student Teaching Modified (6) Modified student teaching for individuals who have had previous teaching experience or 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 a member of the faculty. For credit in research, observation/participation, teaching, and/or projects. Repeatable up to 12 credits. Pre: consent of instructor.

ITE 401 Introduction to Teaching (3) Knowledge base for professional educators; educational needs of adolescents in a unique multicultural environment; historical roots; implementation and assessment; school organization; development of individual and program goals. A-F only. Pre: admission to secondary program.

ITE 402 (Alpha) Teaching Practicum (3) Observation, analysis, participation and teaching in middle or high school. A seminar accompanies the field experience. 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; (J) foreign language; (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. Co-requisite: 404 or consent, 404P for (P).

ITE 403 Seminar in Educational Inquiry (3) Study and discussion of general school-related topics and issues, e.g., educational philosophy, curriculum, secondary school, school governance, curriculum design and development, the student learner, classroom management. Repeatable one time. A-F only. Pre: 401 or consent.

ITE 404 (Alpha) Teaching in the Subject Field (3) Purposes, preparation, evaluation, secondary school 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; (J) 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 teacher experience in school. Student teachers will receive training and evaluation for oral communication, planning skills. Subject field: (B) art; (C) business and marketing; (D) language arts; (F) industrial arts; (G) mathematics; (H) science; (I) social studies; (J) foreign languages; (K) music; (M) home economics; (P) English as a Second Language. Repeatable one time for (P). A-F only. Pre: 401 or consent.

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) Basic guidelines for developing effective team relationships between the professional teacher and the observation-participation student. Pre: two years’ teaching experience and consent.

ITE 415 Early Childhood: Foundations and Curriculum (3) Introduction to the field of ECE, birth to 8 years. Emphasizes foundations of the field, historical roots and trends influencing policy and practice, play theory, observation, documentation, and assessment in early childhood settings. Pre: FAMR 331 or consent. (Cross-listed as EDCS 415)

ITE 415L Early Childhood: Foundations and Curriculum Lab (3) Direct experience with children in early childhood settings in order to apply concepts from 415; develop skills in observation and assessment and gain perspective on the role of the teacher in ECE settings. Co-requisite: 415. (Cross-listed as EDCS 415L)

ITE 416 Early Childhood: Foundations and Curriculum (3) Continuation of 415: focuses on the design, implementation and evaluation of meaningful, challenging integrated curriculum that promotes comprehensive developmental and learning outcomes for diverse young children. Pre: PK-3. Pre: 415 or consent. (Cross-listed as EDCS 416)

ITE 416L Early Childhood: Foundations and Curriculum Lab (3) Co-requisite: 415L. (Cross-listed as EDCS 416L)

ITE 417 Developmentally Appropriate Practice: Ages 3–8 (3) How to plan developmentally appropriate programs for young children, including the design of the learning environment; integrated, thematic planning; child guidance; assessment; and parent involvement. Pre: 415 and 416, or consent.

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. Pre: FAMR 331 or consent.

ITE 430 Advanced Supervision of Student Teaching (3) Advanced principles and methods: 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 and philosophical 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 its related area of study—bilingual/bicultural education. (Cross-listed as EDCS 440)


ITE 444 Education of Exceptional Children in Regular Classroom (3) Practices that facilitate teaching special needs students in regular classrooms. Techniques for meeting diverse learning needs, managing behavior, motivating students, increasing peer interactions, communication between special and regular educators. Includes an emphasis on instruction in writing. (Cross-listed as SPED 444)

ITE 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 between special and regular educators. Includes an emphasis on instruction in writing. (Cross-listed as SPED 445)

ITE 480 Issues in Computer Education (3) Integration of microcomputers into school curriculum and key issues related to microcomputer use in education. Pre: ETEC 442 or consent. (Cross-listed as EDCS 480)

ITE 499 Directed Activity (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 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. CR/NC only. Pre: master’s Plan B or C candidate or consent.

ITE 550 Newspaper in the Classroom (2)

ITE 563 (Alpha) Practicum in Curriculum Development: Bilingual/Bicultural (1) 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 564 (Alpha) Practicum in Curriculum Development: Bilingual/Bicultural (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 565 (Alpha) Practicum in Curriculum Development: Bilingual/Bicultural (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 566 (Alpha) Practicum in Curriculum Development: Career Education (1) 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 567 (Alpha) Practicum in Curriculum Development: Career Education (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 568 (Alpha) Practicum in Curriculum Development: Career Education (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 569 (Alpha) Practicum in Curriculum Development: Computer Science (1) 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 570 (Alpha) Practicum in Curriculum Development: Computer 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 571 (Alpha) Practicum in Curriculum Development: Computer 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 572 (Alpha) Practicum in Curriculum Development: Humanities (1) 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 573 (Alpha) Practicum in Curriculum Development: Humanities (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 574 (Alpha) Practicum in Curriculum Development: Humanities (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 575 (Alpha) Practicum in Curriculum Development: Language Arts (1) 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 576 (Alpha) Practicum in Curriculum Development: Language Arts (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 577 (Alpha) Practicum in Curriculum Development: Language Arts (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 578 (Alpha) Practicum in Curriculum Development: Mathematics (1) 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 579 (Alpha) Practicum in Curriculum Development: Mathematics (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 580 (Alpha) Practicum in Curriculum Development: Natural Science (1) 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 581 (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 582 (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 583 (Alpha) Practicum in Curriculum Development: Occupational Development (1) 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 584 (Alpha) Practicum in Curriculum Development: Occupational Development (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 585 (Alpha) Practicum in Curriculum Development: Occupational Development (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 587 (Alpha) Practicum in Curriculum Development: Social Science (1) 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 588 (Alpha) Practicum in Curriculum Development: Social 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 589 (Alpha) Practicum in Curriculum Development: Social 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.
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 three 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 sociohistorical 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 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 Ethnohistory (3) Review of ethnohistory, i.e. the interdisciplinary, holistic and inclusive investig- ation of the histories of Native peoples, including Native Americans and Hawaiians as the only indigenous peoples of the U.S. with special attention to sociohistorical parallels and mutual contacts since contact with Europeans. Perspective is explicitly interdisciplinary by drawing not only on documented sources, but also on ethnogra- phy, linguistics, archaeology, ecology and other disci- plines as an alternative to conventional Eurocolonial 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 technolo- gies on contemporary culture from a variety of perspec- tives. A-F only. Pre: upper division or consent.

IS 331 Science and Culture (3) Cultural studies of science from historical, philosophical, sociological and literary perspectives. Examination of intersec- tions of science, race, gender and environment. A-F only. Pre: upper division or consent.

IS 340 Human Values and the Environment (3) Examination of nature-culture dynamic over a range of contexts-literacy ecology, systems ecology, polit- ical ecology, eco-feminism, environmental ethics—in order to articulate new possibilities for interdisciplin- ary understanding of the human place in nature. A-F only. Pre: any ENG DL or PHIL or GEOG course, or consent. (Once a year)

IS 361 People, the Ocean and the Environment (3) People’s impact on quality of coastal and ocean environments in Hawaii; scientific, legal, socioeconomic aspects. Ocean pollution, ocean technology. Pre: OCN 201, ORE 202, or ZOOL 200; or consent.

IS 369 British Life and Culture (3) For Study Abroad Program students participating in the UH Mānoa Semester in London, emphasis is placed on understanding within historical contexts important issues for contemporary British society—particularly those of class, power, gender, and race. A-F only. Pre: participation in London Semester Program.

IS 347 Pidgin and Creole Languages (3) Nature, history, structure, and geographic distribution of pidgin and creoles. Pre: LING 102 or consent. (Alt. years) (Cross-listed as LING 347) DS

IS 399 Directed Reading and Research (V) Di- rected reading and research. Repeatable two times.

IS 400 Ocean Internships and Research (V) Stu- dents carry out marine-related internships, practica, research, projects, etc. field experience on-or-off-campus with faculty guidance. Repeatable one time. A-F only. Pre: minimum cum 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 influential statesman, classical scholar, man of let- ters, humanist, political philosopher, anthropologist and linguist, and founded the University of Berlin. Review of the two polylogics' influence on modern sci- ence in the Americas, the Pacific and Asia. A-F only. Pre: upper division or consent. DH

IS 414 Introduction to Linguistic Anthropology (3) Introduction to the ethnographic study of speech and language. Pre: ANTH 152 or consent. (Once a year) (Cross-listed as ANTH 414 and LING 414) DS

IS 489 Environmental Practicum (3) Field experience in study and abatement of environmental problems under faculty direction. Project proposal, narrative activity log, and documentary report are required. Pre: upper division standing, courses in appropriate discipline, and consent.

IS 499 Directed Reading and Research (V) Di- rected reading and research. Repeatable one time.

IS 610 Field Study in Gerontology (V) Individu- ally designed field experience for advanced certificate in gerontology students. Placements arranged at community programs, research sites, and special projects at the Center on Aging. Repeatable one time.

IS 611 Integrative Seminar in Gerontology (V) Integrative seminar. A-F only. Pre: graduate standing or consent.

IS 650 Principles of Applied Evolutionary Ecol- ogy: Biodiversity Loss, Biological Invasions and Emerging Disease (3) Combined lecture-labo- ratory on the ecological and evolutionary underpin- nings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

IS 651L Laboratory A in Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (2) Combined lecture-laboratory on the ecological and evolutionary underpin- nings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

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. A-F only. Pre: 650 and 651L, or consent. (Once a year)

IS 750 Topics in Biocultural Diversity and Conservation (3) Biological, cultural, and linguistic conservation are intimately linked, but rarely studied simultaneously. Adopts a trans-disciplinary view of diversity and conservation of nature, cultures, and languages, along with issues in anthropology, law, and ethics. A-F only. (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 about theory 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 the languages of 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 culminat- ing 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 require- ment 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 160 Intensive Elementary Italian Abroad (V) Intensive course of formal instruction on the first-year level in Italian language and culture in Italy. HSL

ITAL 201 Intermediate Italian (3) Reading, con- versation, composition. Pre: 102. NI HSL

ITAL 202 Intermediate Italian (3) Continuation of 201. Pre: 201. NI 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: 202 or 259 or equivalent. NI HSL

ITAL 259 Intermediate Italian Abroad (3) Con- tinuation of 258. NI 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 con- versation in an Italian-speaking country. Pre: 202 or 259 or equivalent.

ITAL 359 Third-Level Italian Abroad (3) Con- tinuation 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) Inten- sive course of full-time formal instruction in Italy 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) Con- tinuation 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 no background must come to the Department of East Asian Languages and Literature for a brief interview. A grade of C or better in the prerequisite courses 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, speak- ing, reading, writing, grammar. Meets one hour, four
JPN 605 Research Methodology in Japanese Linguistics and Language Teaching (3) 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: 466 or consent for (B) and (C); 485 or consent for (D).

JPN 611 (Alpha) Modern Japanese Literature (3) Representative literary works, emphasis on fiction. Repeatable one time with consent. (B) Meiji–Taishō (1868–1926); (C) Showa–Heisei (1926–present). Pre: 485 or consent.

JPN 612 Edo Literature (3) Critical reading and analysis; emphasis on prose. Repeatable one time with consent. Pre: 466 or consent.

JPN 613 Medieval Japanese Literature (3) Critical reading and analysis of Kamakura and Muromachi literature; emphasis on prose. Repeatable one time with consent. Pre: 466 or consent.

JPN 614 Classical Japanese Literature (3) Critical reading and analysis of Heian literature; emphasis on prose. Repeatable one time with consent. Pre: 466 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. Repeatable one time per alpha. Pre: 604 or EALL 601, or consent. (Alt. 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 problems; motivation; 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 form and use depending on 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 Themes in Japanese Literature (3) Intensive study of selected themes in Japanese literature, primarily in the modern period. Repeatable with consent. Pre: 485 or equivalent, or consent.

JPN 641 Traditional Literary Theory (3) Reading and analysis of major works of literary theory and criticism from the classical, medieval, and Edo periods. Pre: 466 or consent.

JPN 642 Kambun (3) Introduction to kambun [the Japanese manner of reading and writing classical Chinese], with critical reading of kambun by Japanese authors. Pre: 461 or consent.

JPN 650 (Alpha) Topics in Japanese Linguistics (3) (C) Japanese/English contrastive analysis; (G) structure; (H) historical change; (K) history of Japanese language studies (Kokugo-gaku-shi); (M) morphophonemics; (P) pedagogy; (S) sociolinguistics. Pre: 601 and 602 for (C); 634 for (G); 631 for (H) and (K); 601 for (M); 632 for (P); 633 for (S).

JPN 699 Directed Research (V) CR/NC only. Pre: consent of chair.

JPN 710 (Alpha) Research Seminar in Japanese Literature (3) (M) modern; Pre: 611 (P) pre-modern; Pre: 612, 613, or 614.

JPN 730 (Alpha) Research Seminar in Japanese Linguistics (3) (C) Japanese/English contrastive analysis; (G) structure; (H) historical change; (K) history of Japanese language studies (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); 633 for (S).

**Journalism (JOUR)**

**College of Social Sciences**

JOUR 150 The Media and Society (3) Communication media in theory and practice. Development, role, influence; rights, responsibilities, problems, issues, and trends. DS

JOUR 301 Fundamentals of Journalism (6) Theory and extensive practice in reporting, writing and editing news stories across multiple media platforms. (Fall only)

JOUR 302 Journalism Tools and Platforms (6) Tools for contemporary newsgathering and technologies for presentation across multiple media platforms. Pre: 301 or departmental approval.

JOUR 307 Photojournalism (3) Production, selection, and use of digital photographs for publications. Storytelling action and feature photography with digital cameras, worked up through Adobe Photoshop and InDesign programs. Students must have a digital camera/ Mac OSX advised. A-F only.

JOUR 316 Advanced Editing (3) Intensive training in editing, planning, and organizing stories and visual elements for publication; news judgment; managing projects. Pre: consent.

JOUR 325 Magazine Writing (3) Writing nonfiction articles for magazines, newspapers, and newsletters; preparing material for specific audience; marketing articles.

JOUR 327 Interpretive Journalism (3) Writing articles of news analysis, editorials, and critical reviews. Pre: consent.

JOUR 360 Journalism History and Trends (3) Development of the news media and trends that may affect the future of journalism. Pre: upper division standing. DS

JOUR 365 Communication and Law (3) Role of communication in the legal process; impact of law on communication practice. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 451) DS

JOUR 385 Practicum (1) Working on campus student or quasi-professional publications under professional and faculty supervision. Repeatable one time only. CR/NC only. Pre: 302 and consent.

JOUR 499 Directed Research (V) Individual research projects. Pre: senior standing and consent of department chair.

**Kinesiology and Rehabilitation Science (KRS)**

**College of Education**

JOUR 401 Journalism Projects/Production (6) Intense problem-based application of skills and knowledge to production of a major journalism project across multiple media platforms. Pre: 302 or departmental approval. (Fall only)

JOUR 402 Intellectual Foundations (6) Intellectual, historical, social and cultural contexts of contemporary journalism. Pre: 302 or departmental approval.

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 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. A-F only. Pre: any 300-level course in ACM, COM or JOUR and junior standing; or consent. (Cross-listed as ACM 460 and COM 460)

JOUR 475 Global Communication (3) Problems and opportunities of communication in a variety of international contexts. Focus on commerce, diplomacy, and mass communication. JOUR majors only. Pre: COM/JOUR major or consent. (Cross-listed as COM 475) DS

JOUR 485 Fieldwork (3) Internship in media or PR operations under professional and faculty supervision. Repeatable two times. CR/NC only. Pre: 302 and consent.

KRS 101 Physical Fitness (1) Conditioning exercises and activities to develop and maintain physical efficiency. Motor fitness tests administered to measure status and progress. Repeatable unlimited times, but credit earned one time only.

KRS 102 Aerobic Fitness: Beginning (1) Aerobic fitness improvement upon completion of course. Learning and practicing safe total body workout routines done to music. Developing an individual fitness program and recording progress in that program. 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. (Student to provide own swimming attire approved by instructor.) Repeatable unlimited times, but credit earned one time only.

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Key to symbols & abbreviations: see the first page of this section.
KRS 104 Swimming: Intermediate (1) Perfecting and integrating basic strokes with added emphasis for distance and speed. (Student to provide own swimming attire approved by instructor.) Repeatable unlimited times, but credit earned one time only. Pre: 103 or consent.

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, diver manual, dive tables, and certification fee. Repeatable unlimited times, but credit earned one time only.

KRS 107 Aqua-Aerobic Fitness (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; handicapping 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 shots, long iron shots, control 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 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. DA

KRS 124 Dances of Hawaii I (1) Background and fundamentals of hula. Selected dances with and without instruments. Repeatable unlimited times, but credit earned one time only. DA

KRS 125 Dances of Hawaii II: 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 rumba, 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. DA

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.

KRS 131 Tennis Intermediate (1) Corrective work in three basic strokes and in net play; the lob, drop short, 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: 130 or consent.

KRS 132 Tennis Advanced (1) Improving upon the strokes introduced in 130 and 131; advanced competitive strategy problems in rules officiating; elements of tournament play. Repeatable unlimited times, but credit earned one time only. Pre: 131 or 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.

KRS 136 Volleyball: Intermediate (1) Combined lecture-lab-physical activity with emphasis on improving skills and knowledge through practice and cognitive activities, business, passing, spiking, digging, blocking, and offensive and defensive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: 135 or 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 services. Repeatable unlimited times, but credit earned one time only. Pre: consent.

KRS 152 Weight Training (1) Kinesiology of lifting and weight training, various types of exercises and methods of training with resistance. Repeatable unlimited times, but credit earned one time only.

KRS 153 Olympic and Power Lifting (1) Exercise technique and prescription with an 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: 152 or 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 ring; 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 combinations designed to develop endurance, flexibility, muscle and nerve strength, meditation, and deep relaxation technique. Repeatable unlimited times, but credit earned one time only. Pre: 104 or consent. (Student to provide own swimming attire approved by instructor.)

KRS 161 Aikido (1) Rules, etiquette, basic rolls, correct turning techniques, problems in rules officiating, elements of tournament play. 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 sparring); 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; conditioning exercises. 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.

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 technique. Repeatable unlimited times, but credit earned one time only. Pre: 170 or consent.

KRS 173 Water Polo (1) Fundamentals of basic water polo skills, namely, ball handling, passing, shooting, dribbling plus a brief introduction into beginning techniques of individual offense and defense. Repeatable unlimited times, but credit earned one time only. Pre: 104 or consent. (Student to provide own swimming attire approved by instructor.)

KRS 181 Sport Proficiency I: Invasion (3) Knowledge, skill development, position, and strategy of various invasion type games/sports. The core sports, basketball, soccer, speedball, flag football, and ultimate frisbee, are introduced within a tactical framework. Primarily for KRS majors. Repeatable one time. A-F only.

KRS 182 Sport Proficiency II: Net, Field and Target (3) Knowledge, skill development, position, and strategy of net, field and target sports. The core sports, volleyball, tennis, softball, and golf are introduced within a tactical framework. Primarily for KRS majors. A-F only.

KRS 185 Floor Exercise Gymnastics (1) An entry-level course designed to develop students’ knowledge of men’s and women’s gymnastics floor exercises, including injury prevention, skill progression, spotting techniques, and routine choreography. Primarily 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. Organization of track meets and strategy in competition. Primarily for KRS majors; others admitted on space-available basis. Repeatable unlimited times, but credit earned one time only.

KRS 187 Softball (1) Combined lecture-lab-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.

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

KRS 208 Recreation Services in Contemporary Society (3) Theories and philosophies in recreation: history; contemporary issues; roles in modern society; relationship to health, physical education, and exercise science.

KRS 210 Leisure Education and Life Skills Development (2) Using sports as a learning tool, students will gain awareness, acquire knowledge and develop skills to enhance their classroom, athletic and personal performance. Class topics include current issues and strategies for 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, on the job, and motor vehicle situations. Repeatable one time.

KRS 238 Outdoor Recreation Management (3) Objectives and planning of outdoor recreation; characteristics and determinants of programs; planning, organization, leadership, and facilities for recreational uses of natural environments. Repeatable one time. Pre: 209 or consent. NI

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. NI

KRS 249 Programming and Leadership (3) Factors in planning and leading recreation programs; characteristics and responsibilities of leadership in relation to nature, scope, and resources of a variety of programs. Repeatable one time. Pre: 208 or consent. NI

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 only)

KRS 271 Evaluation in Health Education (2) Processes involved in assessing school health education program on measurement and criteria, interpretation of data and content, organization and conduct of evaluation program. Repeatable one time. Pre: 201 or 202. NI

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 305 Principles of Sports Medicine (3) Examines with some depth, principles of risk management and pathology of athletic injuries, major musculo-skeletal structures, and concepts of evaluative skills, treatment, and rehabilitation for common athletic injuries. A-F only. Repeatable one time. DB

KRS 310 Coaching of Football (2) Theory and strategy of offensive and defensive football 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 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 313 Coaching of Volleyball (2) Theory and strategy of offensive and defensive volleyball 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 323 Music and Rhythm in Physical Education (3) Use of music in physical education programming (K-12), emphasizing selection of appropriate music, specific activities, creative movement, movement exploration, rhythmic gymnastics, and dancing. A variety of strategies for teaching dance will be shared. A-F only. Pre: consent. (Spring only)

KRS 329 Managing Recreation Services (3) Administrative framework and procedures pertinent to the organization and conduct of evaluation program. Repeatable one time. Pre: 208 or consent.

KRS 331 Water Safety Training (3) Theory and methods of advanced lifesaving and water safety leading to American Red Cross Water Safety Instructor (WSI) certification. Pre: 104 or consent. (Student to provide own swim attire approved by the instructor.)

KRS 332 Emergency Care and First Aid Training (3) Practicum in training of persons to become qualified in emergency care knowledge, basic life support, and first aid skills. WSI First Aid and CPR certificates may be earned. DB

KRS 333 Movement Education I (3) A movement-based approach to teaching basic motor skills in preschool/elementary physical education. Students actively participate and learn about developmentally appropriate concepts and procedures for children in grades P-5/6. Peer bit teaching is included. A-F only.

KRS 334 Movement Education II (4) (3 Lec. 1 -hr Lab) Content and pedagogy for teaching preschool/elementary physical education for physical education majors. Students will learn to plan and teach physical education for children in grades P-5/6. Peer bit teaching and required field experience. Repeatable one time. A-F only.

KRS 335 Coaching of Track and Field (2) Techniques and rules 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. 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.

KRS 353 Structural Kinesiology (3) Gross human anatomy, emphasizing identification and description of parts of the musculoskeletal system; selected applications to motor activity. Primarily for physical education majors, but open to others with consent. A-F only. Pre: PHYL 141/141L or PHYL 301/301L (or concurrent). DB

KRS 354 Exercise and Sport Physiology (3) Emphasis on physiological responses to exercise and physical training as related to strength, muscular endurance, cardio-respiratory endurance. Primarily for KRS majors, but open to others with consent. A-F only. Pre: PHYL 142/142L or PHYL 302/302L (or concurrent); or consent. 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 physiological responses to physical training as related to muscular strength, power and endurance. A-F only. Pre: PHYL 142/142L or PHYL 302/302L (or concurrent); or consent. Co-requisite: 354.

KRS 371 Teaching Techniques I: Elementary (3) Teaching techniques and methods of secondary 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. Pre: 181, 182, admittance to COE, and consent.

KRS 372 Teaching Techniques II: Secondary (3) Teaching techniques and methods of secondary physical education. Content to include invasion, net, field, and target activities. These activities emphasize the tactical approach in a school-based experience. Primarily for KRS majors. A-F only. Pre: 181, 182, admittance to COE, and consent.

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 a personal, daily physical activity/exercise program, in which he/she will participate and be monitored. Repeatable one time. DB

KRS 399 Directed Reading (V) Individual problem 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. Pre: 201 or 202, or consent. Recommended: 302.

KRS 402 Teaching Practicum in Physical Education (3) Field experience in teaching physical education activities program in private and public schools; techniques in leadership; selection of activities and program evaluation for K-12 licensure. Repeatable one time. A-F only. Pre: admission to COE and consent. Co-requisite: 404.

KRS 403 Guidance and Classroom Management (3) Guidance principles applied to classroom management for teachers. Pre: consent.

KRS 404 K-12 Teaching Methods in Physical Education (3) Methods and materials in teaching physical education activities program; techniques in leadership; selection of activities and program evaluation for K-12 licensure. Repeatable one time. A-F only. Majors only. Co-requisite: 402.

Key to symbols & abbreviations: see the first page of this section.
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KRS 494 Athletic Training Practicum IV (3) (5 2-hr Practicum) Advanced-level supervised experiences within the profession of athletic training. This practicum is a requirement for entry to the KRS Master’s Athletic Training Program. A-F only. Pre: 430, 493 or consent.

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

KRS 600 Counseling in the Schools (3) History, philosophy, and organization of school counseling programs. Counselor role and functions, legal and ethical issues, contemporary issues, current methodological and resource issues. (Meets EdD common core elective.) Pre: consent.

KRS 603 Lower Extremity, Thorax, and Abdomen (3) Human gross anatomy dissection of the lower extremity, thorax, and abdomen with emphasis on muscles, function, innervation, and vascular supply. A-F only. Repeatable one time. Pre: enrolled in KRS, DRB, or PHYL graduate programs. (Spring only) (Cross-listed as ANAT 603)

KRS 604 Upper Extremity, Head, Neck, and Spine (3) Human gross anatomy dissection of the upper extremity, head, neck, and spine with emphasis on muscles, function, innervation, and vascular supply. A-F only. Repeatable one time. Pre: enrolled in KRS, DRB, or PHYL graduate programs. (Fall only) (Cross-listed as ANAT 604)

KRS 605 Human Growth and Development—Life Span (3) Life span perspective on psychological, social, and physical development. Major theories and related research on human development; applications in policy planning and service delivery in counseling. Pre: consent.


KRS 607 Scientific Principles of Physical Conditioning (3) Application of physiological principles to physical conditioning and athletic performance. Pre: graduate standing or consent.

KRS 608 Muscular Strength and Power Development (3) Interpretation of scientific principles of muscular strength and power development. Examination of muscular adaptations to increased and decreased use. Pre: graduate standing or consent.

KRS 609 Athletic Training, Clinical Experience I (1) (1 Sem, 5 3-hr Practicum) Practicum in which the student will perform the duties and responsibilities of an athletic training student. This practicum must be completed during the first semester post admission into the program. A-F only. Pre: 490; or consent.

KRS 610 Athletic Training, Clinical Experience II (3) (1 Sem, 3 3-hr Practicum) Practicum in which the student will perform the duties and responsibilities of an athletic training student. A practical field experience in athletic training will be required. A-F only. Pre: 609 or consent.

KRS 611 Athletic Training, Clinical Experience III (3) (1 Sem, 5 3-hr Practicum) Culfminating practicum in which the student will perform the duties and responsibilities of a second year graduate athletic training student. A practical field experience in athletic training will be required. A-F only. Pre: 610 or consent.

KRS 612 Athletic Training, Clinical Experience IV (3) (1 Sem, 3 3-hr Practicum) Culfminating practicum in which the student will perform the duties and responsibilities of a second year graduate athletic training student. A practical field experience in athletic training will be required. A-F only. Pre: 611 or consent.

KRS 613 Athletic Training Clinical Practicum (V) (1 Sem, 5 4-hr Practicum) Advanced clinical practice in which the BOC certified or certification-eligible graduate student experiences an enhancement 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 deepens their understanding and enhances their critical thinking abilities in order to contribute to the advancement of the discipline and training profession. Repeatable up to 12 credits. A-F only. Pre: consent.

KRS 615 Clinical Examination/Diagnosis of Head, Neck, and Spine (3) (2 Lec, 1 3-hr Lab) Examination, care and treatment of neurological/neuromuscular conditions and pathology of the head, neck, spine, and trunk. Pre: consent.

KRS 616 Advanced Orthopedic Assessment (3) (2 Lec, 1 3-hr Lab) Advanced knowledge and skills of athletic training as they are specifically applied to the understanding, treatment, and rehabilitation of sport-related injuries. (e.g. epidemiology, legal, ethical concerns, sports psychology, pharmacology, drug abuse, health issues) Pre: ACCP certification.

KRS 617 Therapeutic Interventions: Modalities (4) (3 Lec, 1 3-hr Lab) The physiology principles and operational procedures and operational procedures of contemporary Therapeutic modalities as they relate to the care and treatment of athletic injuries. Pre: consent.

KRS 618 Therapeutic Interventions: Rehabilitative Exercise (4) (3 Lec, 1 3-hr Lab) Concepts and principles of comprehensive rehabilitation programs (e.g. therapeutic goals and objectives, exercise selection, methods of evaluation and recording progress, progression and return to competition criteria, and the physiological effects of tissue trauma and inactivity). Pre: consent.


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 sports 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 integration of therapeutic modalities and therapeutic exercise, including objective and functional goal setting and evaluation for appropriate progression and expedited return to activity. KRS majors only. Pre: 617 and 618 or basic therapeutic exercise and therapeutic modalities courses, or consent.

KRS 622 Athletic Training Capstone Experience (3) Capstone experience preparing the student for the computer-based BOC Exam and for a career in athletic training. Follows the student’s didactic and clinical preparation in the 12 competency areas of athletic training. Repeatable two times. KRS majors only. A-F only. Pre: 611 or 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 school, community, and human service organizations. Focus on the counseling relationship. Includes a 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; utilization of educational, vocational, and social resources in career counseling. Pre: consent.

KRS 628 Research and Evaluation in Rehabilitation (3) Framework for 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 with 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 social issues in intelligence testing. Pre: 630 and consent.


KRS 634 Inclusive Physical Education (3) Advanced knowledge of issues on socio-cultural, learning styles, diversity, and individuals with exceptionalities, and how these influence instruction and student learning and behavior in physical activity settings. Required field experience. Repeatable one time. A-F only. Pre: consent. (Cross-listed as SPED 634)

KRS 635 Elementary Physical Education (3) Content and pedagogy for teaching preschool/elementary physical education. Students will learn appropriate content and pedagogy for learners in elementary school. Basic teaching and field experiences are included. A-F only. Pre: consent. (Once 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 Education (3) Trends, research, and problems in instruction in physical education. Repeatable one time. Pre: consent.

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 (3) Study of psychosocial characteristics of American college students and college environment, from viewpoint of student personnel work. Pre: consent. (Cross-listed as EDEA 646)

KRS 660 Marriage, Family, and Child Counseling (3) Theory/practice of marriage, 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 of motion as applied 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 modern physical 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) Emphasis on local situation. 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 motor assessments and practices in collection of data will be specifically addressed. Pre: consent. (Spring only)

KRS 675 Transdisciplinary Approach to Teaching the Motor Domain (3) Highlights a transdisciplinary approach for effectively 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. 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 (3) Functional implications of chronic illnesses and disabilities on psychological, social and vocational areas of an individual’s life. Case studies and presentations will stimulate discussion and help students to apply theoretical information into practical everyday context. Pre: 680 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, interviewing 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, alcohol and substance abuse, marriage and family 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 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 in Counseling (V) Supervised experience (150 clock hours per semester) in counseling and guidance activities, which includes a weekly class meeting; (E) elementary; (H) secondary; (C) community service; (R) rehabilitation; (U) college. Each alpha is repeatable three times. Pre: 626 or 665, and consent.


KRS 733 (Alpha) Internship I (V) Supervised post-practicum experience (300 clock hours per semester) in counseling and guidance activities, which includes a weekly class meeting; (E) elementary; (H) secondary; (C) community service; (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 (300 clock hours per semester) in counseling and guidance activities, which includes a weekly class meeting; (E) elementary; (H) secondary; (C) community service; (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: 703U and consent.

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

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. Learning experiences will consist of journal review, laboratory/field techniques, and subject or data collector exposures as directed by their mentors. CR/NC only. KRS majors 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. Student will gain experience in these roles with close supervision by the faculty mentor. CR/NC only. KRS majors only. Pre: consent.

KRS 777 Doctoral Seminar IV in Kinesiology (3) Designed to enable PhD students to gain a perspective of the discipline, both historically and philosophically, prepare them for the issues they may face in 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; those with no background must come to the Department of East Asian Languages and Literatures for a brief interview. A grade of C or better in the prerequisite courses is required for continuation.

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 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: 101 or 111, or consent. HSL

KOR 201 Intermediate Korean (4) Continuation of 101 and 111. Meets one hour, four times a week, plus lab work. Pre: 102 or placement test; or consent. A/F HSL

KOR 202 Intermediate Korean (4) Continuation of 201. Pre: 201 or placement test; or consent. A/F 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. A/F HSL

KOR 212 Intermediate Conversational Korean II (3) Continuation of 211. Pre: 201 or 211, or consent. A/F HSL

KOR 301 Third-Level Korean (3) Conversation 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 (3) Conversation of 301. Pre: 301 or consent. (Spring 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 an additional 250 basic Chinese characters. Pre: 307 or consent.

KOR 380 Korean Proficiency Through TV Drama (3)
Students who try to elevate proficiency level to Advanced by challenging themselves to understand culturally and situationally-rich text, i.e., Korean drama. Increasing Korean proficiency within context is the main objective of the course. Pre: 302 or consent.

KOR 399 Directed Third-Level Reading (3)
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: 403 or consent. (Spring only)

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 and North Korea to develop professional language skills and to deepen knowledge and understanding of contemporary North Korea. A-F only. Pre: Diagnostic assessment (equivalent to ILR 2), or 421, or consent. (Once a year)

KOR 425 Selected Readings in Korean (3)
Selected readings in various disciplines. 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: 402 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 varieties. Pre: 402 or consent. DH

KOR 480 Korean Oral Proficiency Through Film (3)
Designed to increase proficiency level from advanced to superior level and to deepen cultural awareness. Pre: 402 or consent.

KOR 485 (Alpha) Korean for Career Professionals (V)
Combined lecture-conference on functional command of various discourse-level features in Korean 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: 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) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: 485 or diagnostic assessment procedures or consent.

KOR 496 (Alpha) Korean for Academic Purposes (V)
Designed to increase proficiency level from advanced to superior level and to deepen cultural awareness. Pre: 402, or consent. (Fall only)

KOR 613 (Alpha) Korean Verse (3)
Intensive and analytical reading of selected works of Korean lyric and didactic verse (e.g., hyangga, changga, kamsa, ssitong, kuta, free form): (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).

KOR 614 (Alpha) Korean Narrative (3)
Intensive and analytical reading of selected works of Korean narrative (e.g., myth, g’anore, shaman song, essay, biography, fiction): (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).

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 writings from the 15th century to the present). Emphasis on highest level of listening, reading, speaking, writing and culture. Pre: 485 or diagnostic assessment procedures; or consent.

KOR 616 (Alpha) Korean Discourse (3)
Emphasis on highest level of listening, reading, speaking, writing, with application to Korean culture using authentic materials. Pre: 403 or consent. (Spring only)

KOR 617 (Alpha) Korean Discourse (3)
Emphasis on highest level of listening, reading, speaking, writing, with application to Korean culture using authentic materials. Pre: 403 or consent. (Spring only)

KOR 618 (Alpha) Korean Discourse (3)
Emphasis on highest level of listening, reading, speaking, writing, with application to Korean culture using authentic materials. Pre: 403 or consent. (Spring only)

KOR 619 (Alpha) Korean Discourse (3)
Emphasis on highest level of listening, reading, speaking, writing, with application to Korean culture using authentic materials. Pre: 403 or consent. (Spring only)

KOR 620 Intensive Study in History and Dialects, Korea and Korea (3)
Survey of various hypotheses on the heterogeneity problems, its causes, and importance of comparative studies in NK/SK language differences. Pre: 493 or consent. Repeatable one time. Pre: 493 or consent. (Once a year)

KOR 621 Media Research in Korean (3)
Focuses on searching, analyzing, and evaluating media data for research in areas of student specializations. Students are required to write short analysis papers and a final research paper. Pre: Diagnostic assessment (equivalent to ILR Level 2) or consent. (Once a year)

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 in NK/SK language 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)
Continued discussion on preparing students to be able to conduct interdisciplinary research in Korean. Require advanced-level Korean proficiency. Pre: Diagnostic assessment (equivalent to ILR Level 2) or consent. (Once a year)

KOR 624 (Alpha) 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. Exclusively in Korean. Repeatable one time. Pre: 485 or 623 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 the 15th century to the present; Korean dialects. Pre: 451 and 452, or consent.

KOR 632 Korean Phonology and Morphology (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.

KOR 633 Korean Sociolinguistics (3)
Variations in form and use depending on sociocultural factors. Role of language in politics, mass media, group identity, bilingualism, and intercultural communication. Pre: 470 or consent.

KOR 635 Pedagogy of Teaching Korean as a Second Language (3)
Identification and analysis of major problems in Korean language teaching, testing, and materials development by examining theoretical issues and conducting classroom research; practical techniques of teaching and testing skills in listening, reading, speaking, writing and culture. Pre: 451 and 452; or consent. (Alt. years: fall)

KOR 640 Literary Translation of Korean (3)
The art and craft of translating traditional and modern Korean literary works into English. Repeatable four times. Pre: 495 and 494, or consent.

KOR 645 Research in Korean Language Acquisition (3)
Integrating the conceptual aspects of statistics and scientific analysis of human language behavior into the study of Korean as a foreign language. Pre: 635 or consent.

KOR 652 Major Authors in Modern Korean Literature (3)
Advanced study of major Korean fiction writers from the 1910s to the present. Emphasis on reading of their lives and writings to arrive at informed appraisal of their contribution to modern Korean literature. Repeatable one time. Pre: 494 or consent.

KOR 655 Practicum: Teaching Korean as a Second Language (3)
Designed for graduate students pursuing Korean language teaching, while developing practical teaching skills through class observation, action research and discussion under supervision. Pre: 635 or consent.

KOR 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 sociocultural issues in the evolving contexts of modern Korean intellectual history. Repeatable one time. Pre: 494 or consent.

KOR 699 Directed Research (V) CR/NC only.
Pre: consent.

KOR 720 Research Seminar in Korean Literature (3)
Advanced study of an author, school, period, genre, or problem leading to a research paper. Repeatable one time. Pre: consent.

KOR 730 Research Seminar in Korean Language (3)
Advanced study in history and dialects, phonology and morphology, syntax and semantics,
sociolinguistics, or pedagogy, leading to a research paper. Repeatable one time. Pre: consent.

Languages and Literatures of Europe and the Americas (LLEA)
College of Languages, Linguistics and Literature

Courses given in English do not require knowledge of a foreign language.

CLASSICS
LLEA 122 Greek and Roman Mythology (3) Principal myths of Greek and Roman literature. DL
LLEA 123 Greek and Latin Elements in English (3) Important roots, prefixes, and suffixes for building a literary vocabulary.
LLEA 124 Greek and Latin Elements in Scientific Terminology (3) Importantly, prefixes, and suffixes for building a scientific vocabulary.
LLEA 227 Introduction to Greek Literature (3) Major writers: emphasis on Homer, drama, and philosophy. DL
LLEA 228 Introduction to Roman Literature (3) Major writers: emphasis on Vergil, satire, and novel. DL

ITALIAN
LLEA 236 Italian Film (3) Study of Italian film, film theory, and film analysis. Viewing a literary vocabulary.
LLEA 237 French Film (3) Study of French film history and technique. A-F only. Pre: freshman standing. DH
LLEA 264 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. Pre: ACE student. DH
LLEA 335 French Literature Since 1800 (3) Rapid reading in translation: lectures, discussions, reports. Pre: Junior standing or one course in French language or literature. DL
LLEA 336 French 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. DL
LLEA 339 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. DL
LLEA 364 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

GERMAN
LLEA 338 German Film (3) Introduction to German film, film theory, and film analysis. Viewing and discussion of exemplary German films from Expressionism through new German cinema. Pre: two DL courses. DH
LLEA 340 Classical German Literature (3) Readings in translation from dramatic works of Lessing, Goethe, Schiller. Philosophic and aesthetic views of leading writers of the Enlightenment, Romanticism, and critical periods. DL

ITALIAN
LLEA 236 Italian Film (3) Study of Italian film history and technique. A-F only. DH
LLEA 334 Italian 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. A-F only. Pre: sophomore standing or consent. DL

RUSSIAN
LLEA 350 Russian Short Story (3) Origin and development (19th and 20th century); periods, themes, styles, and major authors. Pre: sophomore standing or consent. DL
LLEA 351 19th-Century Russian Literature (3) Survey in English of major writers from Pushkin through Chekhov; lectures, discussions, short papers. Pre: sophomore standing or consent. DL
LLEA 352 Russian Literature 1900–1950 (3) Survey in English of major Russian writers from 1900–1950. Pre: sophomore standing or consent. DL
LLEA 353 20th-Century Russian Arts and Culture (3) Aspects of culture (literature, film, theater, music, arts, etc.) in 20th century Russian society. Pre: sophomore standing or consent. DH
LLEA 354 Russian Literature Today (3) Survey in English of contemporary authors and their works for perspective of reality and poetic representation. Pre: sophomore standing or consent. DL
LLEA 355 Russian Film (3) A study of Russian film from the 1920's to the present. Pre: sophomore standing or consent. DH

GREAT LITERATURES
LLEA 370 Freaks and Monsters (3) Monsters, freaks and otherworldly in literature, film, history, and medicine. Suitable for non-literature majors. DL
LLEA 305 Ancient Egyptian Hieroglyphics (3) Decipherment of hieroglyphs and reading of Middle Egyptian literary texts.
LLEA 371 Europeans in the Pacific (3) European presence in the Pacific, in relation to literature, art, culture, civilization. Not applicable to language requirement. (Section 1 taught in Hawaiian. Pre: HAW 202 or consent. Section 2 taught in English.) DL
LLEA 376 (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 (1960s to present). Pre: sophomore standing or consent. DH
LLEA 390 Teaching Practicum in Large Lecture Courses (1) Supervised undergraduate teaching practicum in large-lecture LLEA courses. Repeatable two times. CR/NC only. Pre: completion of course in which practicum will be done and consent of instructor, no waiver.
LLEA 470 Freaks and Monsters 2: The Ethics of Otherness (3) An interdisciplinary examination of corporeal Otherness. Unusual real and fictional bodied from fairground history, art, anatomy, literature, natural history and ethnology. Discussion of the moral, medical, philosophical and aesthetic dilemmas of spectacular difference. Pre: 270 or consent. DH
LLEA 471 (Alpha) Fantasy and the Fantastic (3) Cross-cultural study of fantasy and the fantastic in short stories, fairy tales, films and novels from Europe and the Americas in English translation. Discussion of illusion, identity, time, the future, the bizarre and major concepts in fantasy literature. (B) fairies, devils and fantasy; (C) the fantastic, the strange and science fiction. Repeatable one time in different alphabas. Pre: 270 or consent. DL
LLEA 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
LLEA 630 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.
LLEA 671 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.
LLEA 680 (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) Middle Ages; (E) introduction to literary theory. MA candidates in European literatures read works in their major in the original. Pre: graduate standing or consent of department chair.
LLEA 681 (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. A-F only. Pre: graduate standing or consent.
LLEA 682 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.
LLEA 699 Directed Research (V) Pre: consent of department chair.
LLEA 700 Thesis Research (V) LANGUAGE COURSES
LLEA 199 Directed Language Study (V) Study in European languages not taught regularly, depending on demand and staff. Pre: consent of department chair.
LLEA 399 Directed Reading (V) Pre: limited to senior majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in major, and consent of department chair.
LLEA 499 Directed Reading and Research (V) Independent study of approved reading and research with faculty supervision. Repeatable two times. A-F only. Pre: consent and departmental approval.

Languages, Linguistics, and Literature (LLL)
College of Languages, Linguistics and Literature
LLL 150 Language 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. FGC
LLL 451 Learning Communities Online and Practical Aspects of Teaching (1) Online course for pre- or in-service teachers of world languages. Topics include online learning environments, creating online communities, curriculum and lesson planning, and assessment. Maximum enrollment of 20. Not open to those who have taken 455. A-F only.
LLL 452 Social Aspects of Learning and Technology in the Classroom (1) Online course for pre- or in-service teachers of world languages. Topics include processes of language teaching and learning, learner characteristics and technology in the classroom. Maximum enrollment of 20. Not open to those who have taken 455. Pre: 455 (or concurrent). A-F only.
LLL 453 Second Language Acquisition Theory and Methods (1) Online course for pre- or in-service teachers of world languages. Topics include terminology of language teaching and learning and overview of historical and current approaches. Maximum enrollment of 20. Not open to those who have taken 455. Pre: 455 (or concurrent). A-F only.
LLL 455 Second Language Learning and Teaching Methodology (3) Online course for pre- or in-service teachers of world languages. Combines content from 451, 452 and 453. Maximum enrollment of 20. Not open to those who have taken 451, 452 or 453. A-F only.

Latin (LATN)
College of Languages, Linguistics and Literature
A grade of C- or better in the requisite courses 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 translation skills. Emphasis on prose. Pre: 102 or equivalent. NI/ HSL
LATN 202 Intermediate Latin (3) Continuation of 201: emphasis on poetry. Pre: 201. NI/ 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 Horace and others. Pre: 201 and 202, or consent. DL
LATN 490 Seminar in Roman Studies (3) Study of an author or phase in Roman studies. Repeatable unlimited times with consent. Pre: any two 300-level LATN courses, or consent. DL

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, texts, and cultural icons for their significance for national and regional identity formation, intercultural relations and global flows of images, people, and capital. (B) Latin America; (C) Iberian Peninsula. Repeatable one time. Pre: sophomore or consent. DH
LAIS 361 Spanish Literature in Translation (3) Reading and discussion of classic works of Spanish literature. Pre: sophomore standing or consent. DH
LAIS 362 Latin American Literature (3) Reading and discussion of classic works of Latin American literature. Pre: sophomore standing or consent. DH
LAIS 363 U.S. Latino Culture and Literature (3) The culture and history of U.S. Latinos through an analysis of their literature and arts and their sociopolitical relationship to the U.S. mainstream culture. Pre: sophomore standing or consent. DH
LAIS 365 Spanish Film (3) A chronological survey of films from Spain, from the Silent Era to the present. Conceptually, a cultural history of Spain in the 20th century, as seen through films. Pre: sophomore standing or consent. DH
LAIS 366 Latin American Film (3) A chronological survey of films from Latin America, from the Silent Era to the present. Conceptually, a cultural history of Latin America in the 20th century, as seen through films. Pre: sophomore standing or consent. DH
LAIS 372 (Alpha) Indigenous Peoples of Latin America (3) Survey 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 Region. Repeatable one time in different alphas. (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 to modern times, including connections with Africa, Asia, the U.S., and Hawai‘i. Pre: sophomore standing or consent.

LAIS 468 Colonial Latin American History (3) Pre-Columbian civilizations: Spanish and Portuguese colonization; political, economic, social and religious evolution to 1810; independence. Pre: 360 or consent. (Cross-listed as HIST 478) DH
LAIS 495 Topics in Latin American and Iberian Studies (3) Continuation on selected themes-political, social, cultural-in Iberian or Latin American topics. Topics pre-announced. Repeatable one time. Pre: 360 B or C, or consent. (Once a year)
LAIS 683 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. A-F only. Pre: consent.

Law (LAW)

School of Law

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. A-F only. (Once a year)
LAW 503 Historic Preservation Law (V) Introduction to the protection of cultural, archaeological, and historical resources with emphasis on key federal and state laws. (Once a year)
LAW 504 Legal Practice I (V) Legal practice is the first part of a comprehensive professional program that trains students to practice law, read and write legal analysis and scholarship, and reach their maximum potential as a legal thinker and writer.
LAW 505 Legal Practice II (V) Appellate brief writing and oral advocacy. Repeatable up to 3 credits. Pre: 504.
LAW 508 Negotiation and Alternative Dispute Resolution (V) Lawyers negotiate settlements in all areas of practice. 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 evolution and application 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 as a market tool and the conflicting 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 contemporary issue—legal claims of persons suffering from human rights violations resulting from social and political injustices and the rule of law. (Once a year)
LAW 513 Criminal Justice (V) Examination of substantive rules, enforcement procedures, and rationales of criminal law 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 how the 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 a 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. Pre: 554 (or concurrent). Recommended: 562.
LAW 516 Civil Procedure I (V) Study of pre-trial, trial, and appellate procedures in the federal and Hawai‘i 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) topic 1; (C) topic 2; (D) topic 3; (E) topic 4; (F) topic 5; (G) topic 6; (H) topic 7; (I) topic 8; (J) topic 9; (K) topic 10; (M) topic 11; (N) topics 12; (O) topic 13; (P) topic 14; (Q) topic 15.
LAW 521 Law, Aging and Medicine (V) Introduces to basic legal issues at the intersection of law, aging, and medicine. Addresses various issues confronting elderly; issues confronting the general population including health care financing, decision-making, and bioethics.
LAW 522 Torts (V) Torts cover the statutory and common law of negligence, causation, defenses, damages, strict liability, intentional torts and tort policy and reform, with emphasis on national and Hawai‘i law. (Spring only)
LAW 523 Law and Psychology (V) Approaches psychology as a problem solving tool that can facilitate legal analysis. Covers a variety of areas including jury decision-making, research methodology, social cognition, culture, and behavioral economics, among others. (Once a year)
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 and personal injury law. Recent important developments in Hawai‘i tort and insurance law will be included.
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 four times. A-F only. Pre: consent.
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 Hawaiian 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 of war, theories of the way to peace and conditions 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, implementation of merger and acquisition transactions, liability under federal securities laws, and deceptive practices. Credit Repeatable: Pre: 533.

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. Pre: Consent.

LAW 533 Constitutional Law I (V) Introduction to the judicial function in constitutional cases, jurisdiction of the U.S. Supreme Court, and discretionary barriers to judicial review. Pre: Consent.

LAW 534 Constitutional Law II (V) Advanced course in constitutional law 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 effort, including copyrights, trademarks, and trade secrets. While the course attempts to provide a unified approach to theory and policy for all fields of intellectual property, it emphasizes areas of importance to the general practitioner. According to the doctrines and policies of the patent system are studied primarily for the light they shed upon the nature of intellectual property protection as a whole and upon the interaction between federal and state law. Pre: Consent.

LAW 536 Current Civil Rights Issues (V) Uses the current U.S. Supreme Court docket to engage in an in-depth study of contemporary and statutory rights claims in the area of civil rights and civil liberties law. Pre: 533. (Once a year)

LAW 537 Constitutional Law: Critical Race Perspectives (V) Seminar considers the impact of racism on American law and ways that individuals trained as lawyers might combat racism in our culture and within the institutions in which we live and work. Pre: 533. (Once a year)

LAW 538 Conflict of Laws (V) Problems respecting the law applicable in transactions or to relationships with elements in more than one state.

LAW 539 Remedies (V) Examines both practice aspects and the reasoning of equitable remedies. Frequently, compensatory damages cannot adequately protect clients or provide them with the relief they need. Topics include temporary restraining orders, preliminary and permanent injunctions, restoration and unjust enrichment, specific performance, and equitable defenses such as unclean hands, laches, and estoppel. Practice issues concerning appeal, jury trials, and the relationship of equity to law are also explored.

LAW 540 Criminal Procedure (V) Issues of free press and fair trial, illegal search and seizure, arrest and confession, speedy trial, double jeopardy are covered through student interactions as defense or prosecution attorneys and as judges.

LAW 542 Advanced Civil Procedure (V) Addresses various aspects of complex litigation and recent criticism of the civil litigation system itself. Theoretical in emphasis. Developed from two directions: (1) a study jurisprudential material concerning adversarial dispute resolution, the substance/procedure dichotomy and value-identification; and (2) in-depth analysis of procedural aspects of complex cases with special focus on new procedural rules aimed at reducing waste and delay. Pre: Consent.

LAW 543 Evidence (V) “Objection, your Honor!” This course examines the rules of evidence that govern trials in both federal and Hawai‘i courts and will focus on such topics as hearsay, witness examination, impeachment, physical and demonstrative evidence, expert testimony, writings, relevance, judicial notice, and presumptions.

LAW 544 Race, Culture, and Law (V) U.S. cases and legal theory emphasizing law in the social construction of racial categories, shifts in race-based anti-discrimination law, and the interaction of culture and law in judicial decision-making.

LAW 545 Licensing Intellectual Property (V) Theory and practice of the law relating to the transfer of rights in information and other intangibles are examined through a series of law 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 Intercession-J 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. Pre: Consent.

LAW 547 Gender and Law (V) will apply legal analytic skills to materials showing the ways in which Anglo-American legal traditions and systems deal with women and women’s roles, examining how society views women and women’s roles, and how that view affects the ultimate de jure and de facto legal status of women, comparing with other legal cultures in Asia; the Pacific; and Hawai‘i where appropriate. Pre: Consent.

LAW 548 Immigration Law (V) An 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. Pre: 531, 567.

LAW 552 Trusts and Estates (V) Deals primarily with the disposition of family wealth including the making and enforcement of wills, probate, administration, and termination of trusts; and intestate succession, including probate.

LAW 554 Secured Transactions (V) Introduction to Uniform Commercial Code, particularly Article 9—reducing risk of nonpayment by obtaining an interest in borrowers’ property. Pre: 531 or departmental approval. Repeatable up to three credits. Pre: Consent.

LAW 555 (Alpha) Externship (V) Legal work for judges and attorney supervisors in public agencies, private law firms, and the legislature. (H) Hawai‘i; (P) Pacific. CR/NC only. Pre: consent.

LAW 557 Negotiable Instruments, Payment Systems and Credit Instruments (V) A study of the Uniform Commercial Code provisions that deal with commercial paper (Article 3), bank collections and deposits (Article 4), funds transfers (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: 551 (or concurrent) or consent.

LAW 559 Labor Law I (V) Regulation of union-management relations under state and federal laws. Pre: Consent.

LAW 560 High Growth Entrepreneurship (V) An interdisciplinary (JD-MBA) course (1-3 credits) examining legal, business, and technology issues related to building high growth companies. Student teams develop company feasibility reports and skills necessary to advise or build high growth businesses. Recommended: 531. Law students only. (Once a year)

LAW 561 Administrative Law (V) Procedure and remedies for resolving controversies between citizens and government officials exercising administrative functions.

LAW 562 Debtor’s and Creditors’ Rights (V) Bankruptcy laws and rules, laws of liens, receiverships. Pre: 554 or consent.

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 post-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 Workshop (V) Examines the meaning, scope, and role of non-profit organizations in contemporary society, and focuses on selected non-tax laws and primary tax issues relevant to non-profits. Law students only. 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 performance, buyers’ and sellers’ remedies for breach of contract, limitations of freedom of contract.

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-questions and 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).

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 (V) City, town, county, district governments; administrative organization; regulatory powers; police power; local governmental taxation; relationship between local, state, and federal government.
LAW 576 Directied 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.


LAW 584 Civil Rights (V) Focuses on the civil rights of Americans and introduces alternative remedies and procedures for securing these rights.

LAW 589 Labor and Employment Law (V) Employment law, statutory rights affecting the employment relation, 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. Emphasis on the labor arbitration process and possibly, to issues regarding internal union affairs.

LAW 590 (Alpha) Workshops and Clinics (V) (B) prosecution clinic; (C) defense clinic; (D) elder law clinic; (E) environmental law clinic; (G) estate planning workshop; (H) 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) Hawai‘i Innocence Project I; (T) Hawai‘i Innocence Project II; (U) legislation and statutory interpretation. Repeatable one time for (K). LAW majors only for (R), (S), (T), and (U). CR/NC and letter grade option for (J); CR/NC only for (N), (P), and (Q). Pr: 543 for (B) and (C); 521 or consent for (D); 529 or 561 or LWV 582 for (E); 552 and 567; or consent for (G); 568 or consent for (H), 548 for (Q). (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 contract relationships between private party contractors and federal, state, and local governments; examines the federal acquisition process, bids and proposals, and contract award controversies before judicial and administrative tribunals; reviews socioeconomic contracting provisions and programs and Qui Tari litigation.

LAW 599 Internet Law and Policy (V) A primer on the impact of the development and use of new technologies on global business and social culture. E-commerce, telecommunications, information technology, government regulation, and social policy have all been brought together by the use of the internet. The revolutionary medium of the internet has required legal practitioners to reassess the applicability of current laws and policies that protect and govern members of the global community. Explores the legal implications of the new global economy, copyright law in cyberspace, e-commerce, privacy, security, trademarks, domain names, tort liability, criminal activity, regulation in cyberspace, speech, and social and ethical issues.

LAW 599 (Alpha) Independent Study (V) Field work companions to 590 clinics. (B) prosecution clinic; (C) defense clinic. Repeatable up to six credits. CR/NC only for (F). Pre: consent for (F). Co-requisite: 590B for (B).

Environmental Law (LWEV) School of Law

LWEV 503 Wildlife and Natural Resources Law (V) Seminar covering federal and Hawai‘i’s laws that govern the management of wildlife resources, with a particular focus on wildlife conflicts arising in Hawai‘i.

LWEV 504 Conservation Transactions (V) Real estate transactions are an important and growing conservation strategy; examines 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 that impact modern businesses and industries, and exploration of the compliance issues that 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) legislation; (E) policy and procedure; 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. Pr: LWPA 585 (or concurrent).

LWEV 529 Environmental Litigation Seminar (2) 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 core challenge that will influence law and policy well into the future. Will study climate change science, litigation, law and policy at state and federal levels. (Fall only)

LWEV 540 Hazardous Waste Law (V) Examination of major federal statutes, regulatory and case law, and Hawai‘i counterparts. Policies behind hazardous wastes and their impact on individuals, community, and businesses.

LWEV 582 Environmental Law (V) Basic policy questions and problems concerning environment. Examination of federal and Hawai‘i state statutes. Focus on environmental problems of Hawai‘i.

LWEV 588 Legal Aspects of Water Resources and Control (V) Legal aspects of water and water rights with focus on Hawai‘i.

LWEV 592 Domestic Ocean and Coastal Law (V) Examination of the history of U.S. and Hawai‘i’s sea-use law; comprehensive coverage of modern issues concerning the use of the sea including special Hawaiian problems. Repeatable one time.

LWEV 593 International Ocean Law (V) Examination of the history of international sea-use law, including comprehensive coverage of modern problems and issues concerning the use of the sea among nations.

Journal and Team Credits (LWJT) School of Law

LWJT 536 (Alpha) Moot Court Team (V) An honors program for students who prepare for and compete in national advocacy. (C) client counseling team; (E) environmental law moot court team; (H) Native American moot court team; (J) Jessup international moot court team; (O) other. Repeatable six times. 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, researching, editorial and production responsibility for publication of the journal. Repeatable four times. CR/NC only.

LMM Master of Law (LMLM) School of Law

LMLM 570 Introduction to American Law (V) General introduction to the fundamental principles and distinctive aspects of the American legal system and its institutions. Pr: L.L.M. students only.

Law Writing (LWLW) School of Law

LWLW 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.

LWLW 538 Law Teaching Seminar II (V) Interdisciplinary seminar uses LP 2 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)

LWLW 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)

LWLW 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)

Pacific and Asian Law (LWPA) School of Law

LWPA 506 International, Comparative and Foreign Language Legal Research (V) Global issues play a significant role in the 21st century practice of law. Introduces students to legal information resources and methods for engaging in international, comparative, and foreign law research.

LWPA 514 Law and Society in Japan (V) An extended historical review of the foundations of Japanese law in society: Japan’s adoption and adaptation of Chinese legal doctrines, continental European legal structures and ideas, and American influences. Consideration of the structure of contemporary law in Japan: a look at the various players in the legal system, some important legal doctrines, and the real-world operation of Japanese 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 556 Asian Comparative Labor Law (V) Area studies of Asian legal systems and issues, focusing on administration of Asian labor laws in a comparative context. Possible effects on foreign direct investment and multinational contract workers. Comparison of Chinese, Japanese and other legal approaches in dealing with common issues.

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 area. (C) China; (J) Japan; (K) Korea; (P) Pacific; (S) Southeast Asia. Repeatable six times.

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 of multinational 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 and legal systems, the course will examine basic areas of domestic business legislation, including torts, property, and criminal law, the regulation of private business, the reform of state enterprises, the development of company and securities laws, 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 issues, or the use of joint ventures and other foreign investment vehicles, may also be included.

LWPA 579 International Business Transactions (V) An examination of the law, rules, and practices relating to transborder commercial transactions. Roughly half of the semester focuses 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 usuf acts. Potential of utilizing native rights based on statute, custom, and use to fashion new and expanded rights.

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 Law and Society in China (V) Overview of the foundations of Chinese law and introduction to the present legal system in the People’s Republic of China. Repeatable one time.

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 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 (V) Primer on the World Intellectual Property Organization and the treaties it administers. Will explore the various international legislative and judicial developments in intellectual property as well as analyze international methods to harmonize several regional and national methods to protect intellectual property. Provides basic experience in desktop productivity software and web publishing, bibliographic database software, and qualitative and quantitative data analysis. LIS program only. A-F only. (Cross-listed as CAS 101)

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 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, valuation of bibliographic and Weblogographic material. Field component. MLISc degree required course.

LIS 602 Introduction to Multimedia Technology and Resources (3) Lecture/lab introduces latest specialized technologies for providing, managing, and designing information services for libraries. Provides basic experience in desktop productivity software and web publishing, bibliographic database software, and qualitative and quantitative data analysis. LIS program only. A-F only. (Once a year)

LIS 605 Basic Cataloging and Classification (3) Introductory cataloging and classification covering AACR2, Library of Congress and Dewey decimal classification systems, LC subject headings, use of OCLC. MLISc degree required course.

LIS 606 Advanced Cataloging and Classification (3) Continues 605 with study of authority work, and further study of non-book materials cataloging, including technical services. Extensive use is made of OCLC Connexion cataloging client. Pre: 605.

LIS 610 The Information Environment (3) Lecture/discussion on role of libraries, their social utility in information societies. History and future of libraries in changing technological world. Information professions, information ethics, intellectual freedom, intellectual property, information access, national/international library developments. MLISc degree required course.

LIS 611 Intellectual Freedom (3) Seminar surveying the core philosophical principles and practices of intellectual freedom with special application to librarianship and information sciences. LIS majors only. Pre: departmental approval. (Alt. years)

LIS 612 History of Books and Libraries (3) History of written communication; the recording, preservation and transmission of knowledge. Development of libraries through the middle-twentieth century as instruments of cultural transmission.


LIS 618 Government Documents (3) Survey of government documents, federal, state/local and international levels in all formats. Covers methods of acquisition and organization, including depository arrangements. Current issues of government information dissemination policies and practices discussed. Pre: 601 or consent.

LIS 619 Preservation Management (3) Introduction to preservation management. Focus on management strategies for preservation of materials in libraries and archives. Covers preservation planning, condition surveys, disaster planning, grantmanship, and basic issues relating to deterioration.

LIS 620 Conservation of Library and Archival Materials (3) In-depth exploration of the nature of library and archival materials and factors that cause deterioration. Hands-on practical experience testing, analyzing basic conservation treatments, understanding the role of conservation in preservation planning. Pre: 619 or consent.

LIS 647 Systems Analysis for Information Management (3) Overview of systems analysis; its techniques, benefits and limitations. Focus on libraries and information agencies, although concepts are applicable to other settings. Structured, top-down solutions stressed throughout. Object oriented techniques and data modeling tools are reviewed. Pre: 670.

LIS 650 Management of Libraries and Information Centers (3) Basic theories and principles of administration for effective management of public, academic, and special libraries and information centers, with emphasis on planning, organizing, staffing, directing, and control. MLISc degree required course (except school-based track).

LIS 652 Introduction to Archives Management (3) Study of archival principles and management theories applicable to all types of archives. Includes policy, appraisal, computer, and micrographic applications, ethical and legal issues.

LIS 653 Seminar in Archival Studies (3) Theory of archival studies from historical and contemporary perspectives. Includes public administration, legislation, and relationship to other repositories. Pre: 652 or consent.

LIS 660 Information Sources and Systems in Science (3) Bibliographical structure and sources in the basic and applied sciences, including physics, chemistry, biology, medicine, agriculture, engineering. Field component. Pre: 601 or consent.

LIS 661 Information Sources and Systems in Humanities (3) Lecture on information structures of humanities disciplines, including fine arts, applied arts, theater arts, literature, music, religion, philosophy. Information cycle, print and digital reference services, information seeking research in the humanities. Field research component. Pre: 601.

LIS 662 Information Sources and Systems in Social Science (3) Lecture on information structures of social science disciplines, including anthropology, sociology, psychology, education, business, history, political science. Information cycle, print and digital reference services, information-seeking research in the social sciences. Field research component. Pre: 601.

LIS 663 Basic Database Searching (3) Introduces use of commercial online databases for interactive retrieval of bibliographic, full-text and directory information, the development of search strategies using controlled subject vocabulary queries and free text searching. Pre: 601.

LIS 665 Teaching Information Technology Literacy (3) Lecture/discussion on history, theories, principles, practices and concepts of library and information literacy instruction, learning theory and user-based research methods. Examines program design, administration and evaluation. Field research component. Pre: 601.

LIS 667 Advanced Database Searching (3) Lecture with demonstrations of advanced features of online information retrieval systems and search engines, including natural language searching, citation-based searching, term mapping, similarity searching.

Key to symbols & abbreviations: see the first page of this section.
result ranking and clustering for power search Web databases. Pre: 663.

LIS 670 Introduction to Information Science and Technology (3) Survey of topics in information science and technology. Lectures and discussions emphasize practice, problems and theory relating to information organization, retrieval and dissemination; provision technology in libraries and information centers.

LIS 671 Digital Librarianship (3) Lecture with demonstrations to introduce the essential types of digital resources and the software tools for finding high quality and relevant material efficiently from digital journal archives and reference databases. Pre: 601 or 670.

LIS 672 Technology for Libraries and Information Centers (3) Survey of theories, concepts, methods and practices relating to the application of information technology to support the administration and use of information resources. Includes digital, printed and audiovisual materials. Pre: 605, 670; or consent.

LIS 674 Database Design and Creation (3) Designing and creating textual and/or directory databases from the viewpoint of information specialists and content providers. Needs analysis, file design record content and structuring, software choice. Students implement prototype database. Pre: 670.

LIS 675 Database Content Evaluation (3) Lecture discussing and demonstrating the principles and methods of using criteria in evaluating databases used by librarians and information professionals, such as database coverage, source base, currency, accuracy and quality of information. Pre: 601 or 670, or consent.

LIS 677 Human Dimension in Information Systems (3) Lecture/discussion on human element in information systems, including physical, cognitive and affective behavior in interaction with information systems. Information retrieval, human-computer interaction and cognitive science research, quantitative and qualitative research methods. Research component. Pre: LIS 674.

LIS 678 Personalized Information Delivery (3) Study of the components of personalized information systems: information filtering systems with emphasis on modeling and representation of documents, queries, user information preferences, and user-system interaction. Topics include advanced Information Retrieval (IR) models, metadata and markup languages, query operations, thesaurus based IR, acquisition of user profiles, and user/system performance evaluation. Pre: 647, 663, 670, 674, ICS 321, ICS 421, or ICS 624; or consent.

LIS 680 Seminar for Beginning School Librarians (1) Series of five seminar meetings on topics, issues for beginning school librarians. Emphasis on building skills and support networks to help entry level professionals create effective school library programs. Repeatable two times. CR/NC only.


LIS 683 Services in Libraries (3) Planning and implementing services and programming in public and school libraries. Trends, issues, networking, public relations, outreach, competencies, services for the disabled and other special groups.

LIS 684 Administration of School Library Media Centers (3) Effective management of school library media centers. Philosophy and objectives, standards, personnel, facilities, resources, budget, services, library instruction, public relations, program planning and evaluation. Required for Librarian HDOE licensure.

LIS 685 Traditional Literature and Oral Narration (3) Analysis of traditional literature including Asian and Pacific island resources. Selection and evaluation of traditional literature emphasizing cultural values. Introduction to oral tradition, history and techniques of storytelling.

LIS 686 Information Literacy and Learning Resources (3) Study of information literacy models. Integration of information literacy with K-12 curricular units and lessons. Evaluation of print and multimedia resources to meet student and curricular needs. Required for Librarian HDOE licensure. Spring only. (Cross-listed as EDCS 686 and ETEC 686)

LIS 687 Hawaiian Studies Information Resources (3) Survey of reference and research materials in Hawaiian studies. Includes historical and contemporary works, arts, humanities, social and natural sciences, media. Covers approaches to reference service, collection building and maintenance.

LIS 688 Pacific Islands Information Resources (3) Study of reference tools and bibliographic sources for Pacific Islands studies, including exam of online catalog databases and web sites. Focus on Melanesia, Micronesia and Polynesia (excluding Hawai’i). Pre: 601 or consent.


LIS 690 Internship (3) Field experience in library or information center setting with supervision of professional librarians or information specialists. Available to classified students only. Selection based on academic advisor approval, application form, interview and possession of required competencies. Students must apply and be accepted before registration. Selection is by agency. CR/NC only. Pre: 601 and 663 (or consent).

LIS 693 Special Topics in Librarianship (V) Includes issues of topical interest in the profession. Concentrates on the major topic of current interest, such as library service to the aged, reprography, medical librarianship, knowledge management, art librarianship, cartography.

LIS 694 Special Topics in Information Technology (V) Includes issues of topical interest in information technology. Concentrates on one major topic of current interest, such as information transfer, networks, library information systems, artificial intelligence applications.

LIS 695 Seminar in Research in Librarianship (3) Various methodologies and application to problems of librarianship. Evaluation of research studies; developing, writing, and critiquing proposals. Experience with statistical packages for data analysis. Required for library school certification in Hawai’i. Repeatable one time. 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 requirement, number of credits, rationale. Repeatable up to six credits.


LIS 701 Seminar in International Librarianship (3) International and comparative librarianship; professional organizations; comparative methodology; research; periodicals; international agencies; influence of library and social, cultural, political factors.

LIS 705 Asian Research Materials and Methods (3) Literature of Asia in Western and Asian languages; bibliography, reference tools, research methods, sources, published and archival repositories. Repeatable one time. (Cross-listed as ASIAN 705)
LING 420 Morphology (3) Theory of word structure; analysis of morphological types. Pre: 320 (or concurrent) or consent. DH
LING 421 Introduction to Phonological Analysis (3) Phonological analysis and theory. Pre: 410. DH
LING 422 Introduction to Grammatical Analysis (3) Syntactic analysis and grammatical theory. Pre: 320 or consent. DH
LING 423 Cognitive Linguistics (3) Conceptual systems and language from a cognitive science perspective. Linguistic evidence on conceptual structure, reasoning, categorization, and understanding. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100; or consent.
LING 430 Animal Communication (3) Investigates animal communication from the perspective of modern linguistics. Discovers common misconceptions about “talking animals” and shows how the cognitive, biological, and environmental needs and opportunities of animals determine what and how they communicate. A-F only. Pre: 102 or consent. DS
LING 431 Computational Modeling (3) Hands-on introduction to modeling language. Focuses on connectionism, relations between language perception, and motor control. Requires no programming experience. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100; or consent.
LING 441 Meaning (3) Theories of how literal and figurative language encode meaning and processes of meaning encoding and decoding. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100; or consent.
LING 445 Polynesian Language Family (3) Introduction to the language family of Hawaiian, Samoan, Tahitian, Tongan, etc.; models of migration and settlement and linguistic evidence; subgroups and reconstruction of Proto-Polynesian; linguistic characteristics of present-day languages; language endangerment and conservation in Polynesia. Pre: 320 with a grade of B or better, or consent. DS
LING 451 Induction of Linguistic Structure (3) Phonological and grammatical structures of a previously uncodified language are determined by linguistic analysis of data obtained from speakers of the language. Pre: 102 or 320, or consent. DH
LING 470 Children’s Speech (3) Individual strategies, baby talk, language socialization, language variation including multilingualism. Relation of cognitive to language development. Pre: 320. DS
LING 499 Directed Research (V) Repeatable up to 3 credit hours. CR/NC only. Pre: one 400-level linguistic course and consent.
LING 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
LING 611 Auditory and Auditory Phonetics (3) Principles of auditory perception as they relate to speech sounds, use of computer-based analysis tools to investigate acoustic properties of speech. Pre: 421 or consent.
LING 615 The Nature of Language (3) Language as a communication system, current theories of grammar, meaning, sociolinguistics, linguistic change and comparison.
LING 621 Phonology (3) Phonological theory and problems of analysis. Pre: 421 or consent. (Fall only)
LING 622 Grammar (3) Grammatical theory and problems of analysis. Pre: 422 or consent.
LING 623 Semantics and Pragmatics (3) Ways in which the interpretation of sentences in natural language depends upon the literal meaning of propositions and their logical (semantic) and conversational (pragmatic) inferences. Pre: 422 or consent.
LING 630 Field Methods (3) Work with native speakers of lesser-known languages to develop techniques for data collection and analysis. Repeatable unlimited times. Pre: 421 and 422 and one of 621 or 622; or consent.
LING 631 Language Data Processing (3) Preparation of language data for computer processing; use ready-made programs; write simple language processing programs using SNOBOL 4. Applications to student’s research. Pre: 421 and 422, or consent.
LING 632 Laboratory Research (3) Laboratory methods for research in linguistics. Introduction to hardware, software, research designs and basic analysis techniques commonly used in laboratory-based research. Combines lecture, laboratory work and discussion. Pre: graduate standing.
LING 640 (Alpha) Topics in Linguistics (3) Historical, syllables of linguistic thought, current issues, etc. Repeatable one time. (E) English linguistics; (F) phonology and phonetics; (G) general; (H) history of the discipline; (S) sociolinguistics; (X) syntax; (Y) psycholinguistics. Pre: 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 consent.
LING 670 Developmental Linguistics (3) Survey of the literature in language acquisition; emphasis on relation to linguistic theory. Pre: 422 and 422, or consent.
LING 699 Directed Research (V) CR/NC only. Repeatable unlimited times. Maximum six credit hours. Pre: graduate standing and consent.
LING 700 Thesis Research (V) Repeatable up to 12 credit hours.
LING 730 Advanced Laboratory Research (3) Advanced laboratory methods for research in linguistics. Specialized and/or advanced uses of hardware, software, research designs and analysis techniques. Specific topic varies: check with department. Combines lecture, laboratory work and discussion. Repeatable two times. Pre: 632 or consent.
LING 750 (Alpha) Seminar (3) Reporting and discussion of current research in linguistics. (E) ethnolinguistics; (F) phonology and phonetics; (G) general; (N) semantics; (Q) language acquisition; (R) written language; (S) sociolinguistics; (X) syntax; (Y) psycholinguistics. Repeatable unlimited times. Pre: consent.
LING 777 Areal Linguistics (3) Structures of languages of various areas of the world; diffusion. Repeatable unlimited times. Pre: consent.
LING 799 Apprenticeship in Teaching Linguistics (V) Experience-based introduction to college-level teaching; doctoral students serve as student teachers to professors; responsibilities include supervised teaching and participation in planning and evaluation. Repeatable one time. Pre: admission to doctoral program and consent.
LING 800 Dissertation Research (V) Management (MGT)
MGT 341 Behavior in Organizations (3) Contributions made by sociolinguistics, social psychology, and related behavioral sciences to the understanding and prediction of human behavior in organizations. Pre: BUS 315. DS
MGT 342 Multinational Business Management (3) Introduction to the unique problems and challenges in managing multinational business enterprises. Systems approach to the management process in such multinational firms stressed. Pre: BUS 315. DS
MGT 343 Comparative Management Systems: United States and Japan (3) Similarities and differences in managers, in process of management, and in relevant environmental constraints in Japan and the U.S. Pre: BUS 315. DS
MGT 344 Seminar in Management (3) In-depth analysis of selected current practices and trends in administration. May be repeated with change in topic. Pre: consent.
MGT 345 Entrepreneurial Ventures (3) Integrative 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. Pre: 320 or consent.
MGT 348 History of American Business (3) The evolution of business enterprise. It is offered on a flexible basis and meets requirements for the completion of a comprehensive business plan for a new venture. Emphasis on social entrepreneurship, technological change, labor-management relations, government-business relations, and economic thought. Case studies of industrial development. (Cross-listed as HIST 378) DH
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 one time.
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 structures of family-owned and managed companies; family business, personal, and interpersonal issues associated with a family-owned and managed company. Pre: 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 organizational strategies and how they relate to the industrial trade policies. Pre: BBA core excluding BUS 345, or consent.
MGT 461 Corporate Entrepreneurship (3) Exploration of the nature and role of entrepreneurship behavior in larger, established organizations. An examination of obstacles to entrepreneurial activity and approaches to creating work environments that foster entrepreneurship. Pre: 320 or consent.
MGT 643 (Alpha) Advanced Organizational Behavior (3) (B) experiential learning (EL); (C) or-
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.

MGT 645 New Venture Management (3) Technical aspects of entrepreneurship, components and requirements for developing a business plan.

MGT 650 Management Topics (3) In-depth analysis of selected current practices and trends in administration. May be repeated four times with change in topic. Prerequisite.

MGT 651 Corporate Entrepreneurship (3) Entrepreneurship behavior involving the founding of new business units within established companies; understanding and dealing with barriers to entrepreneurship in corporations; recognizing corporate entrepreneurship opportunities; and learning various approaches organizations can take to increase entrepreneurship. A-F only. Prerequisite. (Once a year)

MGT 660 Negotiation (3) Theory and practice of negotiation. Exploration of appropriate strategies, tactics, and communication techniques. Study of dyadic multi-party, cross-cultural, and assisted negotiations. 

MGT 670 (Alpha) International Management 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 resource management; (J) international joint ventures; (K) international management of technology; (M) Korean management systems; (N) multinational corporation and environmental issues; (O) strategy of the multinational corporation; (P) international transfer of technology. Repeatable four times. Prerequisite.

MGT 680 Entrepreneurship for Science and Technology (3) Identifying and developing 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. Prerequisite: 645 or consent. (Once a year)

MGT 681 (Alpha) 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 the Asian/Pacific region. A-F only. Prerequisite. (Once a year)

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. Prerequisite: 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. Prerequisite: 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). A-F only. Prerequisite: PhD student status in international management or consent.

Maori (MAO)

College of Language, Linguistics and Literature

MAO 101 Beginning Maori (4) Beginning Maori listening, speaking, reading, and writing skills. Structural points introduced inductively. History and culture. Meets four hours weekly. HSL

MAO 102 Beginning Maori (4) Continuation of 101. Prerequisite: HSL

MAO 201 Intermediate Maori (4) Continuation of 202. Meets four hours weekly, three of four hours devoted to drill and practice. Prerequisite: 102. N/ HSL

MAO 202 Intermediate Maori (4) Continuation of 201. Prerequisite: N/ HSL

MAO 261 Maori Literature and Culture (3) Survey of literature concerning myths, traditions, poetry 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. Prerequisite: DH

MAO 301 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Prerequisite: 202, no waiver. Fall only.

MAO 302 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Prerequisite: 301. (Spring only)

MAO 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. Prerequisite: 261 or consent. (Fall only) DH

MAO 362 Te Reo Waipara: Maori Language in Song (3) Survey and analysis of Maori song poetry, texts, traditional and contemporary, and their development and performance over time. Prerequisite: 102 or HAW 202, or consent.

Marketing (MKT)

Shidler College of Business

MKT 311 Consumer Behavior (3) Analysis of consumer behavior and motivation; principles of learning, personality, perception, and group influence, with emphasis upon mass communication effects. Prerequisite: BUS 312 or consent. (Cross-listed as PSY 385) DS

MKT 321 Marketing Research (3) Research aids to marketing management; nature of the research process; planning research including problems of sampling and measurement; experimental and non-experimental methods and techniques; analysis of data. Prerequisite: BUS 310 and 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. Prerequisite: 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. Prerequisite: BUS 310 and BUS 312.

MKT 341 Retailing Management (3) Principles, functions, and analysis of opportunities and problems in retailing, location and layout; merchandising planning; buying and selling; organizational forms and design; expense analysis and control; coordination of store activities. Prerequisite: BUS 312 or consent.

MKT 351 Professional Selling (3) Emphasis on selling techniques, social-psychological principles of persuasion, and interpersonal communication. Lecture, discussion, and application of relevant principles and techniques. A-F only. Prerequisite: BUS 312 or consent.

MKT 352 Sales Management (3) Delves into the sales management process. Through a variety of activities, students gain experience in sales planning, recruiting and training sales people, methods of motivating and compensating, territory management and sales team communications. Prerequisite: 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. Prerequisite: and usually senior standing.

MKT 362 Internet Marketing (3) Examines use of internet in the marketing of goods and services; for example new product development, marketing research, direct sales and marketing communications on the World Wide Web. Real world projects provide opportunities for application. Prerequisite: 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. Prerequisite: BUS 311, or consent.

MKT 372 Marketing for New Ventures (3) Examines role of marketing in the formation and launch of entrepreneurial ventures within and outside of ongoing businesses. Emphasis on new product development and low cost, high impact marketing activities. Prerequisite: BUS 312 or consent.

MKT 381 Multinational Marketing (3) Principles and topics related to international marketing, with emphasis on strategic planning and applications. Prerequisite: BUS 312 or consent.

MKT 391 Marketing Strategies (3) Decision-making by the marketing executive; Integration of all the elements of the marketing program based on actual business situations. Prerequisites: 311, 321, and one other marketing course above 311; 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 they are to be reported 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 designed 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. Prerequisite: 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/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. Prerequisite: junior standing and BUS 312, or consent.

MKT 651 Advanced Marketing Management (3) A case course in the application of advanced marketing methods. Prerequisite: 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. Prerequisite: BUS 623 or consent.

MKT 653 International Marketing Management (3) Integrated and comparative approach to international marketing management. Emphasis on development of a competitive strategy in a global environment. Applications to both developing and industrialized markets. Prerequisite: BUS 623 or consent.

Key to symbols & abbreviations: see the first page of this section.
MATH 654 Marketing Communications Management (3) Emphasis on developing integrated advertising, sales promotion, public relations and internet communication strategies that build brand equity. Includes relevant customer behavior and real world applications. Pre: BUS 262 or consent.

MATH 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.

MATH 658 Marketing in the Information Age (3) Examines new marketing opportunities and challenges in the information age from a balanced perspective of theory and practice. Real-world cases and practices will be used to systematically supplement the principles and theories introduced. A-F only. Pre: 623 or consent. (Fall only)

MATH 690 Advanced Seminar in Marketing (3) Significant topics, problems in marketing. Repeatable unlimited times. Pre: BUS 623 or consent.

MKT 701 International Marketing Theory (3) Focuses on the development of the theory, their use, and evolution within a marketing context. Explores marketing theories, theory construction, and the creation of marketing knowledge. A-F only. Pre: PhD student status in international management or consent.

MKT 702 International Cross-Cultural Consumer Behavior (3) Focuses on consumer behavior theory with a strong emphasis on cross-cultural research issues and methodology. Provides in-depth review of important published work in traditional and cross-cultural consumer behavior fields. A-F only. Pre: PhD student status in international management or consent.

MKT 703 International Marketing Strategy Doctoral Seminar (3) Focuses on theories of strategic marketing and planning. Explores the theoretical principles of marketing concepts, tools, and processes that can be used to help an organization develop a sustainable competitive advantage. A-F only. Pre: PhD student status in international management or consent.

MKT 704 Advanced Topics in International Marketing Seminar (3) Selected topics in any aspect of international marketing to increase exposure to the range of issues marketers commonly confront. A-F only. Pre: PhD student status in international management or consent.

MKT 799 Directed Research (V) Reading and research in an area of marketing 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.

MATH 100 Survey of Mathematics (3) Selected topics designed to acquaint nonspecialists with examples of mathematical reasoning. May not be taken for credit after 215 or higher.

MATH 135 Precalculus I (2) Algebra review, functions with special attention to polynomial, rational, exponential and logarithmic functions, composed and inverse functions, techniques of graphing. Credit allowed for either 135 or 140. Pre: two years of high school algebra, one year of plane geometry.

MATH 140 Precalculus (3) Functions, with special attention to polynomial, rational, exponential, logarithmic, and trigonometric functions, plane trigonometry, polar coordinates, conic sections. Pre: 135 or assessment exam. FS

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 to economics and the social sciences. FS

MATH 190 Introduction to Programming (1) An introduction to numerical algorithms and structured programming using Fortran, Basic, or other appropriate language. Pre: one semester of calculus (203, 215, 241, 242, 243, 244, 251A, 252A, or 253A) or concurrent, or consent.

MATH 203 Calculus for Business and Social Sciences (3) Basic concepts; differentiation and integration; applications to management, finance, economics, and the social sciences. Pre: 135 or assessment exam. FS

MATH 215 Applied Calculus I (4) Basic concepts; differentiation, differential equations and integration with applications directed primarily to the life sciences. Pre: C (not C-) or better in 140 or assessment exam. NI FS

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. NI

MATH 241 Calculus I (4) Basic concepts; differentiation with applications; integration. Pre: a grade of C (not C-) or better in 140 or 215 or assessment exam. NI FS

MATH 242 Calculus II (4) Integration techniques and applications, series and approximations, differential equations. Pre: a grade of C (not C-) or better in 241 or 251A or a grade of B or better (not B-) in 215; or consent. NI

MATH 243 Calculus III (3) Vector algebra, vector-valued functions, differentiation in several variables, and optimization. Pre: C (not C-) or better in 242 or 252A, or consent. NI

MATH 244 Calculus IV (3) Multiple integrals; line integrals and Green’s Theorem; surface integrals, Stokes’ and Gauss’ Theorems. Pre: 243 or consent. NI

MATH 251A Calculated Accelerated Calculus I (4) Basic concepts; differentiation with applications; integration. Compared to 241, topics are discussed in greater depth. Pre: a grade of A in 140 or assessment and consent. NI FS

MATH 252A Calculated Accelerated Calculus II (4) Integration techniques and applications, series and approximations, differential equations, introduction to vectors. Pre: a grade of B or better in 241 or 251A and consent. NI

MATH 253A Calculated Accelerated Calculus III (4) Vector calculus; maxima and minima in several variables; multiple integrals; line integrals, surface integrals and their applications. Pre: 252A, NI, FS

MATH 302 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 (203, 215, 241, 242, 243, 244, 251A, 252A, or 253A) and one semester programming; or consent. Recommended: 190.

MATH 302 Introduction to Differential Equations I (3) First order ordinary differential equations, constant coefficient linear equations, oscillations, Laplace transform, convolution, Green’s function. 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 ordinary differential equations, series solutions and special functions, Fourier series, partial differential equations. Pre: 302, 311 (or concurrent); or consent.

MATH 304 Mathematical Modeling: Deterministic Models (4) Deterministic mathematical modeling emphasizing models and tools used in the biological sciences. Topics include difference equations, qualitative behavior solutions of ODEs and steady state stability, and diffusion equations. A computer lab is included. Pre: 216 or 242 or 252A, or consent. (Fall only)

MATH 305 Mathematical Modeling: Probabilistic Models (4) Probabilistic mathematical modeling emphasizing models and tools used in the biological sciences. Topics include Markov models, estimation, Monte Carlo simulation and ising models. A computer lab is included. Pre: 216 or 242 or 252A, or consent. Recommended: 304. (Spring only)

MATH 307 Linear Algebra and Differential Equations (3) Introduction to linear algebra, application of eigenvalue techniques to the solution of differential equations. Students may receive credit for only one of 307 or 311. Pre: 243 (or concurrent) or 253A (or concurrent), or consent.

MATH 311 Introduction to Linear Algebra (3) Algebra of matrices, linear equations, real vector 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: 243 (or concurrent) or 253A (or concurrent), 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 mathematical expressions in writing is an integral part of the course. Pre: 243 or 253A (or concurrent), or consent.

MATH 327 History of Mathematics (3) The historical development of mathematical thought. This course does not count either toward the BA nor BS requirements in mathematics. Pre: 216 or 242 or 252A. Recommended: 311 or 321.

MATH 331 Introduction to Real Analysis (3) A rigorous axiomatic development of one variable calculus. Completeness, topology of the plane, limits, continuity, differentiation, integration. Pre: 242 or 252A, and 321; or consent.

MATH 351 Foundation of Euclidean Geometry (3) Axiomatic Euclidean geometry and introduction to the axiomatic method. Emphasis on writing instruction. 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 373 Elementary Statistics (3) Estimation, tests of significance, the concept of power. Pre: 371 or consent.

MATH 402 Partial Differential Equations I (3) Integral surfaces and characteristics of first and second order partial differential equations. Applications
to the equations of mathematical physics. Pre: 244 or 253A, or consent. Recommended: 244 and 302.

**MATH 403 Partial Differential Equations II (3)** Laplace's equation, Fourier transform methods for PDEs, higher dimensional PDEs, spherical harmonics, Laplace series, special functions and applications. Pre: 402 or consent.

**MATH 405 Ordinary Differential Equations (3)** Systems of linear ordinary differential equations, autonomous systems, and stability theory 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: 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: a grade of B or better in 311 or consent.

**MATH 412 Introduction to Abstract Algebra (3)** Introduction to basic algebraic structures. Groups, finite groups, abelian groups, rings, integral domains, fields, factorization, polynomial rings, field extensions, quotient fields. Emphasis on writing instruction. (These topics are covered in the year sequence 412–413.) Pre: 311 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 Operations Research: Discrete Models (3)** Techniques of mathematical programming. Topics may include linear programming, integer programming, network analysis, dynamic programming, and game theory. Pre: 307 or 311, or consent.


**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: 311 or consent.

**MATH 421 Topology (3)** Geometric and combinatorial topology. Surfaces, homology, Euler characteristics, winding numbers. Jordan curve theorem. Pre: two courses from 311, 321, 351, 411, 412, or 420; or consent.

**MATH 431 Advanced Calculus (3)** Topology of R^n, continuous functions, Riemann integration, sequences and series, uniform convergence, implicit function theorems, differentials and Jacobians. Emphasis on teaching mathematical writing. (These topics are covered in the year sequence 431–432.) Pre: 311 and 331, or consent.

**MATH 432 Advanced Calculus (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, differential forms, 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 Complex Variable (3)** Analytic functions, complex integration, introduction to conformal mappings. Pre: 307, 311, 321 or 331; or consent.

**MATH 449 Topics in Undergraduate Mathematics (3)** Advanced topics from various areas: algebra, number theory, analysis, and geometry. Repeatable unlimited times. Pre: consent.

**MATH 454 Axialomatic Set Theory (3)** Sets, relations, ordinals, cardinals, the axiom of choice and the continuum hypothesis. Pre: 321 or graduate standing in a related field or consent. Not open to mathematics graduate students.


**MATH 471 Probability (3)** Probability spaces, random variables, distributions, expectations, moment-generating and characteristic functions, limit theorems, random variables emphasized. Pre: 244 (or concurrent) or 253A (or concurrent), or consent.

**MATH 472 Statistical Inference (3)** Sampling and parameter estimation, tests of hypotheses, correlation, regression, analysis of variance, sequential analysis, rank order statistics. Pre: 471 or consent.

**MATH 475 Combinatorial Mathematics (3)** Finite configurations. Topics 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 (V)** A seminar for senior mathematics majors, including an introduction to methods of research. 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 presentation. Required for Certificate in Mathematical Biology. Repeatable one time. Pre: junior or senior standing and consent. (Cross-listed as BIOL 490)

**MATH 499 Directed Reading and Research (V)** Limited to advanced students who must arrange with an instructor before enrolling. Repeatable one time for a maximum of 3 credits each.

**MATH 475 Directed Reading and Research (V)** Introduction with an instructor before enrolling. Repeatable one time for a maximum of 3 credits each.

**MATH 500 Master's Plan B/C Studies (1)** Enrollment for degree completion. Pre: master's Plan B or C candidate and consent. All 600-level courses prerequisites graduate standing or consent.

**MATH 602 Ordinary and Partial Differential Equations (3)** Classical existence and uniqueness theory for ODEs and PDEs, qualitative properties, classification, boundary value and initial value problems, fundamental solutions, other topics.

**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 611 Modern Algebra (3)** Modules, Sylow theorems, Jordan-Hölder 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 Non-etherian rings, localization, Dedekind domains, the Jacobson radical, the Wedderburn-Artin theorem, additional topics.

**MATH 618 Lattice Theory (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, Mal’cev 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 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)** Lebesque 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, optimization.

**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; (E) commutative rings; (F) function theory; (G) geometric topology; (H) operator theory; (I) probability; (J) algebra; (K) special; (M) lattice theory and universal algebra; (N) non-commutative rings; (O) transformation groups; (P) partial differential equations; (Q) potential theory; (R) algebraic topology; (S) functional analysis; (T) number theory and combinatorics; (U) differentiable manifolds II. Repeatable unlimited times.

**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. Recursive, r.e., Ptime, and Logspace classes.

**MATH 699 Directed Reading and Research (V)** Directed reading and research. CR/NC only. Pre: 602.

**MATH 699 Directed Reading and Research (V)** Directed reading and research. CR/NC only. Pre: 602.

Key to symbols & abbreviations: see the first page of this section.
MATH 700 Thesis Research (V) for master's thesis. Pre: consent.

MATH 799 Apprenticeship in Teaching (V) An experience-based introduction to college-level teaching; students serve as student teachers to professors; responsibilities include supervised teaching and participation in planning and evaluation. Open to graduate students in mathematics only. Repeatable one time. CR/NC only. Pre: graduate standing in mathematics and consent.

MATH 800 Dissertation Research (V) Research for doctoral dissertation.

Mechanical Engineering (ME)

College of Engineering

Preference in registration is given to declared engineering majors. Please consult the current Schedule of Courses for confirmed offerings each semester.

ME 113 Introduction to Engineering Design I (2) (1 Lec, 1 2-hr Lab) Introductory experience in analysis, synthesis, and design. Teamwork and project required. Pre: high school physics or consent.

ME 213 Introduction to Engineering Design (3) (1 Lec, 1 2-hr Lab) Introductory experience in communication, presentation, professional ethics, social responsibilities, engineering economics, quality control, and computer-aided drafting. Teamwork and project required. Pre: PHYS 170.

ME 271 Applied Mechanics I (3) Dynamics of particles and rigid bodies; force, acceleration, impulse-momentum, work-energy. CEE and ME majors only. A-F only. Pre: CEE 270; MATH 244 or MATH 253A (or concurrent); or consent. (Cross-listed as CEE 271) DP

ME 311 Thermodynamics (4) Basic laws, closed and open systems. Work, heat, concept of entropy. Properties of pure simple substances. Ideal gases. Introduction to power and refrigeration cycles. Pre: grade of C or better in PHYS 170 and MATH 244.

ME 312 Applied Thermodynamics (3) Gas mixtures, generalized thermodynamic relationships, combustion and thermochemistry, chemical equilibrium, power and refrigeration cycles. Pre: grade of C or better in 311. DP

ME 322 Mechanics of Fluids (3) Incompressible and compressible ideal fluids, effects of viscosity. Similitude, boundary layer flow, elementary gas dynamics. Pre: grade of C or better in 311 and CEE 271 or ME 271. (Spring only) DP

ME 331 Materials Science and Engineering (3) Electronic, atomic, and crystalline structure of materials and their effect on the mechanical, electrical, optical, and magnetic properties of engineering metals, ceramics, polymers, and composites. Pre: CHEM 162, MATH 242 and PHYS 170.

ME 341 Manufacturing Processes (3) Manufacturing components. Energy requirements for various manufacturing methods. Selection and design of manufacturing methods to obtain components with desired size/shape/properties. Pre: 351 or consent. DP

ME 342 Manufacturing Processes Lab (2) (1 Lec, 1 2-hr Lab) Manufacturing laboratory: tension/compression tests, cold rolling, welding, casting, statistical process control, programming and milling using a CNC machine. Pre: 341 (or concurrent) or consent. DY


ME 371 Mechanics of Solids (3) Stress, strain and constitutive relations for elastic solids. Design of shafts, beams, columns and cylinders. Failure theories, statically indeterminate systems. Pre: CEE 270 (grade of C or better), MATH 244 or MATH 253A and MATH 302 (or MATH 307). DP

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 chains. Pre: 371 or consent. DP

ME 374 Kinematics/Dynamics Machinery (3) Velocity and acceleration analysis of planar mechanisms; kinematic synthesis of linkages, cams, and gears; static and dynamic force analysis of mechanisms; balancing of machinery. Pre: CEE 271 or ME 271 (C or better), MATH 244 and either MATH 302 or MATH 307. DP

ME 375 Dynamics of Machines and Systems (3) Lumped-parameter modeling of dynamic physical systems. Methods of analysis, including transform techniques. Time response, and frequency response. Modal analysis. Pre: CEE 271 or ME 271 (C or better), and either 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 design methods. Techniques and procedures associated with carrying out dynamic measurements within the constraints of cost, time and accuracy. A-F only. Pre: 375 (or concurrent). DY

ME 403 Advanced Mathematics for Engineers (3) Applications of ordinary differential equations, Laplace transform, vector field theory, matrices, line integrals. Pre: MATH 244 and MATH 302 (or MATH 307).

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 transport phenomena; some algorithms for parallel computing. A-F only. Pre: 422 (or concurrent), and either 360, MATH 407 or PHYS 305; or consent. (Fall only) DP


ME 418 Fluid Propulsion (3) Principles, performance, and design of gas turbine power plants and propulsion systems. Pre: 312 and 422 (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; reentry dynamics; interplanetary trajectories; attitude dynamics and stabilization. A-F only. Pre: 422 or consent. (Spring only) DP

ME 422 Heat Transfer (3) Steady and unsteady conduction; steady convection and radiation; heat exchangers. Pre: 322, 323. One of: MATH 407, MATH 408, or PHYS 305. (Fall only) DP

ME 423 Mass Transfer (3) Elementary mass diffusion; diffusion in a stationary medium; diffusion in a moving medium; low and high mass transfer theorems; simultaneous heat and mass transfer; condensation, evaporation, and boiling; transportation cooling; species boundary layers; engineering and design of heat and mass exchangers; current refrigerants and environmental regulations. A-F only. Pre: 422 or consent. DP

ME 424 Introduction to Gas Dynamics (3) One-dimensional compressible flow involving changes of area, friction, heat transfer. Normal and oblique shocks. Prandtl-Meyer flow. Application to nozzles, diffusers, airfoils. Pre: 312 and 322. DP

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. (Spring only) DP

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 heat, fluid, and convective trees; theoretical design optimization of manmade and natural power systems; analysis of time dependent structures. A-F only. Pre: 371 and 422, or consent. (Spring only) DP

ME 433 Failures in Materials (3) Analysis of component failures due to imperfections, fatigue, 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, 342, and 371. DP

ME 435 Experimental Methods in Materials Research (3) (1 Lec, 2 2-hr Labs) Common experimental techniques in materials testing and research: x-ray diffraction, optical and electron microscopy, thermal and mechanical properties, electrochemical methods—theory and hands-on experience. Pre: 341 and consent.

ME 436 Corrosion Engineering (3) Basics of corrosion processes and emphasis on corrosion control. Thermodynamics and kinetics of corrosion, metal alloys and their behavior, corrosion control techniques (cathodic protection, anodic protection, coatings, and inhibitors). Pre: 341 and 342, or consent. DP

ME 446 Advanced Materials Manufacturing (3) (2 Lec, 1 2-hr Lab) Introduction to anisotropic materials, advanced manufacturing techniques for composite and intelligent materials, joining of composites, thin film processing and stereolithography, computer-aided manufacturing and rapid prototyping, manufacturing process optimization, open-ended manufacturing projects. Pre: 341, 342, and senior standing; or consent. DP

ME 447 Introduction to Nanotechnology (3) (3 Lec) Tools and techniques of micro- and nano-technology in design, modeling, and simulation; analysis, fabrication, testing and characterization; nano-materials, nano-structures, nano-composites, nano-coating, nano-optics, nano-electronics and nano-biotechnology. A-F only. Pre: senior standing or consent. DP

ME 451 Feedback-Control Systems (3) Analysis/design of feedback systems. Compensator design via root locus and Bode analysis. Routh/Nyquist stability, State space representation and introduction to 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 or consent. DP

ME 453 Energy Conversion Systems (3) Energy conversion and its impact on the environment. Convective, hydroelectric, nuclear fission and fusion, solar, wind, ocean, geothermal, and biomass power; energy storage, transmission and conservation. Pre: 312, 322, and 422 (or concurrent); or consent. DP


ME 471 Experimental Stress Analysis (3) (1-3 Lab) Techniques of experimental stress analysis: strain and deflection measurement of beams and shafts, strain to stress conversion, principal and maximum shearing stresses, failure in biaxial stress states.
stress concentrations, residual stresses, buckling, creep, electrical resistance strain gauges, brittle coatings, photoelastic methods, transducers. A-F only. Pre: 571 and departmental approval. (Spring only)

ME 473 Mechanical Vibrations (3) Response of machines and systems to transient and periodic excitations. Vibration isolation and transmissibility. Modal analysis of multi-degree-of-freedom systems. Applications to design. Pre: 371, 375; or consent. DP


ME 481 Design Project I (3) (1 1-hr Lec, 2 2-hr Lab) Engineering ethics, engineering design methodology, design process, project planning, decision making, materials selection, economic analysis, quality control, finite element analysis, initiation of an open-ended design project. A-F only. Pre: 372 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: 375 and 481, or consent.

ME 491 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, mechanics, materials, systems, or design. Pre: consent.

ME 492 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, mechanics, materials, 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. Pre: senior standing.

ME 500 Master’s Plan B/C Studies (1)


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. (Once a year)

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 film condensations; boiling incipience; pool boiling heat transfer; flow boiling heat transfer; critical heat flux (CHF). A-F only. Pre: 422 (or equivalent) or consent. (Spring only)


ME 622 Convective 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 layer. Pre: 322. (Fall only)

ME 630 Rheology (3) Vector and tensor operations. Constitutive equations. Generalized Newtonian fluids and linear viscoelastic fluids. Rheometry and experiments. Flow of suspensions. Advanced topics and rheology of polymers, food products, biomaterials and asphalt, laboratories. Pre: 626 or consent. (Spring only)


ME 636 Fundamentals of Electrochemistry (3) Thermodynamics of fuel cell kinetics, mass transfer by migration and diffusion, microelectrode techniques, forced convection, impendence, double-layer structure, and absorbed intermediates in electrode processes. Pre: consent.

ME 646 Mechanics and Design Composites (3) Introduction to composites: anisotropic elasticity and laminate theory; hygrothermal effects; composite beams, columns, rods, plates, and shells; 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, thermal, and mechanical properties of nanomaterials; fabrication of nanodevices; energy, environmental, and biological applications of nanomaterials. A-F only.

ME 650 Surface Phenomena (3) Fundamental and modern concepts of colloid and surface science. Main topics include surface thermodynamics, capillarity and wetting phenomena, surface forces, surfactants, and particulates. Pre: 311 or consent. (Fall only)

ME 651 Automatic Control (3) Linear optimal feedback control, discrete time optimal control, fundamentals of adaptive control, application to motion and force control of robotic arms and manipulators. Pre: 451, EE 351; or 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 technologies for PEM fuel cells. A-F only. Pre: 422 (or equivalent) or consent. (Spring only)

ME 661 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. Recommended: 371 or CEE 370, or consent. (Cross-listed as CEE 671)

ME 672 Finite Element Analysis (3) Introduction to finite element analysis and design in mechanical engineering applications. Applications to machine design, vibrations, elasticity, heat transfer. Pre: 360, 371; or consent.

ME 678 Advanced Dynamics (3) Lecture on rigid-body dynamics; dynamical systems; motion representation and constraints; Newtonian mechanics; Lagrangian mechanics; Hamilton’s prin-
ciple; stability analysis; introduction to multidby dynamics. Pre: 375 or equivalent, or consent.

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 696 Advanced Topics in Mechanical Engineering (V) Highly specialized topics in thermosciences, mechanics, materials, system, or design. Pre: consent.

ME 699 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. 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. Pre: candidacy for PhD in mechanical engineering.

Medical Education (MDED)

School of Medicine

MDED 527 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-assessments and independent study, 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 interdepartmental multidisci- plinary assessment program for fourth-year medical students. CR/NC only. Pre: FMCH, MED, OBGN, PED, PSTY, SURG 531 or 532.

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. Pre: FMCH, MED, OBGN, PED, PSTY, SURG 531 or 532.

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 care 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 MD 1 health care problems. 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 problems. MD majors only. CR/NC only. Pre: consent. Co-requisites: 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 cardiovascular and pulmonary health care problems. 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. Pre: 552 and 552L. Co-requisite: 553L. (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. Pre: 553 and 553L. Co-requisite: 554L. (Spring only)

MDED 554L MD 4 GI/Endocrine Tutorials (4) Advanced series of problem-based learning tutorials for second-year medical students focusing on gastrointestinal and endocrine health care problems. CR/NC only. Pre: 553 and 553L. Co-requisite: 554L. (Spring only)

MDED 556 MD 6 Locomotor System, Nervous System, and Behavioral Problems (8) Concepts focusing on the locomotor/neurological systems and behavioral problems through integrated basic science lectures, laboratories, and colloquia intended to broaden the learning from MD 6 health care problems in tutorials. CR/NC only. Pre: 554 and 554L. Co-requisite: 556L. (Fall only)

MDED 556L MD 6 Locomotor System, Nervous System, and Behavioral Problems (4) Advanced series of problem-based learning tutorials for second-year medical students focusing on neurological/locomotor systems and behavioral health care problems. CR/NC only. Pre: 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. Pre: 556 and 556L. Co-requisite: 557L. (Spring only)


MDED 563 Third Year Colloquia (2) A series of lecture-discussions intended to broaden the perspectives of the Unit VI experiences and health-care problems. Repeatable one time. CR/NC only. Pre: 551 and 557.

MDED 564 Senior Seminars (4) Review of topics and issues that will prepare senior students for the end of their undergraduate training and the start of their internship. 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. Pre: 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. Pre: 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. Pre: 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. Pre: 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. Pre: 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. Pre: 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. Pre: consent. Co-requisites: 551 and 571. (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. Pre: 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. Pre: 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. Pre: 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. Repeatable one time. CR/NC only. Pre: 551.

MDED 595 (Alpha) Topics in Medical Education (V) Summer selectives in medical education for second-year medical students. (B) rural health preceptorship; (C) health issues of the Pacific Basin; (D) projects in medical education; (E) manikin simulations; (F) diagnostic reasoning; (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. Pre: 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, student wellness, and community health under the direction of a faculty member in the Office of Medical Education. Repeatable nine times.

Medical History (MDHX)

School of Medicine

MDHX 699 Directed Research (V) Repeatable unlimited times.

Medical Technology (MEDIT)

School of Medicine

MEDIT 151 Introduction to Medical Technology (2) Designed to acquaint students to the field of medical technology (clinical laboratory science). Repeatable one time.

MEDIT 301 The Clinical Laboratory (3) (2 Lec, 1 3-hr Lab) Theory and clinical application of medical technology laboratories and healthcare professional relationships. MD majors only. Repeatable one time. Pre: consent.

MEDIT 331 Clinical Lab Management (3) Students will become familiar with fundamental administration of a clinical laboratory to include technical, personnel, and financial management areas. Repeatable one time. CR/NC only. Pre: consent.

MEDIT 431 Clinical Microbiology I (3) (2 Lec, 1 2-hr Lab) Modern practices in bacteriology, parasitology, mycology and virology in human health and disease states. Repeatable one time. Pre: MICR 351 or consent.

MEDIT 451 Hematology (1) (1 3-hr Lab) Fundamental study of blood in normal and pathological states: formation, development, and classification of blood cells. Pre: 366 or consent.

MEDIT 451L Hematology Lab (2) (1 Lec, 1 3-hr Lab) Laboratory to accompany MEDIT 451. Medical tech majors only. Pre: 360 or consent. Co-requisite: 451.

MEDIT 463 Clinical Microbiology II (3) (1 Lec, 2 3-hr Lab) Modern practices in diagnostic microbiology. Repeatable one time. MD majors only. A-F only. Pre: 431 or consent.

MEDIT 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. MD majors only. Pre: MICR 461 or consent. (Spring only)

MEDIT 471 Clinical Biochemistry I (4) Biochemical processes in human health and disease states. Repeatable one time. MD majors only. Pre: CHEM 273 or consent. (Spring only) DB

MEDIT 472 Clinical Biochemistry II (4) Continuation of 471. Repeatable one time. MD majors only. Pre: 471 or consent. (Once a year)

MEDIT 477 Clinical Lab Methods and Analyses I (3) (1 6-hr Lab) Lab experiments illustrating fundamental principles and methods of clinical laboratory analyses. Repeatable one time. MD majors only. Pre: 471.

MEDIT 478 Clinical Lab Methods and Analyses II (3) (2 Lec, 1 3-hr Lab) Continuation of 477. Pre: 477.

MEDIT 481 Professional Issues in Medical Lab Science (1) Discussions about various professional issues through oral presentations and critiquing of peer presentations. Repeatable one time. MD majors only. Pre: 451L. NA

MEDIT 495 Special Topics in Medical Technology (V) Acquaints student with role of the medical technologist and overlap of major sciences in clinical situations to help student develop qualities unique to med technology. Repeatable one time. CR/NC only. Pre: consent.

MEDIT 499 Directed Reading and Research (V) Repeatable one time.

MEDIT 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. Pre: 331 or consent. (Summer session only)

MEDIT 551 Advanced Clinical Laboratory Hematology and Hemostasis (1) Advanced-level study of hematology and hemostasis through clinical laboratory cases. Repeatable one time. Pre: 451 or consent. (Summer only)

MEDIT 591 Clinical Training in Medical Technology (28) Application of theory and simulated laboratory experiences in immuno-hematology, clinical chemistry, microbiology, parasitology, hematology, coagulation, urinalysis, immunology, to meet state career entry-level competencies. Repeatable one time. Pre: BS in MEDIT.

MEDIT 690 Seminar in Medical Technology (1) Analysis of research and recent literature pertaining to various aspects of medical technology. Repeatable one time. Pre: consent.

Medicine (MED)

School of Medicine

MET 532 Internal Medicine Longitudinal Clerkship (5) Six-month long clerkship in ambulatory setting, and eight-week hospital-based experience. Application of history-taking and physical examination skills for evaluation and care of clinical problems. Emphasis on communication, clinical decision-making, and management of patients with complex problems. Repeatable two times. CR/NC only. Pre: third-year standing and concurrent registration in 532 courses.

MET 541 Advanced Medicine Clerkship (6) Required for four-week 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. Pre: fourth-year standing and completion of 531, or consent.

MET 545 (Alpha) Unit VII Electives in Medicine (V) Elective for fourth-year medical students involving more advanced study of selected topics within internal medicine than was possible in 531. (R) research in medicine. Repeatable one time. CR/NC only. Pre: 531 or 532.

MET 546 (Alpha) Unit VII Electives in Medicine (V) Four-year elective in which students study selected topics within field of medicine. (B) extramural electives in medicine (miscellaneous); (C) internal medicine seminar; (D) infectious disease; (E) internal medicine sub-internship; (F) research in bioethics; (G) neurology, critical care; (H) medical informatics. Repeatable one time for (B)–(E): not repeatable for (F); repeatable two times for (H); repeatable three times for (G). CR/NC only. Pre: 531 or 532 for (B) and (C); 541 for (E) and (H) or departmental approval; and strong writing skills for (F). Back-ground in humanities/literature recommended for (F), Co-requisite: 531, 532, 541 for (G) and (H); 545 for (C).

MET 599 Directed Research (V) Pre: consent.

Meteorology (MET) School of Ocean and Earth Science and Technology

MET 101 Introduction to Meteorology (3) For nonscience majors and prospective science teachers. Basic atmospheric physics, sun-Earth-atmosphere interactions, pollution, major weather systems, weather forecasting, weather of Hawaii. DP

MET 101L Introduction to Meteorology Lab (1) (3-hr Lab) Exercises with meteorological data and measurement systems. Characteristics of Hawaiian winds, temperatures, and rainfall. Pre: 101 (or concurrent). DV

MET 200 Atmospheric Processes and Phenomena (3) Atmospheric variables, gas laws, radiation processes, thermodynamics, conservation laws, dynamic approximations, clouds and precipitation, convection, atmospheric circulations, mid-latitude and tropical weather systems, forecasting, climate. Pre: PHYS 170 and MATH 241. N/DP

MET 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: MATH 242, PHYS 272, and MET 200; or consent. DP

MET 303 Introduction to Atmospheric Dynamics (3) Scalar and vector development of basic laws of hydrodynamics, equations of motion, kinematics, divergence and vorticity, viscosity and turbulence, introduction to numerical weather prediction, general circulation. Pre: PHYS 272 and MATH 244. DP

MET 305 Meteorological Instruments and Observations (3) (2 Lect, 1 3-hr Lab) First- and second-order measurement systems. Response of wind, temperature, and recording instruments. Discussion of advance system including radar. Planning of field programs. Pre: 302 and PHYS 272/272L. DP

MET 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 one environmental science course, or consent. (Cross-listed as OCE 310 and OCN 310) DP

MET 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.


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

MET 406 Tropical Meteorology (3) History; tropical clouds and hydrometeors; typhoons; monsoons; local and diurnal effects. Pre: 303. DP

MET 412 Meteorological Analysis Lab (3) (2-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)

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

MET 470 Air Pollution (3) (2 lec, 1 3-hr lab) A survey of the physical and chemical aspects of air pollution and climate at global and local scales; responses to threats to our atmospheric environment. Lecture, lab and field trips. GES majors; A-F only. Pre: 200, CHEM 162, PHYS 272, OCN 310; or consent. (Spring only) DP

MET 495 Undergraduate Thesis (3) Capstone for senior Meteorology majors. Undergraduate thesis project includes literature review, experiment or research design, data collection and analysis, technical writing of a final thesis paper and oral presentation of the paper. Senior standing only. A-F only. Pre: 302, 303 (or concurrent).

MET 600 Atmospheric Dynamics I (3) Governing equations for moist atmospheric motions, approximations; basic theoretical models, (H) medical informatics. Pre: 402 or MATH 403; or consent.

MET 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)

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

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

MET 610 Tropical Climate and Weather (3) Climate and general circulation of the tropics; El Niño and Southern Oscillation; stratospheric circulation; trade winds; tropical weather systems; energy balance; typhoons. Pre: 303 or consent.

MET 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)

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

MET 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.

MET 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)

MET 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)

MET 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)

MET 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)

MET 699 Directed Research (V) Pre: consent.

MET 700 Thesis Research (V)

MET 702 Numerical Weather Prediction (3) (2 Lect, 1 3-hr Lab) Fundamental methods and 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, or consent. (Alt. years) (Cross-listed as OCN 666)

MET 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 Nino-Southern Oscillation phenomenon. Repeatable one time. Pre: 600 or consent. (Alt. years)

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

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

MET 800 Dissertation Research (V)

Microbiology (MICR)

College of Natural Sciences

MICR 130 General Microbiology (3) Role of microorganisms; how they affect people, property, and the environment. A basic survey course covering broad aspects of biochemistry, genetics, molecular biology, and physiology; host-parasite relationships, public health, bacterial, mycotic and viral diseases; epidemiology; ecology of soils and water; environmental pollution; food microbiology; industrial applications in fermentation level. Not open to those with credit in 351 or equivalent. DB

MICR 140L Microbiology Laboratory (2) (2.2-Hr Lab) Primarily for students in nursing and dental hygiene. Pre: 130 (or concurrent). DY

MICR 314 Research Ethics (1) Introduction to the ethical issues faced by individuals and institutions involved in scientific research. Based on case studies, students will discuss and write about ethical issues in research. Issues include humans and animals in 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 321 (or concurrent), or PHYS 170 (or concurrent), or CHEM 272 (or concurrent); or consent. (Cross-listed as MCB 314) DS

MICR 351 Biology of Microorganisms (3) Anatomy, chemistry, physiology, genetics, development, and environmental interactions of microorganisms. Pre: BIOL 171 or equivalent, CHEM 272/272L; or consent. Co-requisite: 351L. Recommended: BIOL 275/275L. DB

MICR 351L Biology of Microorganisms Lab (2) (2.3-Hr Lab) Laboratory exercises to accompany 351. Pre: CHEM 272/272L, and BIOL 171, or equivalent. Co-requisite: 351L. DY

MICR 361 Introductory Bioinformatics (4) (3 Lex, 1 Lab-Hr) Introductory bioinformatics will provide a basic foundation of biological information (DNA, protein, genome and proteome) by using information technology (IT). A-F only. Pre: BIOL 275 and BIOL 275L, or consent. (Fall only)

MICR 401 Marine Microbiology (3) Evolution, ecology, biochemistry, genetics and physiology of marine bacteria by examining defined systems and organisms. Pre: BIOL 265/265L and BIOL 275/275L and BIOL 301/301L, and OCN 201; or 351/351L; or consent. DB

MICR 401L Marine Microbiology Laboratory (1) (1.3-Hr Lab) Laboratory to accompany 401. Pre: BIOL 265/265L and BIOL 275/275L and BIOL 301/301L and OCN 201; or 351/351L; or 401 or concurrent; or consent. DY

MICR 410 Advanced Topics in Microbiology (2) Capstone for (but limited to) senior microbiology majors. Current and seminal research 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 431 Microbial Physiology (3) Fundamental physiological and metabolic processes of bacteria; emphasis on growth, functions of cell structures, varieties of energy metabolism, metabolic regulation, and differentiation at the prokaryote level. Pre: 351. DB

MICR 431L Microbial Physiology Lab (2) (2.3-Hr Lab) Components and metabolism of the bacterial cell; emphasis on fluid state of cell; energy metabolism 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 172; or consent. Recommended: BIOL 275/275L. (Cross-listed as MCB 461) DB

MICR 461L Immunology Lab (2) (2.3-Hr Lab) Basic exercises and experiments in immunology, immunoochemistry, immuno-biology to illustrate principles 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) (2.3-Hr Lab) Characterization of bacterial pathogens. Isolation, identification, and diagnosis. Co-requisite: 463 or consent. DY

MICR 470 Microbial Pathogenesis (3) Fundamenta- l mechanisms of infectious diseases at the molecular level. Emphasis on the role of genetics in host-pathogen interactions. Pre: 351/351L; or consent. DB

MICR 475Bacterial Genetics (3) Genetic analysis and molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: 351 or BIOL 275, or consent. (Cross-listed as MCB 475B) DB

MICR 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 475LL) 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, biocontrol, food fermentation. Pre: BIOL 172 and CHEM 272, or consent. DB

MICR 485L Microbes and Their Environment Lab (2) (2.3-Hr Lab) Techniques for study of interaction of microorganisms with and within their natural habitats; symbiosis between microorganisms and plants and animals; role of microorganisms 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, gene expression, pathogenesis and host response. Pre: 351 or BIOL 275, or consent. DB

MICR 490L Virology Lab (2) (2.3-Hr Lab) General laboratory techniques and related theories in virology; including isolation, cell culture, assay, analysis of purification, and identification of viruses. Pre: 351/351L or BIOL 275/275L and 490 (or concurrent) or consent. DY

MICR 499 Microbiological Problems (V) Directed reading and research. Limited to senior majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in microbiology courses. Pre: 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 614 Research Ethics (1) Introduction to ethical issues faced by individuals and institutions involved in scientific research. Moral reasoning, humans and animals in research, mentoring, 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 genomics, structural genomics, and proteomics. A-F only. Pre: 351 and one 400-level MICR course, or consent. (Alt. years)

MICR 632 Advanced Microbial Physiology (3) Selected topics. Pre: 431 or consent. (Alt. years: spring)

MICR 646 Plant-Bacterial Interactions (3) Diagnosis, molecular biology, genetics, and infection mechanisms of bacterial plant pathogens and symbionts. Pre: one of 351, 475, or BIOCL 481; or consent. (Cross-listed as PEPS 566)

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, phylogeny and diversity, and past and current methods. A-F only. Pre: 351 and 401, or consent. (Alt. years)

MICR 671 Bacterial Genetics (3) Directed study and discussion of research literature on bacterial and viral 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. Modern techniques for study of autoecology and synecology of microorganisms. Pre: 485 or consent. (Alt. years: spring)

MICR 681 Host-Parasite Relationships (3) Mechanisms of pathogenicity of microorganisms and defense mechanisms of host and animal hosts. Review of contemporary literature. Pre: 463 or consent. (Alt. years: fall)

MICR 685 Molecular and Cellular Bacterial Pathogenesis (3) Detailed examination of the molecular and cellular mechanisms of bacterial pathogenesis. Overview of key literature, synthesis of scientific problems into research proposals. Pre: 431, 463, or 470; or consent. (Alt. years: spring)

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 699 Directed Research (V) Selected problems in microbiology. Pre: consent.

MICR 700 Thesis Research (V)

MICR 795 Special Topics in Microbiology (V) Selected topics in any aspect of microbiology. Repeatable unlimited times.

MICR 800 Dissertation Research (V)
Molecular Biosciences and Bioengineering (MBBE)

Molecular Biosciences (MBBE) B.A. Biotechnology: Science and Ethical Issues (3) Introduces, goals, ethical issues and consequences of biotechnology using real-life case studies of cloning, DNA fingerprinting, gene therapy and pathological engineering, Pre: BIOL 171 or consent. (Cross-listed as BIOL 304)

Molecular Biosciences (MBBE) M.S. Translational Research (3) Introduction to cellular biology, biochemistry and metabolic pathways as applied to nutritional, medical and environmental biotechnology, A-F only. Pre: BIOL 241 or consent. (Spring only)

Molecular Biosciences (MBBE) Ph.D. Molecular Biotechnology (3) General principles, applications, and recent advances of the rapidly growing science of biotechnology. 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 BIOL 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 carbohydrates, lipids, proteins and nucleic acids. Pre: C (not C-) or better in BIOL 275/275L, CHEM 272 and CHEM 273; or consent. (Cross-listed as BIOL 402 and PEPES 402) DB

MBBE 402L Principles of Biochemistry Lab 2 (1.5 Lec, 3-hr Lab) Principles techniques of biochemical laboratory. A-F only. Pre: 402 or consent. BIOL 402 (or consent) DB

MBBE 405 Marine Functional Genomics and Biotechnology (3) Fundamental principles governing environmental biotechnology applications; emphasis on processes mediated by microorganisms, development of environmentally friendly biocatalysis, models to describe the behavior of microbial communities, and emerging biotechnology for environmental microbiology. A-F only. Pre: MICR 130 or MICR 351, or consent. (Spring only) (Cross-listed as BIOL 405) DB

MBBE 406 Cellular Biology (3) Cell structure and function. Structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in 275/275L, and CHEM 273; or consent. (Cross-listed as BIOL 406) 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. Pre: A-F only. Pre: CHEM 152 or CHEM 272, and CHEM 162 or CHEM 171; or consent. (Spring only) (Cross-listed as PEPES 412) DB

MBBE 420 Hazardous Materials (3) Introduction to state and federal environmental regulations relative to hazardous substances. Analysis of specific health and environmental impact of hazardous waste. Pre: CHEM 151 (or concurrent) or consent. MBBE 461 Biotechnology for Teachers (3) Principles, methods, classical examples, recent development, benefits and concerns of modern biotechnol- ogies. Pre: BIOL 304 or equivalent. MBBE 480 Integrative Genomics and Biotechnology (3) Integration of molecular genetics, virology, plant and molecular biology, and bioinformatics. Gene silencing, functional genomics, and the development of expression systems for the production of heterologous proteins. A-F only. Pre: 401 and BIOL 275/275L or consent. (Fall only) DB

MBBE 480L Integrative Genomics and Biotechnology Lab 3 (1.5 Lec, 2.5-hr Lab) Principles techniques of biochem- ical laboratory. A-F only. Pre: 401 and BIOL 275/275L or consent. (Spring only) (Cross-listed as BIOL 480L) DB

MBBE 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, RNA, protein) available today. A-F only. Pre: BIOL 171 (or equivalent), or consent. (Once a year) (Cross-listed as BIOL 483) DB

MBBE 490 Lab Automation: Advanced Techniques in Plant Molecular Biology (5) Combined lab lecture and seminar to study and manipulate nucleic acids and proteins. A-F only. Pre: 401 and BIOL 275/275L or consent. (Once a year) MBBE 491 Special Topics in MBBE (V) Study and discussion of special topics and problems in molecular and cellular biology and biochemistry. Pre: consent. MBBE 499 Directed Research (V) Mandatory to undergraduate students qualified to carry on research projects in plant physiology, biochemistry, and molecular biology. A-F only.
MBBE 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 molecular biology, or consent. (Fall only) (Cross-listed as MIRC 601)

MBBE 607 Advanced Food Science I (3) 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 with undergraduate courses in organic chemistry, microbiology, additional biological science, physics, and biochemistry. Basic knowledge of food science is expected; or consent. (Fall only) (Cross-listed as FSHN 607)

MBBE 610 Molecular Biosciences Seminar (1) Study and discussion of significant topics and problems in plant physiology, biochemistry, and molecular biology. A-F only.

MBBE 620 Plant Biochemistry (3) Comprehensive study of chemical constituents and biochemical processes unique to the plant kingdom with emphasis on selected aspects of current interest. A-F only. Pre: 402 or consent.


MBBE 625 Biosensor Principles and Applications (3) Elaboration of common biochemical interactions used to quantify biological molecules, and the electrical technologies used to detect them. Discussion of the desirable properties of biosensors, miniaturization and applications related to medicine, agriculture, bioproduction and environment. Pre: consent. (Cross-listed as BE 625)

MBBE 650 DNA and Genetic Analysis (2) Combined lecture-lab for students interested 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 FSHN 650)

MBBE 651 Signal Transduction and Regulation of Gene Transcription (3) Lecture/discussion on mechanisms involved in the transmission of regulatory signals from the cell surface to the nucleus. A-F only. Pre: CMB 621, and CMB 654 or equivalent; or consent. (Fall only)

MBBE 652 Molecular Fungi Interactions (3) Focuses on the actions of plant pathogens and the responses of compatible and incompatible host plants. Latest research on this topic will be evaluated through laboratory experience. Pre: Bioc or consent. Pre: ICS 471 and ICS 491 and ICS 691 (or equivalent), or consent. (Alt. years)

MBBE 687 Advanced Lab Techniques (1) (1 Lec, 2 3-hr Lab) Advanced laboratory techniques used in life science research. Pre: graduate standing or consent. (Cross-listed as ANSC 687 and FSHN 687)

MBBE 691 Advanced Special Topics in MBBE (V) Study and discussion of advanced special topics and problems in molecular biosciences and bioengineering. Pre: graduate standing or consent.

MBBE 699 Directed Research (V) Independent research. Pre: Consent. CR/NC only.

MBBE 700 Thesis Research (V) Independent research. Pre: Consent. CR/NC only.

MBBE 800 Dissertation Research (V) Independent research. Issues include humans and animals in research. Issues include humans and animals in 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 531 (or concurrent) or PHYS 170 (or concurrent), or CHEM 272 (or concurrent); or consent. (Cross-listed as MIRC 314) (DA)

MCB 461 Immunology (3) Structure and biological actions of antigens and antibodies; fundamentals of antibody synthesis; the relation of immunology to biologic and medical sciences. Pre: MIRC 351 or BIOL 172; or consent. Recommended: BIOL 275/275L. (Cross-listed as MIRC 461) (DA)

MCB 461L Immunology Lab (2) (2 3-hr Lab) Basic exercises and experiments in immunology, immunochemistry, immuno-biology to illustrate principles of 461. Co-requisite: 461 or consent. (Cross-listed as MIRC 461L) (DA)

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 majors only. Senior standing or higher. Pre: BIOL 406 (or concurrent) and BIOL 407 (or concurrent) or consent. (Spring only)

MCB 475 Bacterial Genetics (3) Genetic analysis and molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: MIRC 351 or BIOL 275; or consent. (Cross-listed as MIRC 475) (DA)

MCB 475L Bacterial Genetics Lab (2) (2 3-hr Lab) Techniques for study of transfer and expression of prokaryotic genes: transformation, conjugation, transposon mutagenesis, preparation and analysis of plasmid and chromosomal DNA. Pre: 475 (or concurrent). (Cross-listed as MIRC 475L) (DA)

Music (MUS) (E) shakuhachi. Cannot be audited. Pre: consent. (C) khuulele. Cannot be audited. Pre: consent. DA

MUS 114 University Chorus (1) Performance of choral literature from Renaissance to present. Previous choral experience not required. Repeatable unlimited times. DA

MUS 121 (Alpha) Class Instruction I (1) Basic principles of performance; relevant problems in literature. A-F only. (C) piano; (D) guitar. Cannot be audited. DA

MUS 122 (Alpha) Class Instruction II (1) Basic principles of performance; relevant problems in literature. B voice; (C) piano; (D) guitar. Repeatable in different sections. Cannot be audited. Pre: 121 or consent. 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 one time per alpha. Pre: 121D or consent for (B); 108 or consent for (C). DA

MUS 125 First-Level Secondary Piano (1) Piano as secondary performance field; application of theory to problems in improvising, harmonizing, creating accompaniments, transposing, and sight-reading at keyboard. For music majors. Pre: consent. Corequisite: 281 or consent.

MUS 126 First-Level Secondary Piano (1) Piano as secondary performance field; application of theory to problems in improvising, harmonizing, creating accompaniments, transposing, and sight-reading at keyboard. Continuation of 125. For music majors. Pre: 125 or consent.

MUS 127 (Alpha) Asian Music Performance Class (1) Basic principles of performance of Asian music. Relevant problems at literature at elementary level. (B) koto; (C) shamisen; (D) shakuhachi. Cannot be audited. Pre: consent. DA

MUS 128 (Alpha) Asian Music Performance Class (1) Basic principles of performance of Asian music. Relevant problems at literature at elementary level. (B) koto; (C) shamisen; (D) South Indian singing; (E) shakuhachi. Cannot be audited. Pre: consent. DA

MUS 151 String Techniques: Upper (2) For students preparing to teach instrumental music. Performance techniques, materials, and pedagogy for string instruments. A-F only.

MUS 152 String Techniques: Lower (2) Continuation of 151. Pre: consent.

MUS 153 Woodwind Techniques I (2) Similar to 151 and 152 using upper woodwind instruments. A-F only.

MUS 154 Woodwind Techniques II (2) Continuation of 153. A-F only.

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 199 Recital Attendance (0) Attendance at approved departmental concerts. Required of all 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. Pre: 126 or consent. NI

MUS 226 Second-Level Secondary Piano (1) Continuation of 225. Pre: 225 or consent. NI

MUS 240 Creative Applications of Music Technology (3) Introductory laboratory experience. (E) Basic concepts of 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
MUS 251 Diction for Singers (3) Diction and phonetics of English, Italian, liturgical Latin, German, and French with emphasis on voice and choral conductors. Pre: 232B or consent. NI

MUS 253 Elementary Music in Action (3) (3 Lec, 1 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. DA

MUS 265 History of Western Music to 1750 (3) Development of Western music from its origins to 1750. Styles, schools, composers. Pre: 282 or consent. NI/DH

MUS 266 History of Western Music After 1750 (3) Development of Western music from 1750 to the present. Styles, schools, composers. Pre: 282 or consent. NI/DH

MUS 270 World of Music: Asia/Pacific (3) Study of music as social process, sound system, aesthetics, and world view. Emphasis on Hawai‘i, Asia, and the Pacific and the ways music creates links across the region and among people. Pre: ability to read music and one introductory music course (108, 114, 121-126, 151-156) or consent. (Fall only) NI/DH

MUS 280 Basic Theory and Aural Skills (3) Fundamentals of music theory, notation, sight-singing, and dictation. Pre: 108 or consent. NI

MUS 281 Theory I (2) Materials and organization of music; analysis, writing, and keyboard application. Pre: 280 or consent. Co-requisite: 283 or consent. NI

MUS 282 Theory II (2) Continuation of 281. Pre: 281 or consent. Co-requisite: 284 or consent. NI

MUS 283 Aural Training I (1) Perception, identification, and notation of musical sounds through dictation and sight-singing. Pre: 280 and ability to sing diatonic melodies at sight, or consent. Co-requisite: 281 or consent. NI

MUS 284 Aural Training II (1) Continuation of 283. Pre: 283 or consent. Co-requisite: 282 or consent. NI


MUS 287 Aural Training III (1) Advanced level of perception, identification, and notation of musical sounds through dictation and sight-singing. Pre: 284. Co-requisite: 285 or consent. NI

MUS 288 Aural Training IV (1) Continuation of 287. Pre: 287. Co-requisite: 286 or consent. NI

MUS 289 Introductory Practicum in Music Composition (V) Original composition; specific approaches to creative writing. Repeatable. Pre: 282 and 284; or consent. NI

MUS 311 (Alpha) Ethnic Music Ensembles I (1) Performance of literature for groups of various sizes and kinds at introductory level (B) Hawaiian; (C) Japanese; (D) Chinese; (E) Korean; (F) Okinawan; (G) Philippine; (H) gagaku; (I) Tahitian; (K) Oceanian; (M) other. Repeatable unlimited times. Pre: upper division standing or consent. DA

MUS 312 Hula/Chant Ensemble I (2) Ancient style. Pre: upper division standing or consent. DA

MUS 325 Conducting (1) Problems in directing instrumental and choral ensembles. Score reading, rehearsal techniques, and basic interpretive problems. Pre: 286 and 288.

MUS 326 Advanced Conducting (2) Continuation of 325. Pre: 325 or consent.

MUS 340 Electronic Music (3) Basic techniques of electronic sound synthesis. Pre: 240 or consent.

MUS 341 Audio Recording/Mixing/Sound Design (3) Preproduction, mixing, setup and recording suitable for film. Mixing techniques in software for small systems. Sound design using original synthesis techniques to enhance film and support stories. Pre: 240 or consent. (Alt. years)

MUS 342 Digital Audio Synthesis and Multimedia Applications (3) Sound control through graphical interfaces. Advanced digital audio synthesis techniques. Audio control of graphics and video. Introduction of alternate controllers. Pre: 240 or consent. (Once a year)

MUS 353 Integrating Music in the Elementary School (3) Application of musical concepts through an integrated approach. This includes strategies, world music, literature, materials and resources for the elementary classroom curriculum. Pre: 253 or consent.

MUS 354 General Music Methods (3) Required for K-12 music specialists. Scope and nature of music in the lives of children and adolescents; planning, teaching, learning, and evaluating music in elementary, middle, and high school curriculum. A-F only. Pre: 250, 286, and 288, or consent.

MUS 354L Music Education: Elementary School Lab (1) Observation, analysis, participation and teaching in the elementary school. Supervised 20 hours of field experiences required. MUS majors only. CR/NC only. Pre: 286 and 288, or departmental approval. Co-requisite: 354. (Every 3rd semester)

MUS 355 Instrumental Music Methods (3) Objectives, materials, and procedures of instrumental music in schools. A-F only. Pre: 250, 286, and 326 (or concurrent); or consent.

MUS 355L Music Secondary Instrumental Lab (1) Observation, analysis, participation and teaching in the elementary school. Supervised 20 hours of field experiences required. MUS majors only. CR/NC only. Pre: 354, or departmental approval. Co-requisite: 355. (Every 3rd semester)


MUS 356L Music Secondary Vocal Lab (1) Observation, analysis, participation and teaching in the elementary school. Supervised 20 hours of field experiences required. MUS majors only. CR/NC only. Pre: 354, or departmental approval. Co-requisite: 356. (Every 3rd semester)


MUS 359 Piano Pedagogy (2) Continuation of 358. Pre: 358 or consent.

MUS 360 Music in Film (3) Lecture investigating the role of music in narrative film, and developing critical skills through close study of films and their music. Understanding styles and techniques of film music within larger aesthetic trends and historical contexts. Pre: 106 or consent. (Once a year) DH

MUS 370 Music in Modern America (3) Varieties of music, including jazz and other popular forms; relevant antecedents. Pre: sophomore standing; freshmen with consent only. DH

MUS 381 Counterpoint (3) Form, texture, and style in music literature from Renaissance to present. Formal analysis and writing. Contrapuntal textures and forms. Pre: 286.

MUS 382 Form and Analysis (3) Form, texture, and style in music literature from Renaissance to present. Formal analysis and writing. Larger forms with various textures; recent contemporary approaches to counterpoint. Pre: 286.

MUS 383 Orchestration (3) Basic principles of scoring for orchestra and band; instrumental ranges, timbres, transpositions; transcribing or composing for band, orchestra, and chorus. Pre: 286 or consent.

MUS 384 Theory and Practice of Jazz Improvisation (2) Development of an improvising technique through analysis and performance practice. For instrumentalists only. Pre: 285 and 287.

MUS 387 Contemporary Techniques (2) Theoretical techniques in music of the 20th and 21st centuries; emphasis on writing as the synthesis of concepts. Investigation of important stylistic movements. Pre: 286 or consent.

MUS 399 Directed Study (V) Limited to majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in music. Pre: consent.

MUS 400 Topics in Music (V) Topics in history, literature, theory, applied music education, performance, and ethnomusicology; for music majors. Consult department for topics and specific dates. Pre: 281 and appropriate lower division music courses; or consent.

MUS 407 Music Cultures of the World (3) Folk, popular, and art music from major regions of the world, with emphasis upon Asia and the Pacific. Representative styles and regional characteristics. Pre: junior standing or consent. DH

MUS 410 (Alpha) Ensembles (1) Performance of literature for ensembles and performing groups of various sizes and kinds; (B) Hawaiian chorus; (C) University Chamber Singers; (D) piano-vocal collaboration; (F) chamber music; (G) guitar; (K) jazz; (M) contemporary music; (N) theater music; (O) percussion; (P) digital and electronic musical arts. Repeatable unlimited times. Pre: audition or consent. DA

MUS 411 (Alpha) Ethnic Music Ensembles II (1) Performance of literature for ensembles and performing groups of various sizes and kinds, (B) Hawaiian: (C) Japanese; (D) Chinese; (E) Korean; (F) Okinawan; (G) Philippino; (H) Asian; (J) Tahitian. Repeatable unlimited times. Pre: 311 in same section or consent. DA

MUS 412 Hula/Chant Ensemble II (2) Ancient style. Pre: 312 or consent. DA

MUS 413 Hula/Chant Ensemble III (2) Ancient style; hālau protocol. Repeatable nine times. Pre: 412.

MUS 414 University Concert Choir (1) Performance of a cappella literature and major choral works. Repeatable unlimited times. Pre: choral experience and consent.

MUS 415 Opera Workshop (V) Opera in performance. Styles and characterizations. Performance of scenes and one complete work. Repeatable unlimited times. Pre: upper division standing or consent. DA

MUS 416 (Alpha) University Symphony Orchestra (1) Performance of orchestra literature, including major works for chorus and orchestra, opera and dance; (B) symphony; (C) chamber orchestra. Repeatable unlimited times. Pre: audition or consent. DA

MUS 417 University Javanese Gamelan I (1) Performance of jogja and solo gamelan traditions; Ujan-Ujan, Wajang Kulit, Wajang Wong. Repeatable unlimited times. Pre: 311H or consent. DA

MUS 419 (Alpha) University Band I (Perfor- mance of literature, including works by contemporary composers. (B) symphonic wind ensemble; (C) symphonic band; (D) concert band; (E) marching band; (F) marching band/production. Repeatable unlimited times. Pre: audition or consent. DA


MUS 421 Acting V: Musical Comedy (3) Essential training in skills required to perform in musicals. Students present scenes from musical comedies for criticism and review. Repeatable unlimited times. Pre: THEA 321 and THEA 322, audition; or consent. (Cross-listed as THEA 421) DA
MUS 422 Piano Repertoire (1) Focused study on a specific area of piano literature. Extensive score study, analysis, performance practices, technique and listening will be studied. A-F only. Pre: 2 semesters of 252C or consent. Repeatable six times for different topics. (Alt. years)

MUS 423 Keyboard Skills I (2) Practical keyboard applications including transposition, keyboard harmonization, figured bass, improvisation, score reading and sight reading. A-F only. Pre: 282 and 2 semesters of 252C, or consent. (Alt. years)

MUS 424 Keyboard Skills II (2) Continuation of 423. A-F only. Pre: 423 or consent.

MUS 440 Music, Industry, and Society (3) History of U.S. music and recording industry. How industry relates to economy as a whole, and how it reflects broad patterns and trends in American culture and society. (Cross-listed as HIST 471) DH

MUS 441 Scoring Techniques for Films (3) Aspects of scoring original music for films. Use of small systems, and software production tools. Music production techniques (including Foley and sound effects) and music for television also covered. Repeatable one time. Pre: 441 or consent. (Alt. years)

MUS 450 Music Technology for Teachers (3) Studio course designed for music education majors or musicians intending to teach. A-F only. Pre: consent.

MUS 454 Music in Special Education (3) Designed for music educators, elementary, 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: 253 or EDEP 311, or consent.


MUS 459 Vocal Pedagogy (3) Scientific studies of vocal mechanism; application to techniques of singing. Pedagogical methods for individual voice instruction; participation 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 alphabets. Pre: 265 and 266, or consent.

MUS 462 (Alpha) Studies in Western Music History (3) (B) 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) guitar literature. Repeatable one time for different alphabets. Pre: 265 and 266, or consent.

MUS 464 Opera (3) Historical study from Monteverdi to present. Pre: 265 and 266, or consent.

MUS 465 Piano Literature I (2) Study of the evolution of piano literature from the beginning of the 19th century; development of historical styles, intensive listening and analysis. Pre: 265 and 266, or consent.

MUS 466 Piano Literature II (2) Continuation of 465. Study of the evolution of piano literature from the beginning of the 19th century to the present day; development of historical styles, intensive listening and analysis. A-F only. Pre: 465 or consent. (Alt. years)

MUS 467 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. (Every three years)

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 musics. 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. DH

MUS 478 (Alpha) Musical Cultures (3) The study of a musical culture area. (B) Hawaii; (C) China; (D) Japan; (E) Korea; (F) Indonesia; (G) Philippines; (H) India; (I) Polynesia; (P) Africa; (Q) other. Repeatable one time for different alphabets. Pre: junior standing or consent.

MUS 479 Topics in Ethnomusicology (3) Problem-oriented cross-cultural investigation of music and music organization. Pre: junior standing or consent. DH

MUS 485 Intermediate Practicum in Music Composition (V) Creative writing beginning with smaller forms. Repeatable six times. Pre: 286 and 288, or consent.

MUS 487 Advanced Practicum in Music Composition (3) Creative writing in larger forms. Composition majors only. Repeatable one time. Pre: 485 or consent.

MUS 495 Senior Project (V) Capstone project designed by student, who must find and work with faculty advisor before enrolling. Also subject to advanced approval by departmental committee. Repeatable up to four credits. A-F only. Pre: senior standing and 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 565 Western Music History Review (3) Online course surveys representative composers, musical styles, and genres from the Western tradition. Repeatable one time. Pre: graduate standing and consent or departmental approval.

MUS 600 (Alpha) Seminar (3) Selected problems in (B) composition; (C) ethnomusicology; (D) music literature; (E) performance repertory; (F) music education; (H) theory from the Western tradition. Pre: graduate standing or consent; also 661 for (D) and (E).

MUS 601 Advanced Topics in Music (V) Advanced topics in history, literature, theory, applied music, music education, and ethnomusicology; some in intensive modular format. Repeatable nine times. Pre: appropriate lower division music courses or consent and graduate standing.

MUS 651 Foundations of Music Education (3) Music and music education in their philosophic, aesthetic, social, historical, and psychological dimensions. 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 music service, 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 concurrent).

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 alphabets. Pre: 661 or consent.

MUS 661 Bibliography and Library Resources in Music (3) Basic materials and techniques; includes retrieval techniques from online computer catalog. Pre: graduate standing or consent.

MUS 670 (Alpha) Regional Music (3) Musical content and historicosocial 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; (D) other. Pre: consent.

MUS 680 (Alpha) Studies in Music Theory (3) (B) stylistic counterpoint from 1700; (C) stylistic counterpoint from 1700; (D) advanced analysis; (E) comparative theory; (F) history of theory; (G) contemporary techniques and resources; (H) atonal analysis and set theory; (I) Schenkerian analysis. Pre: 286 and graduate standing.

MUS 687 Masters Composition Practicum (3) Original composition in all forms. Masters-level composition students only. Repeatable five times. Pre: consent.

MUS 695 Plan B Master’s Project in Music Education (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. A-F only. Pre: graduate standing in music education or consent.

MUS 699 Directed Work (V) Reading and research in ethnomusicology, musiology, music education; reading and practice in theory, composition, or performance. Pre: consent of chair and department chair.

MUS 700 Thesis Research (V)

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 alphabets. 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. 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/adults; (D) major issues. 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 (V) Pre: candidacy for PhD degree and consent of dissertation chair. APPLIED MUSIC:

MUS 801 Research (V) For information on sections, requirements, and costs, consult the music department. Instruction 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 or more credit hours). Lessons are not made up unless instructor is notified a reasonable time in advance of the excused absence. Registration for lessons and choice of teachers must be approved by the department. 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/NC.

MUS 230 (Alpha) Elementary Applied Music, Ethnic (V) Instruction in instrumental performance
at elementary level. Study of works representative of literature. (B) koto; (C) shamisen; (E) Hawaiian chant; (F) shakuhachi; (I) other. Repeatable for four semesters. Pre: audition or consent.

MUS 231 (Alpha) Applied Music, Western (I) For nonmajors or music majors in secondary performance fields. Individual instruction in solo vocal or instrumental performance at first level. Representative works. Weekly repertoire 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 eight semesters. Pre: audition or consent.

MUS 232 (Alpha) Applied Music, Western (V) For music majors or intended majors. Individual instruction in solo vocal or instrumental performance at first level. Representative works. Weekly repertoire laboratory required. Full recital required to complete junior level. See 231 for list of sections. Repeatable for six semesters. Pre: advancement from 231 or consent.


MUS 331 (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. See 231 for list of sections. Repeatable for six semesters. Pre: advancement from 231 or consent.

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. See 232 for list of sections. Repeatable for three semesters. 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. See 232 for list of sections. Repeatable for three semesters. Pre: two semesters of 332 and advancement by board examination.

MUS 635 (Alpha) Graduate-Level Applied Music (3) For students accepted for MMus in performance. Individual instruction in solo vocal or instrumental performance at graduate level. Representative works. Weekly repertoire laboratory required. Full recital required for completion of this performance level. See 232 for list of sections. Repeatable for three semesters. Pre: two semesters of 332 and advancement by board examination.

Natural Resources and Environmental Management (NREM)

NREM 203 Applied Calculus for Management, Life Sciences, and Human Resources (3) (2 Lec, 1 3-hr Lab) Applications of calculus (limits, 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.

NREM 210 Introduction to Environmental Science (3) Analysis with emphasis on understanding relationships and interactions of physical, biological, technological, and political components using scientific methods of inquiry. Food supply and safety, water quality, pollution control, biodiversity, environmental policy. Open to nonmajors. (Cross-listed as PEP5 210)

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 resource endowments, especially in produce agriculture, is included. A-F only.

NREM 301 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, coasts and wildlife. A-F only. Pre: 210, CHEM 151 or higher, BIOL 172; or consent. (Spring only) DB

NREM 301L Natural Resources Management Lab (1) (3-hr Lab) Laboratory and field methods covering biological and physical principles and concepts in natural resource management. Emphasis on basic field measurement techniques and computer skills commonly used in managing natural resources. A-F only. Co-requisite: 301.

NREM 302 Natural Resource and Environmental Policy (3) Introduction to American government policy in natural resources and environmental protection at federal, Hawaii’s state and country levels. Policy principles, legal structure, governmental agencies, major statutes and programs, analytical techniques, program assessment. A-F only. Pre: 210 or (BIOL 101 or higher) or GEOG 101 or (GG 101 or higher); and 220 or one ECON course or two DS courses.

NREM 304 Fundamentals of Soil Science (4) (3 Lec, 1-3-hr Lab) Origin, development, properties, management of tropical soils; classification of Hawaiian soils. A-F only. Pre: one of CHEM 151, CHEM 161, CHEM 171 or CHEM 181A; or consent. (Fall only) (Cross-listed as TPSS 304) DP DY

NREM 310 Statistics in Agriculture and Human Resources (3) Theory, applications, and presentation of statistical reasoning, descriptive methods, probability, and inferential reasoning for one-variable 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, or consent. (Cross-listed as TPSS 311)

NREM 341 Accounting and Financial Analysis (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: 220 or ECON 130 or consent. (Cross-listed as TPSS 341) DS

NREM 351 Enterprise Management (3) Introduction of practical concepts and methods used in business management. Introduction of 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 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’s and the Pacific Basin. The role of traditional land use, pressures from regional and global development, and efforts to create sustainable, diverse systems for rural communities will be explored. 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 on advanced study. Pre: consent.

NREM 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 management. Pre: two social science courses or consent. (Fall only) DS
NREM 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.

NREM 600 Evaluation of Natural Resource Management (3) Critical evaluation of natural resource management approaches. Emphasis on the physical, chemical, and biological aspects within an environmental context. Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 601 Economic Analysis of Natural Resource Management (3) Lecture/discussion providing an economic framework for assessing natural resource management and environmental policies. Use of case studies to demonstrate applications of the framework in selected subject areas. (Spring only) Pre: one ECON course.

NREM 605 Research Skills (2) Assists the student in developing skills necessary to write a research grant and design a research proposal. NREM majors only. A-F only. (Fall only)

NREM 611 Resource and Environmental Policy (3) Exploration of institutional and policy dimensions of natural resource development, management, allocation, market and pricing, focusing on their environmental impacts. Emphasis on policy analysis using case studies and empirical findings. Graduate standing. Pre: 203 or (equivalent) and NREM/TPSS 304 (or equivalent), or consent. (Alt. yrs) (Cross-listed as TPSS 463)

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 and 304 (or equivalent) and 600. Recommended 461, or consent. (Fall only)

NREM 627 Applied Microeconomic Analysis (3) Economic applications to the agricultural and non-agricultural 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: AERC 626 and ECON 627, or consent.

NREM 631 Sustainable Agriculture Seminar (2) 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, FSS 652, and TPSS 652)

NREM 660 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: CEE 624 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 occurring on small islands watersheds. Pre: 205 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 characterization and simulation of small watershed hydraulic and pollutant transport processes. Pre: CEE 424 (or concurrent) or GE 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 perturbations and management strategies will also be discussed. Pre: advanced undergraduate coursework in hydrology, soils, and ecosystems ecology recommended. (Alt. yrs)

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 consortiums, 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 151), one calculus course (e.g. 203), and one statistics course (e.g. 310), or consent. Recommended: either GEOG 461 or 467 1 credit introductory remote sensing course. (Alt. yrs)

NREM 680 Ecosystem Ecology (4) (2 Lec, 1 3-hr Lab) Principles of ecosystem 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. yrs: spring)

NREM 682 Restoration Ecology (3) Graduate seminar on foundations of restoration ecology, application of ecological theory to restoration practice. Emphasis on restoration of structure and function in degraded terrestrial ecosystems 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. yrs)

NREM 685 Landscape Ecology (3) Focuses on the history, theories, and contemporary views of landscapes; including scale, land cover, landscape metrics, disturbance regimes, land management, landscape change, the relationship of landscapes to species, and modeling. Pre: graduate students, or consent. (Alt. yrs)

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 faculty or for extension programs. Repeatable five times up to four credits. A-F only. Pre: consent.

NREM 699 Directed Research (V) Repeatable up to four credits. Pre: senior standing and consent.
NURS 310 Psychosocial Concepts in Health Care (3) Extensive training and application of communication and therapeutic interviewing skills. Focus on self reflection, professionalism, therapeutic use of self, interpersonal relationships, cultural appropriateness, and psychosocial aspects of health care. Pre: admission to the School of Nursing and Dental Hygiene or consent. Co-require: 330.

NURS 311 Pathophysiological Nursing Concepts (3) Pathophysiological basis of altered health as a foundation for planning nursing care. Application of concepts from microbiology, chemistry, anatomy, physiology, and psychology. Restricted to majors. Pre: 330 or consent.

NURS 320 Health and Illness II: Family Health (10) Nursing care and health promotion for mater-nal-newborn and pediatric clients and families in the acute care and community settings. Utilization of family theories and assessment tools when providing culturally sensitive, client-centered care. Repeatable one time. NURS majors only. A-F only. Pre: 320 or departmental approval.

NURS 330 Professional Nursing I (2) Concepts/ theories of health assessment; data collection and analysis used to establish a diagnosis and deviations in health. Attention to principles of communication and interviewing. Introduction to professional nursing. Pre: admission to the School of Nursing and Dental Hygiene or consent. Co-require: 310, 330L.

NURS 330L Professional Nursing I Lab (2) Application of assessment skills in dry lab and clinical settings; communication skills, interviewing tech-niques, and physical examination skills. A-F only. Pre: admission to the School of Nursing and Dental Hygiene or consent. Co-require: 310, 330.

NURS 331 Professional Nursing II (2) Introduction to nursing as a practice profession and the use of the nursing process and nursing interventions to meet basic human needs. Pre: 310, 330, 330L. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-require: 311, 331L.

NURS 331L Professional Nursing II Lab (3) Application of the nursing process involving care of clients with common health problems in the acute care setting. Pre: 310, 330, 330L. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-require: 311, 331L.

NURS 340 Contemporary Ethical Issues in Health Care (3) Explore contemporary ethical issues and their legal implications in health care. Focus on decision-making in professional practice and social policy formation. Pre: open to non-nursing majors with consent.

NURS 341 Alternative Nursing Interventions (3) Alternative nursing interventions in providing care for individuals, families, and groups. Pre: open to non-nursing majors with consent.

NURS 343 Gerontology: Its Nursing Implications (3) Explores attitudes toward the aged, biologi-cal and psychological aspects, ethnicity, sexuality, nutritional problems, community resources, other related topics. Pre: open to non-nursing majors with consent.

NURS 344 Nursing in the Multicultural Milieu (3) Values, beliefs, attitudes, family organiza-tion, lifestyles, and health for different ethnic groups to health-care and nursing practice. Pre: open to non-nursing majors with consent.

NURS 360 Health and Illness II (9) Focuses on complex situations requiring strong recognition skills, and rapid decision making. The evidence base supporting assessment and nursing intervention is explored. Case scenarios are used to provide a basis for planning nursing care. Repeatable one time. NURS majors only. A-F only. Pre: 320 or departmental approval. Co-require: 362.

NURS 361 Health Education and Promotion (2) Provides an overview of the concepts and application of health education and health promotion theories and principles as applied to individuals, groups, and the larger public. Pre: open to non-nursing majors with consent. (Fall only) (Cross-listed as DH 361)

NURS 362 Professionalism in Nursing II (1) Continuation of 211. Focus is on current issues in nursing and health care and nursing roles. Principles of organizational structure, leadership, decision-making, priority setting, and change will be discussed. Repeatable one time. NURS majors only. A-F only. Pre: 320 or departmental approval. Co-require: 360.

NURS 363 Introduction to Nursing Research (3) Introduction to the research process and an understanding of the applicability of the scientific approach to nursing. Repeatable one time. NURS majors only. A-F only. Pre: any of the following courses: MATH 115, PSY 210, SOCS 22, BUS 310, NREM 310, ECON 321, and EDEP 429; or consent.

NURS 370 Adult Health Nursing I (2) Examination of human responses to commonly occurring adult health problems across acute and community settings. Pre: 311, 331, 331L; or consent. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-require: 370L.

NURS 370L Adult Health Nursing I Lab (3) Application of the nursing process in the care of clients with commonly occurring adult health problems across acute and community settings. Pre: 311 and 331L. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-require: 370L.

NURS 371 Psychiatric–Mental Health Nursing (3) Examination of human responses to psychiatric and mental illness in relation to physiological, psycho-logic, social, cultural and environmental concepts. Emphasis on self-awareness, therapeutic communica-tion and health-related outcomes. Pre: 331L; or consent. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-require: 371L.

NURS 371L Psychiatric-Mental Health Nursing Lab (2) Application of the nursing process involving human responses to psychiatric and mental illness. Emphasizes self-awareness, therapeutic communic-ation and health-related outcomes. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Pre: 331L and 371L; or consent. Co-require: 371.

NURS 372 Maternal Newborn Nursing (2) Examination of human responses to childbearing and the nursing practice for that experience. Focuses on health promotion and the maintenance of the child-bearings family. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Pre: 370L, 370L, and 371L.

NURS 372L Maternal Newborn Nursing Lab (3) Application of clinical knowledge to the care of the childbearing client and family across acute and community settings. Emphasis on health promotion and maintenance of the childbearing family. All required...
courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Pre: 372/372L and 373/373L and 441 (or concurrent), or consent. Co-requisite: 471L.

NURS 471L Community Health Nursing Lab (3) Application of community health nursing concepts in managing and/or delivering care in homes and various community sites to populations at risk of or in compromised health. A-F only. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Pre: 372/372L, 373/373L and FSHN 475; or consent. Co-requisite: 471L.

NURS 475 Complex Nursing Practice (2) Examination of continuity of care for clients with complex needs within the health care system. Emphasis on quality and case management. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Pre: 441 and 471/471L; or consent. Co-requisites: 439 and 475L.

NURS 475L Complex Nursing Practice Lab (5) Delivery of comprehensive nursing care to clients with complex needs in community and/or acute care settings. Emphasis on quality management, continuity of care, culture, and ethics. A-F only. Pre: 441 and 471/471L. All required courses scheduled within the full-time or decelerated curriculum plan for a given semester must be successfully completed with credit before progressing to the following semester. Co-requisite: 439 and 475L.

NURS 486 Professional Issues and Trends (2) Opportunity to study issues in nursing within the context of health-care system and changing society. Aspects of nursing history; professionalism; credentialing; legal and ethics issues. Pre: 441.

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. A-F only. Pre: admission into MEPN. Co-requisite: 502, 503, 504, 504L, 505, 505L. (Once a year)

NURS 502 Pathophysiology (3) Web-enhanced on pathophysiological concepts as a basis of illness 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. A-F only. Pre: admission into MEPN. Co-requisite: 501, 503, 504, 504L, 505, 505L. (Once a year)

NURS 503 Pharmacology for Nursing Practice (3) Essential principles of pharmacology using a pathophysiologic approach with emphasis on administering medications and evaluating their effects. NURS majors only. A-F only. Pre: admission into MEPN. Co-requisite: 502, 503, 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. Attention to principles of communication and interviewing. NURS majors only. A-F only. Pre: admission into MEPN. Co-requisite: 502, 503, 504, 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. A-F only. Pre: admission into MEPN. Co-requisite: 502, 503, 504, 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. A-F only. Pre: admission into MEPN. Co-requisite: 501, 502, 503, 504, 504L, 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. CR/NC only. Pre: admission into MEPN. Co-requisite: 501, 502, 503, 504, 504L, 505. (Once a year)

NURS 506 Introduction to Health Policy (1) Provides students with a basic understanding of the healthcare system in the U.S. and knowledge regarding what drives health policy and how it is developed and implemented. NURS majors only. A-F only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 507, 507L, 508, 508L, 509, 509L, 510, 511, 512. (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 related to nursing care, psychiatric treatment/psychosocial rehabilitation of identified mentally ill adults/children and families. NURS majors only. A-F only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507L, 508, 508L, 509, 509L, 510, 511, 512. (Once a year)

NURS 507L Bio-Behavioral Health Nursing Clinic/Lab (3) Application of current knowledge regarding human behavior related to function, alteration, and/or disruption of mental processes; applies current knowledge related to nursing care, psychiatric treatment/psychosocial rehabilitation of identified mentally ill adults/children and their families. NURS majors only. CR/NC only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507, 508, 508L, 509, 509L, 510, 511, 512. (Once a year)

NURS 508 Nursing Care of Childbearing Fami- lies (2) Introduction to the theoretical concepts of holistic nursing care of the perinatal family. Women’s and men’s health issues are discussed. NURS majors only. A-F only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507, 507L, 508, 509, 509L, 510, 511, 512. (Once a year)

NURS 508L Nursing Care of Childbearing Fami- lies Clinic/Lab (3) 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. CR/ NC only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507, 507L, 508, 509, 509L, 510, 511, 512. (Once a year)

NURS 509 Nursing Care of Children and Fami- lies (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. A-F only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507, 507L, 508, 508L, 509L, 510, 511, 512. (Once a year)

NURS 509L Nursing Care of Children and Families Clinic/Lab (3) Prepares students for working with children and families. NURS majors only. CR/NC only. Pre: 501, 502, 503, 504, 504L, 505, 505L; or consent. Co-requisite: 506, 507, 507L, 508, 508L, 509, 509L, 510, 511, 512. (Once a year)

NURS 510 Ethics and Issues in Nursing (1) Provides an understanding of the basic healthcare ethics and will examine the role of the nurse in setting that

NURS 512 Pathophysiology for Advanced Practice (3) Provides an understanding of normal physiological and pathological processes to serve as a foundation for clinical assessment, decision making, and clinical management across the lifespan. Pre: enrollment as a classified student in a graduate program in the SONDH. CR/NC only. Co-requisite: 612L, 613.

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 Policy (3) Review of contemporary national health policies, issues and concerns; and international comparison of health policy evolution; includes didactic and 45 hours of fieldwork experience learning.


NURS 612 Advanced Assessment and Clinical Reasoning (2) Provides a framework for the development of advanced skills for systematic and comprehensive data collection, organization, precise recording, accurate assessment and communication of data reflecting the biopsychophysical status of individuals across the lifespan. Pre: enrollment as a classified student in a MS degree program in NURS. Co-requisite: 613.

NURS 613L Advanced Assessment and Clinical Reasoning Lab (1) Provides a theoretical basis required for special advanced practice psychiatric-mental health nursing of children and adolescents. Topics include: identification and synthesis of pertinent biopsychosocial and cultural data to complete advanced psychiatric-mental health assessments and diagnoses.

NURS 615 Therapeutic Modalities (3) Focuses on the analysis of evidence, knowledge and skills in the use of therapeutic modalities used in advanced practice psychiatric-mental health nursing of children and adolescents. Topics include: a study of the theoretical rationale of therapeutic modalities used in psychiatric-mental health nursing of children and adolescents. Pre: enrollment as a classified student in a MS degree program in NURS. CR/NC only. Co-requisite: 612L, 613.

NURS 616L 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. A-F only. 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 620 Nursing Research and Theory for Practice (3) Emphasis on theory and the research process to prepare masters prepared nurses for utilization of knowledge for provision of quality care. Pre: enrollment as a classified student in the graduate degree program in NURS. CR/NC only. Co-requisite: 612L, 613, and 629.

NURS 621 Acute and Episodic Care Management (3) (Previously offered as NURS 669) Focuses on the management of acute and episodic health care services in the home, emergency setting, and in the community. Emphasis is on the development of management skills for the delivery of care services in the home, emergency setting, and in the community. Pre: consent.

NURS 622 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 major, 612L/612L, and 633, and 634, and 3 credits of 675; or consent. Co-requisite: 675.

NURS 624 Adolescent and Family Psychiatric-Mental Health Care (3) Seminar on theory/research in advanced psychiatric-mental health nursing of adolescents and families representing diverse populations. Emphasis on developmental 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 fieldwork experience. A-F only.

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 major, 612L/612L, and 633, and 634, and 3 credits of 675; or consent. Co-requisite: 675.

NURS 629 Pharmacology for Nurses in Advanced Practice (3) Prepares nurses in advanced practice to monitor, review, renew, and prescribe medications by applying principles of pharmacokinetiques, pharmacodynamics, and pharmacotherapeutics of specific drugs used in the care of common disorders. Enrollment as a classified student in a SONDH graduate degree program. Repeatable unlimited times. Pre: 613 (or concurrent) or consent.

NURS 630 Information Systems in Healthcare (3) Introduces information systems in health care as pertaining to nursing and health care. Demonstrate competency in the use of nursing and health information systems in clinical practice.

NURS 632 Therapeutic Modalities (3) Therapeutic modalities used in advanced practice psychiatric-mental health nursing with individuals, families, and groups representing culturally diverse populations. Pre: 611.

NURS 633 Child Health: Promotion and Maintenance (3) Provides 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 634 Child Health: Advanced Pediatric Acute/Chronic Care (3) Focuses on the evaluation of pediatric clients with higher acuity and more complex management issues. Emphasizes critical analysis of evidence based research in pediatric health care. Pre: Admission into the PNP and FNP program, 612L/612L, 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. Pre: 612/612L, 613, and 629. Co-requisite: 675.

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 emergence of nursing as a discipline.


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 times. Pre: 611 (or concurrent). Co-requisite: 611 or 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 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 Tests 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. (1) current issues in professional nursing. Pre: 661 Human Resource Management in Healthcare (3) An introduction to human resource management as it applies to health care agencies. A-F only. Pre: consent.

NURS 662 Management and Leadership in Healthcare Organizations (3) Study of theoretical, conceptual and practical knowledge of leadership and management as applied to changing healthcare environments.

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 664 Seminar and Practicum in Nursing Administration (3) A seminar course in clinical systems management for the nursing administrator. Pre: 663 (or concurrent) or consent.


NURS 668 Community Based Participatory Research (CBPR) for Advanced Practice Nurses (3) Online course focuses on use of CBPR methods by Advanced Practice Nurses to address population level issues amenable to nursing interventions; 15 hours of didactic and 90 hours of field experience are included. A-F only. (Once a year)

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. (Once a year)

NURS 671 Biostatistics Application in the Advanced Nursing Practice Setting (3) Provides the APRN student with an ability to understand and utilize biostatistics in the community/public health practice setting. NURS majors only. A-F only. Pre: graduate standing in the Department of Nursing or consent. (Once a year)

NURS 672 Advanced Practice Community Public Health Nursing Practicum (V) Student will conduct a complex service project for a public or community based agency. May be taken for 1-6 credits. (45 hours of practicum experience awarded for each one credit of the course) Repeatable one time. A-F only. Pre: 24 credits of MS in Community Public Health Nursing Program or consent.


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 Healing Practices of Native Hawaiian and Other Pacific Islanders (3) Teaching and learning concepts applied to health promotion and the common conditions of disease among Native Hawaiians and other Pacific Islanders; includes didactic and 45 hours of field experience. NURS majors only. A-F only. Pre: graduate standing in NURS or consent. (Spring only)

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 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: 612L (or concurrent), 613L (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 promotion of successful aging among elder residents of the Pacific Basin and applications to primary health care. Pre: consent.

NURS 696 Nursing Education Capstone (3) A culminating experience in nursing education program designed for students to integrate, critique, extend, and apply knowledge gained in the program. NURS majors only. A-F only. Pre: consent. (Spring only)

NURS 699 Directed Study or Research (V) Directed study of problems related to nursing theory and practice. Pre: consent.


NURS 721 Instrument Development and Evaluation in Research (3) Theory of testing and evaluation applied to nursing research in culturally diverse populations. NURS majors only. A-F only. Pre: consent. (Once a year)

NURS 733 Care of Populations (3) Focuses on population based primary healthcare. Emphasizes of selected population groups in the community are examined with an emphasis on building community competence to address unmet needs; 45 hours of field work experience included.

NURS 739 Advanced Nursing Science (3) Provides opportunities to know and practice the process of theory development in nursing and to test concepts, relationships, and models about health behavior in culturally diverse populations.

NURS 741 Quantitative Methods and Measures (3) Critical analysis of quantitative research methods used to analyze problems of interest to nursing in culturally diverse populations. Repeatable three times. Pre: 620 or equivalent course and an advanced statistics course; or consent.

NURS 742 Qualitative Methods I (3) Introduction to qualitative research methods in the development of nursing disciplinary knowledge related to culturally diverse populations. Pre: 620 or consent.

NURS 743 Qualitative Methods II (3) Advanced in-depth exploration of the data collection, data analysis and methodological issues in the qualitative research traditions (ethnography, grounded theory, phenomenology and critical theory) used in nursing research. NURS majors only. A-F only. Pre: 742 (or equivalent) or consent. (Once a year)

NURS 744 Seminar on Women and Health (3) Women’s health and the role of women health professionals. Current literature and research regarding attitudes, roles, rights, and health care. Pre: consent. (Cross-listed as SW 776)

NURS 745 Creative Learning Strategies for Adults (3) Analysis of forces that affect adult learners. Concepts of lifelong learning and the development of creative strategies that assist maturing, self-directed persons to develop their potentialities. NURS majors only. (Cross-listed as EDEA 745 and EDEP 745)

NURS 747 Curriculum Development (3) Current theories, issues, and trends of curriculum development in nursing. Application and critiques of related research. NURS majors only.

NURS 748 Supervised Practicum in Teaching (V) Supervised experience in instructional planning and teaching. Repeatable up to 10 credits. NURS majors only. Pre: 747 (or concurrent) or consent.

NURS 751 Concept Development and Analysis (3) First course offering in-depth analysis of specific concepts and theoretical formulations of nursing and other disciplines pertinent to the student’s area of research interest. Addresses human responses to health in culturally diverse populations.

NURS 752 Advanced Statistics I (3) Advanced application of general linear model theory to analyze complex problems of interest to nursing in culturally diverse populations. NURS majors only. A-F only. Pre: 741 (or equivalent) or consent. Once a year.

NURS 753 Advanced Statistics II (3) Advanced application of multivariate statistics to analyze complex problems of interest to nursing in culturally diverse populations. A-F only. Pre: 752 or equivalent courses, or consent. Once a year.

NURS 767 Culturally Competent Research Methods (3) Analysis of concepts, issues, and methods in conducting culturally competent research in the health field. Pre: graduate methods course or consent.

NURS 768 Advanced Clinical Economics and Finance (3) Theory and practice of financial management to achieve high quality and cost effectiveness in healthcare. Hybrid course which combines face-to-face with online learning. NURS majors only. A-F only. Pre: 665; no concurrent. (Spring only)

NURS 774 Best Practices in Healthcare Management (3) Examination of quality of health care, the process of managing health-care outcomes and costs in the delivery of care through the interdiscipli- nary process. Pre: 664 and 774 (or concurrent) or consent.

NURS 777 Nursing Research Practicum (3) Directed research experience providing opportunity to gain mastery of research skills and techniques.
through participation in faculty research. Repeatable one time. Pre: 741, 742, 751 and a quantitative methods course.

NURS 796 Grant Writing and Grant Management (3) Designed to introduce students to grants, grant writing, and grant management. Combined lecture discussion, seminar, and exercises on grants, grant writing, and grant management for health sciences. Open to NURS students only, with others approval. Repeatable one time. NURS majors only. Pre: instructor consent.

NURS 797 (Alpha) Exploration in Public Health (V) Investigation of emergent fields of inquiry in public health. Repeatable up to three credits.


Obstetrics and Gynecology (OBGN)

School of Medicine

OBGN 532 Obstetrics and Gynecology Longitudinal Clerkship (5) Year-long clerkship in outpatient setting, covering assessment, diagnosis, treatment, and/or management of common gynecologic problems and normal and complicated pregnancies. Emphasis on prevention and health maintenance. Repeatable two times. CR/NC only. Pre: third-year standing, and concurrent registration in 532 courses.

OBGN 545 (Alpha) Unit VII Electives in OB/GYN (V) Opportunities for advanced study of selected topics. (B) labor and delivery; (C) outpatient clinic at Queen’s; (D) Sub-internship in family planning; (E) high-risk OB; (F) endocrinology; (G) oncology; (H) topics with individual preceptor; (I) extramural electives; (J) urogynecology and pelvic reconstructive surgery. Repeatable twice for each alpha. CR/NC only. Pre: 531 or 532.

OBGN 599 Directed Reading/Research (3) Pre: consent.

Ocean and Earth Science and Technology (OEST)

School of Ocean and Earth Science and Technology

The following courses are not part of a specified degree program. These courses are highly interdisciplinary in nature, drawing on faculty expertise and departmental courses.

OEST 350 Ethics in Scientific Research (1) Introduction to issues of ethics in scientific research and scientific misconduct. GG, GES or MET majors only. (Spring only)

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

OEST 510 Earth Sciences Professional Development Education (V) Specialized Earth Science topics workshops designed for in-service teachers who wish to learn new approaches and content areas in geology and geophysics, meteorology and oceanography. Repeatable up to 12 credits. Credits earned cannot be applied for graduate degrees.

OEST 696 Communicating Ocean Sciences (3) Application of current learning theory and pedagogical practices in formal and informal learning environments to improve communication and instructional skills. Graduate students from multiple science disciplines welcome. Requires knowledge of biology, earth sciences, and/or chemistry. Pre: at least one course in introductory biology, geology, earth science, chemistry or marine science, an interest in ocean science, and enthusiasm for teaching science; or consent. (Spring only)

OEST 699 Directed Reading/Research (V) Selected interdisciplinary ocean/earth-related topics involving science, technology, engineering, and/or policy. Pre: consent.

OEST 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 role of scientific knowledge in managing marine and coastal resources. Repeatable one time. Pre: OCN 331, GEOG 455, or consent. (Cross-listed as SOCS 735)

Ocean and Resources Engineering (ORE)

School of Ocean and Earth Science and Technology

A grade of B- or better is required in all prerequisite courses, except 330, which requires a grade of C- or better.

ORE 202 Ocean Technology—Man in the Sea (3) Survey of human activities in the ocean, from the most traditional to the most innovative technical and engineering accomplishments. DP

ORE 330 Mineral and Energy Resources (3) Hard mineral and petroleum origins, exploration and exploitation. Renewable and non-renewable resources. Pre: OCN 331, GEOG 455, or consent. (Cross-listed as OCN 330)

ORE 411 Buoyancy and Stability (3) Shipnomencature and geometry, hydrostatic principles of surface ships and underwater vehicles in free-floating, partially waterborne, and damaged conditions. Subdivision of ships. Launching. Pre: CEE 270 or equivalent. DP

ORE 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B candidate and consent.

ORE 601 Ocean and Resources Engineering Laboratory (3) Instrumentation, data collection, and evaluation of an engineering system. Laboratory and field experience and data analysis supplemented with appropriate theory. Pre: 603 and 607, or consent.

ORE 603 Oceanography for Ocean Engineers (3) Physical, chemical, biological, and geological ocean environments and exploration. Introduction to ocean dynamical processes and general circulation. Ocean measurement techniques, theory of underwater acoustics. Sonar, swath bathymetry, and tomography applications. Pre: consent.

ORE 607 Water Wave Mechanics (3) Governing equations in free surface flow, deterministic and probabilistic wave theories, wave transformation, wave-induced coastal currents, tides, ocean engineering operational sea state, and design wave criteria. Pre: consent.

ORE 608 Probability and Statistics for Ocean Engineers (3) Probability and statistical analysis including distributions, multiple regression and correlation, autocovariance, cross-spectra, and practical applications in ocean engineering. Pre: 607 or consent.


ORE 612 Dynamics of Ocean Structures (3) Response of floating platforms and vessels to wave action, spectral analysis in sea keeping. Frequency and time domain analyses of rigid body motions in six degrees of freedom. Pre: 411 or consent. Co-requisite: 609 or consent.

ORE 630 Structural Analysis in Ocean Engineering (3) Structural and finite element analyses and design of ocean structures to withstand hydrostatic and hydrodynamic loading of the sea. Considerations include material type, safety factor, stress concentration, and fatigue. Pre: consent. Co-requisite: 411.

ORE 641 Environmental Fluid Dynamics (3) Fluid dynamics for coastal and estuarine environments. Turbulent mixing processes in homogeneous and stratified fluids. Buoyancy driven flows, internal hydraulics, topographic effects and estuarine circulation. Spill and pollutant dispersal. Pre: 603 or consent.

ORE 654 Applications in Ocean Acoustics (3) Using sound to observe the ocean. Fundamentals of propagation, Topics include marine mammals, navigation and communication, seismics, ships, wind and rain, ocean dynamics, flow and biological imaging and measurement, seafloor mapping, and the forward/reverse problem. Pre: consent. (Once a year)

ORE 661 Coastal and Harbor Engineering (3) Planning and design of seawalls, groins, jetties, breakwaters, and layout of ports. Design requirements for harbor entrances and channels. Littoral drift and sedimentation problems. Navigation and mooring requirements. Pre: 607 or consent.

ORE 664 Nearshore Processes and Sediment Transport (3) Sediment transport by waves and currents. Coastal areas are morphologically dynamic processes. Effect of man-made structures on littoral drift and shoreline. Pre: 607 or consent.

ORE 677 Marine Renewable Energy (3) Ocean thermal energy conversion (OTEC) systems: applicability, thermodynamics, design challenges; wave energy converters: floating devices, oscillating water column, optimal hydromodynamic performance; current, tidal, and offshore wind power. Pre: 607; basic knowledge of thermodynamics desirable.

ORE 678 Marine Mineral Resources Engineering (3) Activities in marine minerals development are examined in a multidisciplinary systems approach involving engineering, Earth and environmental sciences and economics. Pre: graduate standing consent.

ORE 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. Pre: master’s candidacy in ORE.

ORE 699 Directed Reading or Research (V) Pre: graduate standing and consent.

ORE 700 Thesis Research (V) Pre: candidacy for MS in Ocean and Resources Engineering.

Analytical techniques necessary will be developed as course progresses. Prereq: 607 with a B- grade.


ORE 783 (Alpha) Capstone Design Project (3) Major design experience based on knowledge and skills acquired in earlier coursework and incorporating realistic constraints that include economic, environmental, ethical, social, and liability considerations. Emphasis is placed on teamwork and consultant-client relationship. (B) coastal engineering; (C) offshore engineering; (D) ocean resources engineering. Prereq: 411, 601, 603, or 607; or consent.

ORE 791 Special Topics in Ocean and Resources Engineering (V) Content will reflect special interests of visiting and permanent faculty. Prereq: consent.

ORE 792 Seminar in Ocean and Resources Engineering (1) Attendance at 15 approved seminars is required along with submission of notes.

ORE 800 Dissertation Research (V) Prereq: candidacy for PhD in ocean and resources engineering.

Oceanography (OCN)

School of Ocean and Earth Science and Technology

The minimum required grade for undergraduate prerequisites is a C (2.0) or better, and graduate prerequisites is a B (3.0) or better.

OCN 100 Global Environmental Science Seminar (1) Seminar to introduce new GES majors to the research interests of GES faculty and the research facilities available within SOEST. Restricted to GES majors. Coreq: OCN 101 (Fall only)

OCN 120 Global Environmental Challenges (3) Scientific approach to evaluating human-caused environmental challenges and their potential solutions. Open to non-majors. (Spring only) DP

OCN 201 Science of the Sea (3) Structure, formation, and features of ocean basins; seawater properties and distribution of dissolved species; tides; characteristics of marine organisms; marine ecological principles; man and the sea. Field trip required. DP

OCN 201L Science of the Sea Laboratory (1.5) Experiments, computer exercises and field trips demonstrating the geological, physical, chemical and biological principles of earth and ocean sciences. A-F only. Co-requisite: 201. DP

OCN 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. Prereq: one environmentally oriented science course, or consent. (Cross-listed as MET 310 and OEST 310) DP

OCN 310L Global Environmental Change Laboratory (2) (2-hr Lab) Laboratory to supplement OCN 310. Quantitative aspects of global environmental change will be addressed through problem-solving and computer modeling. A-F only. Prereq: MATH 242, PHYS 170/170L, CHEM 161/161L, and OCN 310; or consent. Co-requisite: 310 or consent. (Fall only) DY

OCN 312 Geomathematics (3) Mathematical methods of geologic and geophysical science. Emphasis on mathematical, physical, and computational science problems using linear algebra, vector calculus, ordinary differential equations, and numerical solutions. Prereq: MATH 242 or consent. (Cross-listed as GSC 312)

OCN 315 The Role of Models in Global Environmental Science (3) Introduction to philosophy of science for those with some background in the natural sciences. Special emphasis on issues arising from the construction and use of models. Prereq: 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 PHIL 315)

OCN 320 Aquatic Pollution (3) Pollution of freshwater and marine systems by human activities. Causes, consequences, and correctives. Prereq: 201 or consent. DP

OCN 330 Mineral and Energy Resources of the Sea (3) Hard mineral and petroleum origins, exploration, and exploitation. Renewable and non-renewable resources distribution. Political and scientific cooperation in marine resource management. Prereq: OCN 201; or consent. (Cross-listed as ORE 202) or consent. DP

OCN 331 Living Resources of the Sea (3) Marine fisheries, aquaculture, and law of the sea. Principles of management of renewable resources. Political and scientific constraints and limitations. DB

OCN 363 Earth System Science Databases (3) Combined lecture, discussion, and laboratory on global Earth system databases and satellite instrumentation, including computer laboratory. A-F only. Prereq: 310/310L, and MATH 244; or consent. DP

OCN 399 Directed Reading (V) Directed reading in earth system science, oceanography, or environmental science. Repeatable up to 6 credits. Prereq: consent.

OCN 401 Biogeochemical Systems (3) Relationship of biogeochemical cycles in the atmosphere, lithosphere, and biosphere to global chemical cycles and planetary climatic conditions. GES degree foundation and capstone course. A-F only. Prereq: 201, 310/310L, or MET 310/310L or OEST 310/310L; BIOL 172/172L, CHEM 162/162L, GG 101/101L, MATH 241, MATH 243 & 252A, MATH 373 (or ECON 321), MET 200, PHYS 170/170L, and PHYS 272/272L; or consent. (Fall only) DP

OCN 403 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 biodiversity, marine biotechnology. A-F only. Prereq: 201 or MICR 161; or consent. (Spring only) (Cross-listed as MBBE 405)

OCN 423 Marine Geology (3) Sediments, structure, geophysics, geochemistry, history of ocean basins and margins. Prereq: GG 200 and GG 302, or consent. (Cross-listed as GSC 423) DP

OCN 430 Introduction to Deep-Sea Biology (3) (1.5 Lec, 1.5 Discussion) Biology and ecology of deep-sea organisms; 3 D-axes, including benthic-pelagic coupling, depth zonation, energetics, diversity, adaptations, hydrothermal vents, seamounts, abyssal plains, deep-sea resource extraction and global climate change. A-F only. Prereq: 201 and BIOI 265, or consent. (Alt. years)

OCN 435 Climate Change and Urbanization (3) The following topics will be addressed: How are cities impacted by, and impacting climate change? How do urbanization, alteration of atmospheric processes, and extreme weather events affect urban systems and populations? A-F only. Prereq: 363 or consent. (Fall only)

OCN 444 Plate Tectonics (3) (2 Lec, 1-3 Lab) Quantitative geometrical analysis techniques of plate tectonics theory; instantaneous and finite rotation poles; triple-junction analysis; plate boundary stresses. Prereq: GG 200 or consent. (Alt. years) (Cross-listed as GSC 444)

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. Prereq: ANSC 321 and ANSC 445; or BIOL 172/172L and CHEM 162L or higher. (Cross-listed as ANSC 450) DB

OCN 480 Dynamics of Marine Ecosystems: Biological-Physical Interactions in the Oceans (3) Combined lecture and discussion examining biological and physical interactions in the oceans and their impacts on the functioning of marine ecosystems. GES majors only. Prereq: MATH 201L, 310/310L, and PHYS 272/272L; or consent. (Alt. years)

OCN 490 Communication of Research Results (2) Lecture/discussion to provide instruction and experience in oral and written presentation of scientific results and material. Registration limited to GES majors in their final semester. A-F only. Prereq: 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. Prereq: consent.

OCN 499 Undergraduate Thesis (V) Directed research in which the student carries out a scientific project 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. Repeatable one time. Prereq: consent.

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. Prereq: 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. Prereq: consent.


OCN 623 Chemical Oceanography (3) Chemical processes occurring in marine waters: why they occur and how they affect oceanic environment. Prereq: 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. Prereq: consent. (Spring only)

OCN 626 Marine Microplankton Ecology (4) (3 Lec, 1-3 Lab) Distribution, abundance, and ecology of marine microplankton, including bacteria, algae, and protozoans, with an emphasis on metabolic rates and processes. Prereq: consent. (Fall only)

OCN 627 Ecology of Pelagic Marine Animals (4) (3 Lec, 1-3 Lab) Ecology of pelagic animals including feeding, energetics, predation, and antipredation tactics. Life-history strategies, vertical flux of materials, population dynamics, fisheries. Prereq: consent. (Spring only)

OCN 628 Benthic Biological Oceanography (4) (3 Lec, 1-3 Lab) Processes controlling the structure and function of benthic communities, including ecological/sediment-flow interactions, sediment geochemistry, feeding strategies, recruitment, succession, and population interactions. Prereq: consent.

OCN 629 Molecular Methods in Marine Ecology (3) Molecular methods for studying marine functional ecology; emphasis on hand-on tools for ecological and biogeochemical processes, microbes; developing practical skills for research project in marine microbial ecology and biological oceanography. A-F only. Prereq: 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. Topics include benthic-pelagic coupling, depth zonation, energetics, diversity, adaptations, hydrothermal vents, seamounts, abyss-
sal plains, deep-sea resource extraction, and global climate change. Pre consent. (Alt. years)


OCN 633 Bingeochemical Methods in Oceanography (3) (1 Lec, 2-3 hr Lab) Current methods of analysis used in the ocean sciences, both in the field and in the laboratory. An ocean-going field trip provides students with hands-on training in sample collection and processing. The latter is followed by laboratory analyses of the collected samples throughout the remainder of the semester. Pre: BIOL 171 and CHEM 151 and GG 101; or equivalent.

OCN 635 Isotopic Marine Geochemistry (3) Application of stable and unstable isotope tracers in studying geochemical processes and their rates in the sea. Pre: CHEM 162, and MATH 241 or MATH 251A.

OCN 637 Aquatic Microbial Geochemistry (3) The synergy between the biogeochemistry of element cycling and the microbial organisms involved, interfacing across disciplines from the perspective of a practical blend of aquatic chemistry, microbiology, biogeochemistry, and molecular biology. Pre: 625 and consent. (Alt years: fall)

OCN 638 Earth System Science and Global Change (3) Global view of the planet and how it functions as an integrated unit. Biogeochemical processes, climate, chemistry, and cycles, and analysis of natural and human-induced environmental change. Chemical history of ocean-atmosphere-sediment system and co-evolution of the biota. Repeatable one time. Pre: BS in environmentally related science or one year of chemistry, physics, and calculus. (Cross-listed as GG 638)

OCN 640 Observational Physical Oceanography (3) Application of the scientific method; physical regimes in the ocean; ocean processes and observational strategies; resolution, sampling, array design and operating systems; models and data assimilation; major field programs; operational oceanography and climate prediction. Pre: 620 and consent.


OCN 642 Elemental Composition Changes (3) Changes in the chemical composition of meteorites, bulk Earth, Earth’s mantle and crust, sedimentary rocks, hydrosphere and biosphere, and underlying principles. Pre: consent. (Cross-listed as GG 642)

OCN 643 Topics in Marine Geochemistry (3) Seminar on a broad topic; discussion and critique of research papers. Repeatable one time. Pre: 625 or consent.

OCN 644 Sedimentary Geochemistry (3) Geochemical thermodynamics and kinetics and their use in interpreting the origin of sediments, sedimentary rocks, and natural waters over a range of pressure-temperature conditions. Pre: CHEM 171, MATH 242, PHYS 152; or consent. (Cross-listed as GG 644)

OCN 650 Math Techniques for Oceanographers (5) (3 Lec, 2-3 hr Lab) Introduction to numerical methods, data analysis, error propagation, box models, linear and nonlinear least squares, perturbation theory, numerical integration. Pre: MATH 244 or MATH 253A.

OCN 660 Ocean Waves I (3) Governing hydrodynamic equations, perturbation techniques, gravity and capillary waves, wave energy, group velocity, refraction, wave spectra, wave generation. Pre: MATH 452 or consent.

OCN 661 Ocean Waves II (3) Baroclinic gravity waves, inertial waves, mid-latitude Rossby waves, topographic waves, equatorial waves. Pre: 660 or consent.

OCN 662 Marine Hydrodynamics (3) Introduces to classical hydrodynamics and continuum mechanics techniques for solution of Navier Stokes equations on various scales of oceanic motion; potential theory, dynamic modeling, and viscous and rotational processes. Pre: MATH 403.

OCN 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 MATH 403 (or their equivalents) and either 620 or MET 600, or consent. (Alt. years) (Cross-listed as MET 665)

OCN 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 Nino/Southern Oscillation, the North Atlantic Oscillation, the Pacific Decadal Oscillation, and global climate change. Repeatable one time. Pre: 620 or MET 600, or consent. (Alt. years) (Cross-listed as MET 666)

OCN 667 Advanced Geophysical Fluid Dynamics I (3) Basic concepts and equations to describe large-scale ocean circulation; numerical models; boundary layers; models of wind-driven circulation of a homogeneous ocean. Pre: 620 and 662, or consent.

OCN 668 Advanced Geophysical Fluid Dynamics II (3) Thermodynamics of stratified fluids; convection; mixing; models of the thermohaline circulation; the role of eddies in the large-scale ocean circulation. Pre: 667 or consent.

OCN 674 Paleoceanography (3) Study of the paleoceanographic and palaeoclimatic evolution of the Earth’s oceans, atmosphere, and biosphere. Repeatable one time. Pre: consent. (Alt. years) (Cross-listed as GG 674)

OCN 680 Dynamics of Marine Ecosystems: Biological-Physical Interactions in the Oceans (3) Combined lecture/discussion examining biological and physical interactions in the oceans and their impact on the functioning of marine ecosystems. A-F only. Pre: previous course in marine science, or consent. (Alt. years)

OCN 681 Introduction to BioPhysical Ocean Modelling (3) Introduction to modeling biological and physical oceanic processes by building a coupled model of the Pacific to investigate physical effects on biological production. Students will learn biological-physical dynamics, basic numerical methods, and Matlab programming. Pre: 620, 621, or consent. (Alt. years)

OCN 699 Directed Research (V) Pre: consent. CR/NC only.


OCN 750 Topics in Biological Oceanography (V) Seminar. Literature and concepts in one of several active fields considered in detail. Up to 12 credits. Pre: consent.

OCN 760 Topics in Physical Oceanography (V) Near-shore processes, advanced mathematical techniques, recent developments, etc. Typically given by visiting professors in their specialties, or in response to student interest.

OCN 770 Seminar in Chemical Oceanography (1) OCN 780 Seminar (1) Oceanographic topics of current interest. Repeatable unlimited times.

OCN 791 Proposal Development (2) Introduction to the organization and functioning of oceanography funding agencies, the peer-review process, and the design and development of a research proposal. Repeatable one time. CR/NC only. Pre: two of the following: 621, 626, 627 (or concurrent), or 628 (or concurrent); or consent.

OCN 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.

Pacific and Asian Studies (PAS)

School of Pacific and Asian Studies

PAS 099 Overseas Study (V) Registration allows student to maintain enrolled status at UH Mânoa while taking courses abroad. CR/NC only. Pre: consent.

Pacific Islands Studies (PACS)

School of Pacific and Asian Studies

PACS 108 Pacific Worlds: An Introduction to Pacific Islands Studies (3) Team-taught combined lecture/discussion introduces students to the histories, cultures, arts and politics of Oceania using Western and Indigenous world views and ways of knowing. Students work on projects in small Waka (canoe) groups. A-F only. DS

PACS 201 Islands of Globalization (3) Combined lecture and service-learning activity examines the nature and impact of globalization on Pacific island societies, viewed from the perspective of islanders who engage with global forces and processes, and create strategies to survive. Limit 20 students. A-F only. Pre: either 108 or HWST 107, or consent.

PACS 301 Pacific Communities in Hawai‘i (3) Examines Pacific Islander communities’ experiences in Hawai‘i through service learning, reading, writing, lecture, and discussion. Concerns about housing, employment, education, health, language, and culture are central. A-F only. Pre: 108, 201, or 202 (Fall only) DS

PACS 302 Contemporary Issues in Oceania (3) Combined lecture/discussion. Examination of critical political, social, and economic issues in the Pacific Islands region today. Pre: 108 or 201 or 202, or consent. DS

PACS 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 ENG 371) DL

PAC 399 Directed Research (V) Repeatable three times.

PAC 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 350 or THEA 101. Pre: consent. (Cross-listed as DS 462) DH

PAC 492 Topics in Pacific Islands Studies (3) Repeatable two times. Pre: 491. DS

PAC 494 Culture and Consumption in Oceania (3) Lecture on changing patterns of consumption in Oceania, and the historical, political, cultural, artistic, and economic forces shaping such practices. Pre: upper division standing, or consent.

PAC 495 Encountering Tourism in Asia-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

Key to symbols & abbreviations: see the first page of this section.
Pacific Islands societies. Topics include colonial an-
tecedents, social impacts, cultural and environmental
concerns, case studies (including Hawai‘i). Pre: ASAN 201 or ASAN 202, or consent. (Cross-listed as ASAN 495) DS

PACS 500 Master’s Plan B/C Studies (1) Enrollment
for Management 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. Epistemologi-
cal, conceptual, political and ethical issues facing students of the region today. Co-requisite: 602.

PACS 602 Re/Presenting Oceania: Pacific and
American Perspectives (3) Graduate seminar. Criti-
cal analysis of the way physical, social and cultural aspects of Oceania have been represented in scholarly and popular media. Co-requisite: 601.

PACS 603 Researching Oceania: Creative and
Conventional Methods of Inquiry (3) Graduate seminar. Literacy, theory and method in the creation 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 or by Women in Oceania. Pre: consent.

PACS 690 Graduate Seminar: Change in the
Pacific (3) Independent study in change in selected Pacific Islands regions, institutions, and processes. Repeatable. Pre: consent.

PACS 695 Master’s Portfolio Project (V) Inde-
pendent study for students working on MA portfolio projects. A grade of satisfactory (S) is assigned when the project is satisfactorily completed. Repeatable one time. Pre: graduate standing in PACS.

PACS 699 Directed Reading and Research (V)

PACS 700 Thesis Research (V)

Pathology (PATH)

School of Medicine

PATH 470 Immunopathology Seminar (1) Autoimmune diseases and transplanation immunity. Pre: consent.

PATH 499 Directed Research (V) Pathology of
aging, nutrition, alcoholism, and immunology. Open to selected undergraduate students. Repeatable unlimited times. Pre: consent.

PATH 512 Unit II Concurrent Elective (1) Elec-
tive course for first-year medical students. CR/NC only. Pre: BIOM 551 and consent.

PATH 515 Unit V Concurrent Elective (1) Elec-
tive course for second-year medical students. CR/NC only. Pre: BIOM 551 and consent.

PATH 525 Unit V Block Elective (V) Required
elective for second-year medical students, objectives to be determined by contract. One option is a review of USMLE Part I. CR/NC only. Pre: BIOM 551.

PATH 541 Pathology Practicum (V) Required
autopsy experience involving dissection and micro-
scopic examination of tissues and detailed evalua-
tion of disease process. CR/NC only. Pre: three-
or fourth-year standing.

PATH 545 (Alpha) Unit VII Electives in Pathol-
ogy (V) Individualized instruction in laboratory medicine for the practicing physician, clinical and anatomic pathology; (B) advanced topics in clinical immunology; (C) anatomic pathology; (D) clinical pathology; (E) pathologic aspects of aging, nutri-
tion, and alcoholism; (F) extramural elective in pathology. Repeatable four times. CR/NC only. Pre: BIOM 551.

PATH 595 Introduction to Pathology and Lab-
oratory Medicine (1) Provides an introduction to the practice of pathology and laboratory medicine and the role pathologists and the laboratory play in the diagnosis and management of disease. MD students only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

PATH 599 Electives in Pathology (V) Individual-
ized instruction in clinical and/or anatomic pathol-

PATH 699 Directed Research (V) In-depth study of
pathology of aging, nutrition, alcoholism, and immunology. Open to medical students and selected graduate students. Pre: consent.

Peace Studies (PACE)

College of Social Sciences

PACE 247 Survey of Conflict Management (3) Survey of contemporary conflict management and resolution: negotiation, mediation, conciliation, ombuds, fact-finding, facilitation techniques, arbitra-
tion, and litigation. Pre: any social science 100- or 200-level course or consent. DH

PACE 310 Survey Peace and Conflict Studies (3) Survey of basic concepts, relationships, methods, and debates in modern peace research and conflict resolu-
tion studies. Pre: any social science 100- or 200-level course or consent. DH

PACE 340 Negotiation (3) Negotiation theory,
negotiation skills and application of negotiation in conflict prevention, conflict management and con-
fl c t resolution. Pre: any Social Science 100 or 200 level course, or consent. DH

PACE 350 Nonviolent Engagement (3) Nonviol-
cultural, evolutionary, and cross-cultural perspectives on the conditions, patterns, and processes of violence, war, nonviolence, and peace. Pre: ANTH 152. (Cross-listed as ANT H 350) DS

PACE 373 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 POLS 396) DS

PACE 399 Directed Reading (V) Directed reading in peace and conflict resolution. Repeatable three times. Pre: consent.

PACE 410 History of Peace Movements (3) Examination of two centuries of U.S., European, Australian, and Hawaiian peace, thought, and action. 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 ap-
proach to the origins, dynamics, and consequences of international terrorism, including the psychological, legal, ethical and operational concerns of counterter-
rorism. 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 science course, or consent.

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. Pre: any Social Science 100 or 200 level course, or consent.

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 100 or 200 level course, or consent. DS

PACE 485 Topics in Peace and Conflict Resolu-
tion (3) Recent issues, practices in peace and conflict resolution. Repeatable one time. Pre: any DS course, or consent. DS

PACE 495 Practicum and Internship (3) The
practicum and internship in Peace and Conflict Res-
olution provides an opportunity for students to apply the skills and concepts learned in earlier courses. Pre: any two other PACE courses or consent.

PACE 497 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 of mediation 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 effec-
tive systems integrating ADR and recent advances in dispute resolution methodology to government, health, nonprofit, educational, private sector and other institutions. Pre: 447 or 652 or MGT 660 or PL AN 627, or consent.

PACE 652 Conflict Management for Educators (3) Conflict resolution theory and practice for ad-
ministrators, faculty and staff in educational organi-
zations. 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.

PACE 668 Facilitation: Facilitating Community
and Organizational Change (3) Advanced conflict resolution course. Covers key issues in the preven-
tion, management and resolution of multiparty con-
flicts. Combined lecture, discussion, and simulations. A-F only. Pre: graduate standing, or departmental approval. (Once a year)

PACE 690 Topics in 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 (3) Practice in conflict resolution skills. Open to candi-
dates for Certificate in Conflict Resolution. Repeat-
able one time. A-F only. Pre: consent.

PACE 699 Directed Reading and Research (V) Repeatable up to 9 credits. A-F only. Pre: depart-
mental approval or consent.

Pediatri cs (PED)

School of Medicine

PED 531 7-Week Pediatric Clerkship (10) Unit VI—7-week basic pediatric clerkship. Repeatable one time. CR/NC only. Pre: BIOM 555.

PED 532 Pediatrics Longitudinal Clerkship (5) Year-long clerkship in ambulatory setting, covering evaluation, diagnosis, and treatment of childhood diseases. Emphasis on primary prevention, normal growth and development of the neonate to adoles-
cent, and arrangement of pediatric care, including outpatient, inpatient, and emergency room experi-
ences. Repeatable two times. Pre: third-year standing and concurrent registration in 532 courses.

PED 545 (Alpha) Unit VII Electives in Pediatrics (V) Fourth-year elective in pediatric sub-specialty areas in which medical students may receive clini-
ystems, focusing on synaptic chemistry and signal

PHRM 640 Neuropharmacology (2)

PHRM 201 Introduction to General Pharmacology
(2) Drugs discussed with emphasis on sites and mechanism of action, toxicity, fate, and uses of major therapeutic agents; human physiology and dental hygiene major. AF 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. AF 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 512 (Alpha) Unit II Concurrent Elective (1) Elective for first-year medical students. CR/NC only. (B) cardiovascular pharmacology; (C) topics in pharmacology. Pre: BIOM 551 and consent. (Spring only)

PHRM 513 Unit III Topics in Pharmacology (1) Elective for first-year medical students. CR/NC only. Pre: BIOM 551 and consent. (Spring only)

PHRM 514 Unit IV Topics in Pharmacology (1) Elective for second-year medical students. CR/NC only. Pre: BIOM 551 and consent. (Fall only)

PHRM 515 Unit V Topics in Pharmacology (1) Elective for second-year medical students. Repeatable six times. CR/NC only. Pre: BIOM 551 and consent. (Spring only)

PHRM 525 Review of Pharmacology (1) Elective for second-year medical students, objective to be determined by contract. One option is a review for USMLE Step 1. CR/NC only. Pre: BIOM 551. (Spring only)

PHRM 595 Principles of Pharmacology (1) Pharmacology elective course for medical students. MD students 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 of ADMET 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, organismal, 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 signal-
PHIL 330 Islamic Philosophy (3) Survey of major Islamic philosophers and schools. Pre: any course 100 or above in PHIL or ARAB, or consent. DH

PHIL 350 Indian Philosophy (3) Survey of major orthodox and heterodox systems: Vedas, Upanishads, Bhagavadgita, Vedanta, Jainism, Buddhism. Pre: any course 100 or above in PHIL or PALI or SNSK, or consent. DH

PHIL 360 Buddhist Philosophy (3) Survey of central thinkers and schools. Pre: any course 100 or above in PHIL, CHN, JPN, PALI, SNSK, or TTIB; or consent. DH

PHIL 370 Chinese Philosophy (3) Survey of important schools and thinkers in classical Chinese traditions: Confucianism, Daoism, Mohism, Legalism. Pre: any course 100 or above in PHIL or CHN; or consent. DH

PHIL 380 Japanese Philosophy (3) Survey of central thinkers and schools from ancient to modern. Pre: any course 100 or above in PHIL or JPN, or consent. DH

PHIL 399 Directed Research (V) Repeatable up to a maximum of 6 credits. Pre: consent.

PHIL 402 Introduction to Phenomenology (3) Methods of analyzing the structures of experience, as developed by Husserl, Heidegger, Merleau-Ponty, Sartre, etc. Pre: any course 200 or above in PHIL, or consent. DH

PHIL 406 Introduction to Zen (Ch'an) Buddhist Philosophy (3) Development and philosophical significance of basic precepts, explored through translations of Chinese and Japanese sources. Pre: any course 200 or above in PHIL or CHN, or consent. DH

PHIL 414 (Alpha) Western Movements and Periods (3) (B) Greek; (C) late antiquity; (D) medieval; (E) Renaissance; (F) continental rationalism; (G) British empiricism; (H) German idealism; (I) 19th century; (J) 20th century. Repeatable two times in different alphabets, not in same alphabet. Pre: any course 200 or above in PHIL, or consent. DH

PHIL 417 Philosophy in Literature (3) Philosophical themes in the literary mode in world literature. Pre: any course 200 or above in PHIL or any DL course 200 or above, or consent. DL

PHIL 418 Feminist Issues in Philosophy (3) Examination of basic feminist issues in philosophy, and of responses to them. Pre: any course 200 or above in PHIL or WS, or consent. (Cross-listed as WS 419) DH

PHIL 422 Philosophical Psychology (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) Contemporaneous 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 in ecological and environmental issues; critical analysis of eco-feminism 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 works 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.

PHIL 449 Undergraduate Capstone (3) Capstone seminar for undergraduate majors. 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 492 Philosophy with Children (3) Examines the theory and practice of doing philosophy in elementary, middle, and high school classrooms. Pre: any course 200 or above in PHIL or EDUC, or consent.

PHIL 493 Teaching Philosophy (3) Supervised work in elementary and middle schools, facilitating philosophical inquiry with students. Repeatable one time. Pre: 492 or consent.

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 611 Studies in Ethics (3) Key issues in contemporary philosophical debates about ethics. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 301.

PHIL 614 Studies in Metaphysics (3) Key issues in ontological and cosmological theory. Problems of materialism, idealism, phenomenalism, etc. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 307.

PHIL 615 Studies in Philosophy of Religion (3) Key issues in theology of religious experience, language, reasoning. Pre: graduate standing or consent. Recommended: 305.

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: 307.

PHIL 617 Studies in Hermeneutics (3) Important debates concerning the methodology of textual interpretation. Pre: graduate standing or consent.

PHIL 660 History and Theory of Science (3) Exploration of problems at the intersection of historical studies of science as a process and philosophical analysis of basic concepts of the sciences. Pre: graduate standing or consent. Recommended: 306.

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 699 Directed Research (V) Repeatable up to nine credits. Pre: graduate standing and consent.

PHIL 700 Thesis Research (V) Repeatable up to 6 credits. Pre: master’s Plan A candidate and consent.

PHIL 720 Seminar on Individual Philosophers (3) The most significant texts of an important philosopher, selected each semester. Cognate for departmental information. Repeatable three times with consent. Pre: graduate standing or consent.

PHIL 725 Seminar in Philosophical Topics (3) Close study of a topic of important philosophical controversy. Repeatable two times with consent. 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 735 Seminar on Philosophical Periods (3) Close study of a period of significant and connected philosophical activity within a philosophic 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 (or of several closely related) philosophical text in its original language (sometimes in conjunction with established translation). Repeatable two times 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 one time with consent. 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)

Physics (PHYS)

College of Natural Sciences

A grade of C (not C-) or better is required in all pre-requisite courses. Credit toward the degree is given for either 151/151L or 170/170L, and similarly for either 152/152L or 272/272L. However, the courses may come from different sequences.

PHYS 100 Survey of Physics (3) Mechanics, electricity and magnetism, waves, optics, and nuclear physics. Only algebra and geometry used. For non-science majors. DP

PHYS 100L Survey of Physics Lab (1) (3 hr lab) Hooke’s law, falling bodies, collisions, Boyle's law, electric and magnetic fields, induction, waves, optics. Pre: 100 (or concurrent). DP

PHYS 151 College Physics I (3) Non-calculus physics. Mechanics, wave motion, heat. Pre: A grade of C in MATH 140 or physics assessment. DP

PHYS 151L College Physics Lab I (1) (3 hr lab) Introduction to experimental analysis, physical observation and measurement, experiments on conservation laws, fluid friction, oscillations. Pre: 151 (or concurrent). DP

PHYS 152 College Physics II (3) Electricity, magnetism, optics, modern physics. Pre: 151. DP

Key to symbols & abbreviations: see the first page of this section.
PHYS 152L College Physics Lab II (1) (1 3-hr Lab) Optics, electric and magnetic fields, DC and AC circuitry. Pre: 151L or 170L, and 152 (or concurrent). DY

PHYS 170 General Physics I (4) Mechanics of particles and rigid bodies, wave motion, thermodynamics and kinetic theory. Pre: MATH 242 (or concurrent) or MATH 252A (or concurrent). MATH 216 may be substituted with consent. DP

PHYS 170A Honors General Physics I (4) Special format for topics: mechanics of particles and rigid bodies, wave motion, thermodynamics and kinetic theory. Pre: MATH 242 (or concurrent) or MATH 252A (or concurrent). MATH 216 may be substituted with consent. Co-requisite: 170L. DP

PHYS 170L General Physics I Lab (1) (1 3-hr Lab) Similar to 151L but at 170 level. Pre: 170 (or concurrent) or 170A (or concurrent). DY

PHYS 272 General Physics II (3) Electricity and magnetism and geometric optics. Pre: 151 or 170 and MATH 242 or MATH 252A, MATH 216 may be substituted with consent. N/DP

PHYS 272A Honors General Physics II (3) Special format for topics: electricity and magnetism and geometric optics. A-F only. Pre: 151 or 170 and MATH 242 or MATH 252A, MATH 216 may be substituted with consent. Co-requisite: 272L. N/DP

PHYS 272L General Physics II Lab (1) (1 3-hr Lab) Similar to 152L but at 272 level. Pre: 151L or 170L, and 272 (or concurrent) or 272A (or concurrent). N/DP

PHYS 274 General Physics III (3) Relativity, introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or 272 and MATH 243 (or concurrent) or MATH 253A (or concurrent); or consent. N/DP

PHYS 274L General Physics III Lab (1) (1 3-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, and 274 (or concurrent). N/DP

PHYS 305 Computer Physics (3) Analysis of physical systems and problem solving using computers and numerical methods. Pre: 152 or 272 or 272A, 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: 151 or 170 or 170A, and MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent. DP

PHYS 311 Theoretical Mechanics II (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: MATH 244 or MATH 253A and MATH 311, or consent. Recommended: upper division mathematics course. DP

PHYS 430 Thermodynamics and Statistical Mechanics (3) Laws of thermodynamics, heat transfer, kinetic theory, statistical mechanics. Pre: 274 and MATH 244 or MATH 253A. 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: 350. 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. Specialized applications include Gaussian beams, laser resonators, pulse propagation, and nonlinear optics. Pre: 350 and 400 (or concurrent), or EE 315 (or concurrent) and EE 371, or consent. (Cross-listed as EE 470) DP

PHYS 475 Electronics for Physicists (3) Investigation of Kirchhoff’s Laws, electromagnetic circuit theory, Fourier analysis and stability theory with circuits. Applications to physical measurements are stressed. Pre: junior standing, and 152L or 272L. DP

PHYS 476 Modern Electronics for Physicists (3) Introduction to high performance solid state instrumentation by means of practical research electronics: principles of circuit construction; computer 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 momentum, potential problems. Pre: 274, 310, 350, and MATH 244 or MATH 253A; and MATH 311; or consent. Co-requisite: 400. 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, crystal diffraction and the Mosebauer effect. Numerical simulations of particular physics experiments are included. Pre: 274L and 480 (or concurrent). Open only.

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 Mosebauer effect. Numerical simulations of particle physics experiments are included. Pre: 274L, 480, and 480L; or consent. DY

PHYS 485 Professional Ethics for Physicists (1) Student seminar on ethical principles and their application to research in physics and astronomy and closely-related fields. Historical examples will be presented and discussed by the participants. PHYS majors only. A-F only. Pre: 310 or consent. (Spring only)

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. Pre: master's Plan B or C candidate and consent.

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 service teachers, pre-inservice. Repeatable one time. (Cross-listed as NSCI 505)

PHYS 600 Methods of Theoretical Physics (3) Mathematical tools of theoretical physics. Continuation of 400 but 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; special relativity. Pre: 600 (or concurrent); or MATH 402.

PHYS 650 Electrodynamics I (3) Potential theory, Maxwell’s equations, electromagnetic waves, boundary-value problems. Pre: 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 applications 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 Schroedinger equation and their applications. Approximation methods. Applications to atomic, nuclear, and molecular physics. Pre: 400 or 481 or 600 and 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, surface, and solid-state physics. Repeatable 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) Pre: consent.


PHYS 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 physics, 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 (5) 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 theory; 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; electrodynamics; 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; interactions of the standard model. Techniques of particle physics. Pre: 777 or consent. (Alt. years)

PHYS 785 Solid-State Theory (3) Crystal symmetry, electronic excitations in solids, transport theory, optical properties, cohesive energy, lattice vibrations, electron-phonon interaction, electron-electron 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 dissertation.

Phylogenetics (PHYL)

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.

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. DB

PHYL 103L Physiology and Anatomy Lab (1) Laboratory to complement 103. Co-require: 103. DY

PHYL 141 Human Anatomy and Physiology (3) Anatomy, histology, physiology, biochemistry, genetics of human organ systems presented in integrated anatomy-physiology format. Priority to students in nursing. Pre: high school chemistry. DB

PHYL 141L Human Anatomy and Physiology Lab (1) Anatomy, histology, physiology, biochemistry, genetics of human organ systems presented in integrated anatomy-physiology format. Priority to students in nursing. Pre: 141 or (concurrent) or consent. DY

PHYL 142 Human Anatomy and Physiology (3) Continuation of 141. Pre: 141. DB

PHYL 142L Human Anatomy and Physiology Lab (1) Anatomy, histology, physiology, biochemistry, genetics of human organ systems presented in integrated anatomy-physiology format. Priority to students in nursing. Pre: 142 or (concurrent) or consent. DY

PHYL 301 Human Anatomy and Physiology (4) Integrated presentation of human anatomy and physiology. An optional laboratory (PHYL 301L) is available separately. Pre: CHEM 151 and one of 103, BIOL 171, or ZOOL 101. 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-require: 301. DY

PHYL 302 Human Anatomy and Physiology (4) Continuation of 301. Pre: 301 or consent. DB

PHYL 302L Human Anatomy and Physiology Lab (1) Continuation of 301L. Pre: 301/301L, or consent. Co-require: 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). Complets 401. Pre: 401 and either BIOL 341 or CHEM 152, or consent. DB

PHYL 403 Environmental Physiology (3) Animal (including human) responses to environmental challenges such as heat, cold, altitude, diving, physical work, etc. Human adaptation in a comparative context. Pre: 302, or 401, or ZOOL 430; or consent. DB

PHYL 403L Environmental Physiology Lab (1) Laboratory experiences in measuring human physiological responses to environmental stress. Complets 403. DY

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. 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

PHYL 451 Human Biology (4) Introduces upper division students in the social or non-biological sciences to the basics concepts of physiology, anatomy, and biochemistry. Repeatable two times. Pre: upper division standing. DB

PHYL 499 Directed Research (V) Repeatable unlimited times. Pre: junior or senior undergraduate status. DB

PHYL 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.

PHYL 512 (Alpha) Unit II Electives in Physiology (I) (2 Lec, 1-hr Discussion) Concurrent electives in physiology. (B) case specific patho-physiology; (C) cardiovascular physiology, CR/NC only. Repeatable one time per alpha. Pre: BIOM 551, Co-require: BIOM 552. (Spring only)

PHYL 514 Physiology of the Nervous System (I) (2 Lec, 1-hr Discussion) Restricted to majors. Repeatable one time. Co-require: BIOM 554. (Fall only)

PHYL 545 Topics in Medical and Applied Physiology (V) Fourth-year elective for medical students; in-depth study of selected topics in physiological basis of medical practice.

PHYL 604 Human Physiology (4) Graduate level lecture course of major organ system physiology in humans, including (but not limited to) basic cell physiology, cardiovascular, pulmonary, renal, gastro-intestinal, endocrine, and neurophysiology. A-F only. Pre: 301 and 302 or consent. (Spring only)

PHYL 606 Human Neurophysiology (2) Physiology of human nervous system with emphasis on special senses and control and coordination of movement. Repeatable one time. Pre: 302 or 604, or consent.

PHYL 609 Cardiovascular Diseases (3) Selected topics in cardiovascular physiology. Emphasis on dynamic aspects of the heart and circulation. Pre: 604 or consent.

PHYL 610 Experimental Physiology (2) Biophysical approach to selected techniques of quantitative experimental physiology. Pre: 604 or consent.

PHYL 710 Special Topics: Water and Electrolytes (1) Plant and Environmental Protection Sciences (PEPS)

College of Tropical Agriculture and Human Resources

A grade of C or better is required in a prerequisite course.

PEPS 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 of inquiry.

Food supply and safety, water quality, pollution control, biodiversity, environmental policy. Open to nonmajors. (Cross-listed as NREM 210) DB

PEPS 250 The World of Insects (3) Biology/ ecology of insects with emphasis on relationships to plants, animals, and especially people in Hawaii and the tropics. Open to nonmajors. A-F only. (Spring only) DB

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. Pre: 210 or consent. (Fall only)

PEPS 350 Invasive Pest Species (3) Ecological, economic and sociological impacts of invasive pest species on tropical ecosystems; characteristics of invasive species and nature of vulnerable habitats; management of invasive species or eradication options; impacts on evolution, biological diversity and ecological stability. Open to nonmajors. (Alt. years: spring) DB

PEPS 363 General Entomology (3) Biology, ecology, habits, structure of Hawaii’s insects/arthropods. Classification to family 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 Hawaii’s insects and arthropods. A-F only. Pre: 363 (or concurrent) or consent. DB

PEPS 371 Genetics: Theory to Application (3) Fundamentals of genetic theory using biotechnological procedures in insect and plant pathogen control and plant and animal breeding as practical applications. Repeatable one time. A-F only. Pre: BIOL 172 and CHEM 162, or consent. (Cross-listed as TPSS 371)

PEPS 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: BIOL 275/275L, and CHEM 273; or consent. (Cross-listed as BIOL 402 and MBRE 402) DB

PEPS 405 Plant Pathogens and Diseases (4) (3 Lec, 1-hr Lab) Classification, morphology, ecology, and biology of bacteria, fungi, nematodes, and viruses that attack economic crops. Etiology and control of plant diseases. Pre: 210 or BOT 101 or MICR 130, or consent. (Fall only) DB

PEPS 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. (Spring only) (Cross-listed as MBRE 412) DB

PEPS 421 Foundations of Pest Management (4) (3 Lec, 1-hr Lab) Principles and concepts of insect pest management using biological, ecological, cultural, behavioral, legislative, microbial and chemical 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 Biocontrol of Invasive Species (3) Biological control of arthropods, weeds, plant pathogens, and vertebrates. Pre: 363 or consent. DB

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, toxins, pests, endangered species, and environmental justice. Pre: junior or senior standing.

PEPS 463 Urban Pest Management (3) (2 Lec, 1 3-hr Lab) Lab/laboratory in biology, ecology, and management of pest organisms associated with people, structures and the urban environment. Emphasis
on household/structural insect pests. Pre: 363 or consent. (Alt. years: spring) 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 techniques, no-till farming, greenhouse and field experiments. Pre: CHEM 152 and TPSS 200, or consent. (Fall only) (Cross-listed as TPSS 481) DB

PEPS 486 Insect-Microbe Interactions (3) Multidisciplinary treatment of medical entomology, plant vector entomology, insect pathology and symbiosis. Topics addressed on evolutionary, ecological and molecular levels. Pre: BIOL 172 or MICR 130; or consent.

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 development, 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 in environmental protection sciences. Limited to qualified undergraduate students. Repeatable two times. CR/NC only.

PEPS 616 Plant Nematology (3) (2 Lec, 1 3-hr Lab) Study of nematode biology (taxonomy, genetics, behavior), interactions with plants and animals, and sustainable management practices in an integrated lecture-laboratory setting. Pre: graduate standing or consent.

PEPS 630 Plant Virology (4) (2 Lec, 2 3-hr Lab) Isolation, identification, and molecular biology of plant viruses; biological and physical properties. Pre: 402, 405; or consent.

PEPS 641 Insect Physiology (2) (2 Lec) Study of the principal physiological and biochemical functions in insects, with emphasis on hormonal interactions. Pre: 402 and 402L, or consent.

PEPS 646 Plant-Bacterial Interactions (3) Diagnos- sis, molecular biology, genetics, and infection mechan- isms of bacterial plant pathogens and symbions. Pre: one of BIOC 481, MICR 351, MICR 475; or consent. (Cross-listed as MICR 464) DB

PEPS 652 Molecular Plant Fungi Interactions (3) Focuses on the actions of plant pathogens and the responses of compatible and incompatible host plants. Latest research on this topic will be evaluated by discussing publications reporting pathogenesis mechanisms. Graduate standing only. Pre: 405 or MBBE 405, or MBBE 480, or MICR 351. (Every 2 years) (Cross-listed as MBBE 652) DB

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 661 Medical and Veterinary Entomology (3) (2 Lec, 1 3-hr Lab) Vector control; insects and other arthropods in relation to human and animal diseases. Pre: 363 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 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 681 Pesticide Toxicology (3) Principles of toxicology; chemical and biochemical mechanisms of pesticide toxicity. A-F only. Pre: 402 or BIOC 441; CHEM 272; or consent. (Fall only)

PEPS 686 Insect Transmission of Plant Pathogens (3) (2 Lec, 1 3-hr Lab) A multidisciplinary treatment of insect transmission of plant pathogens. Insect-plant and cellular insect-pathogen interactions and management strategies are emphasized.

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 envi- ronmental 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. CR/NC only.


PEPS 702 Proposal/Defense Seminar (1) Thesis/ dissertation proposal and defense seminars. Repeat- able one time. CR/NC only. Pre: graduate standing or consent.

PEPS 800 Dissertation Research (V) Research for doctoral dissertation.

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 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 170 Politics and Public Policy (3) Perspectives on the role of government in guiding economies 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, shows how 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 pro- cess, political learning through popular culture. DS

POLS 201 Problems of War and Peace (3) Intro- duction 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 deter- rence, arms control and disarmament, and alterna- tives to war. DS

POLS 241 Political Design and Futurostics (3) Possible social and political alternatives for the future. Conditions likely if present trends continue, formulation of 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 in 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: sophomore standing or consent. DS

POLS 302 Hawai‘i Politics II (3) Application of theoretical modes and techniques to institutions, processes, and issues that characterize politics in Hawai‘i. Pre: sophomore standing or higher, 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 thought in Hawaiian. Taught in Hawaiian. Pre: HAW 302 (or concurrent) for (C) only, sopho- more standing or higher. (C) Cross-listed as HAW 425 DS (for (B), HAW 426 DS (for (C)) DS

POLS 304 Indigenous Politics (3) Conceptual- izing politics from the perspective of indigenous epistemologies, philosophies, language, and social and political movements. Pre: sophomore standing or higher, or consent. DS

POLS 305 Global Politics/Comparative (3) Intro- duction 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 develop- ment 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 in specific countries/regions. (B) Southeast Asia; (C) Pacific Islands; (F) Middle East; (G) Philippines; (H) Japan; (I) Europe; (J) India. 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 inter- change between state and society in national policies, the relationship between historically and technologically modernized in the social transforma- tion process. A-F only. Pre: sophomore standing or higher, or consent. (Cross-listed as ASAN 308). DS

POLS 315 Global Politics/International Relations (3) Introduction to global politics with emphasis on concepts and theories developed from an interna- tional 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 orga- nization in international politics. Pre: any 100 level POLS course or consent. DS

POLS 319 International Organization (3) Interna- tional relations of governmental and nongovernmental organizations. Pre: sophomore standing or higher, or consent. DS

POLS 321 International Migration (3) Political- cultural economy of international migration: post-
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.

POLS 323 International Relations Lab (1) Pre: any 100 level POLS course or course. Co-requisite: 315 or 319. 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 religion clauses to current issues. A-F only. Pre: sophomore or higher standing, 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.

POLS 335 Political Philosophy and Theory (3) Theories, approaches, concepts, and issues developed or raised in history of western political philosophy and thought. Pre: any 100- or 200-level POLS course, or consent. DS

POLS 336 Non-Western Political Theory (3) Survey of major historical schools and/or contemporary directions in non-western political thought. A-F only. 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, themes, and issues in political theory. (B) 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; bodies, sexualities and “nature.” Pre: any 300 level POLS or WS course, or consent. (Cross-listed as WS 439) DS

POLS 341 The Politics of Media (3) Study of the political manipulation of aural and verbal images. Exercises to increase media literacy. Pre: any 100 level POLS course, or consent. DS

POLS 342 Political Design and Futuristics (3) Alternative future social and political possibilities; design of means of realization of desirable futures. 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 Poliikia ma ka Niu Hou Hawai‘i - Politics in Hawaiian Language Media (3) Study of Hawaiian newspapers, 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 their interrelations in a globalized world. Pre: sophomore standing or higher, or consent.

POLS 367 Disability Law and Politics (3) Introduction to the history and politics 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)

POLS 372 Asian Women (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 339, AMST 310, AMST 316, AMST 373, AMST 455, WS 360, WS 361, WS 439; or consent. (Cross-listed as AMST 438 and WS 462) DS

POLS 373 American Politics (Elections) (3) Examination of voters 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 legality; legal “indeterminacy” and some of the many things that law does for 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: sophomore standing or higher, 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: 375 or consent. 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 (Alpha) Topics in American Politics (3) Specific institutions and processes of the American governmental system. (G) American environmental politics. 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 higher, or consent. DS

POLS 381 Administration and Society (3) Historical emergence of modern bureaucracy; mutual impact 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 or consent. 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 political goals and actions. 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: 101 or HON 291, or departmental approval. (Cross-listed as HON 301) 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.

POLS 394 Democracy in Organizations (3) Theor- y and practice of democratic organizations; women’s and feminist organizations; co-ops, communes, and collectives; indigenous people’s organizations; workplace democracy and social change. Pre: any 100- or 200-level POLS course or (or concurrent) or WS 151, or consent. 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 lead, under supervision, a freshman seminar section of 110 or serve as undergraduate teaching assistants. Repeatable one time. Pre: 390 (or concurrent), senior standing; and consent.

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 (6) Independent research and thesis writing with supervision of senior advisor. Pre: 390 (or concurrent) and consent.

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 or consent. DS

POLS 436 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, privacy, and reproductive freedom. A-F only. Pre: one of WS 151, WS 175, WS 176, WS 202, WS 360, WS 381, or consent. (Cross-listed as AMST 436 and WS 436) DS

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

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.

POLS 601 Political Analysis and Theory Building (3) Survey of theory-building approaches and validation techniques.

POLS 602 Research Techniques and Analytic Methods (3) Quantitative models and statistical inference techniques.

POLS 605 (Alpha) Topics in Methodology (3) Specific methodological techniques and practices introduced in 601 and 602. (C) simulation practicum. Pre: graduate standing or consent.
POLS 610 Political Theory and Analysis (3) Major contemporary approaches and styles in political theory, philosophy, and analysis.

POLS 611 Tradition of Political Philosophy (3) Discussion of texts and themes in the Western political tradition from Plato to Nietzsche. Repeatable one time.

POLS 612 Hawaiian Political Thought: Theory and Method/Na Mana’o Politika Hawai’i (3) Study of Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: 303, HAW 402 and HAW 426; or consent. (Cross-listed as HAW 612)

POLS 615 (Alpha) Topics in Political Thought (3) Specific traditions and individuals, or particular issues and problems. (C) feminist theory. Pre: graduate standing or consent. (C) Cross-listed as WS 615)

POLS 620 Introduction to Indigenous Politics (3) Historical treatment of the contact between state and indigenous peoples and a survey of contemporary indigenous political initiatives: social movements, media, indigenous studies programs, and events. A-F only.

POLS 621 Politics of Indigenous Representation (3) Politics of indigenous representations in media, literature, and academic scholarship.

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, facilitation, and other “third-party” methods of peaceful settlement. Pre: graduate standing or consent.

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 Asia, theories of development, and comparative methods. At least one section a semester.

POLS 642 Indigenous Peoples and Western Imperialism (3) Historical examination of U.S. and European imperialisms, 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)

POLS 646 (Alpha) Politics and Development: Topical (3) (F) political ecology and development.

POLS 647 American Political Institutions in Comparative Perspective (3) Consideration of American political institutions and development relative to American philosophical foundations and non-American political forms. Federalism as an expansive devolved system will be emphasized, as will 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 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 660 Public Law and Judicial Systems (3) Law, courts, and rights as a political resource; analysis of public law (including court decisions), other political science course (ECON 120, 130, 131; GEOG 151; POLS 110; or SOC 100) or consent. DS

POLS 675 (Alpha) Topics in Public Policy (3) Particular political processes, specific political institutions, or particular policy area. (F) politics of health. Pre: graduate standing or consent.

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. Repeatable three times.

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.

POLS 685 (Alpha) Topics in Asian and/or Pacific Politics (3) (C) Korean politics. Pre: graduate standing or consent.

POLS 686 Politics of Hawai’i (3) 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.

POLS 695 Colloquium (3) Specialized subjects in political science.

POLS 696 Graduate Intern Seminar (3) Seminar for interns in the alternative futures or the indigenous politics options. Repeatable one time. A-F only. Pre: 672 and 673 or consent for the alternative futures option; 682 or consent for the indigenous politics option.

POLS 699 Directed Reading and Research (V) Pre: consent.

POLS 700 Thesis Research (V)

POLS 702 Seminar: Research Methods (3) Conceptual strategies, data collection approaches, and data analysis techniques appropriate to political inquiries. Repeatable.

POLS 703 Writing Politics (3) Seminar on the politics of writing, grammar, translation, argument, genre, and style with significant content on indigenous issues of oral traditions, alternative modes of writing and argument, and language continuance.

POLS 710 Seminar: Political Thought (3) Pre-announced topics. Repeatable. At least one section a year.

POLS 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.

POLS 730 Seminar: International Relations (3) Pre-announced problems of both international organization and politics. Repeatable. At least one section a semester.

POLS 740 Seminar: Comparative Government and Politics (3) Pre-announced topics. Repeatable. At least one section a semester.

POLS 770 Seminar: Public Policy (3) Pre-announced topics. Repeatable. Pre: consent of instructor. At least one section a year.

POLS 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.

POLS 800 Dissertation Research (V)
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 limited. A grade of C or better in the prerequisite courses 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 201 Intermediate Portuguese (3) Reading, conversation, writing, laboratory drill. Pre: 201. NF HSL

PORT 202 Intermediate Portuguese (3) Continuation of 201. Pre: 201. NF HSL

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) Unit VI—7-week basic psychiatry clerkship. CR/NC only. Pre: BIOM 555.

PSTY 532 Psychiatry Longitudinal Clerkship (5) Year-long clerkship in ambulatory setting, including knowledge, skills, attitudes for assessment, diagnosis, and management of psychiatric problems in medical practice, inpatient, and emergency room settings. Emphasis on development and application of psychosocial cultural formulations in all areas of psychiatric and medical practice. Repeatable two times. CR/NC only. Restricted to third-year standing and concurrent registration in 532 courses.

PSTY 545 (Alpha) Unit VII 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. (B) adult inpatient 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 adult PSTY; (I) substance abuse; (J) PSTY aspects of rehab medicine; (K) PSTY aspects of SURG; (M) PSTY consult liaison; (N) post-traumatic stress disorder; (O) extramural elective in PSTY; (Q) geriatric PSTY; (R) rural child PSTY; (S) public and rural PSTY; (T) mental health research. CR/NC only. Pre: 531 or 532, and fourth-year standing. 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 (XOX)

PSY 100 Survey of Psychology (3) An overview of the field: psychophysiology, perception, learning, cognition, social psychology. Pre: A-F only. Pre: consent.

PSY 201 Unit Mastery Instruction (3) Principles, techniques, issues, and philosophy. Laboratory provides working experience with this instruction technique. Pre: 100 and written consent. NI

PSY 202 Psychology of Gender (3) Survey of topics in psychology relevant to gender and its impact on the lives of men and women: socialization of 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) NF DS

PSY 402 History of Psychology (3) Origin and development of contemporary points of view. Pre: 100. Recommended: 9 credit hours in psychology. DS

PSY 403 Seminar on the Psychology of Knowledge (3) Selected topics in the psychology of knowledge and mind from Western and non-Western perspectives. Repeatable in different topics up to 9 credit hours. Pre: 100 and written consent. DS

PSY 407 Practicum in Psychology (V) Supervised psychological experience in school, clinic, hospital, industry, social welfare, government, etc. Pre: 100 and consent.

PSY 408 Researcher General Psychology (V) Supervised experience. Pre: 100, at least 12 additional credit hours in psychology, and written consent. Repeatable one time.

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 Methodologic 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) In-depth coverage of some area of theory, research, or methodology relevant to individual differences, measurement, or aspects of psychometrics. Repeatable to six credit hours. Pre: 100. NF DS

PSY 419 Psychometrics: Advanced Topics (3) In-depth coverage of some area of theory, research, or methodology relevant to individual differences, measurement, or aspects of psychometrics. Repeatable to six credit hours. Pre: 100. DS

PSY 610 Introduction to Quantitative Methods (3) Introduction to quantitative methods in behavioral sciences. Introduction to general linear model as principle of data analysis. Course requires basic statistics. (Meets PhD common inquiry methods requirement or elective.)

PSY 611 Design and Analysis of Psychological Experiments (3) Analysis of variance and other models of assessing results of experiments. Relation of analysis to design. (Cross-listed as EDEP 603)

PSY 612 Multiple Regression in Behavior Research (3) Advanced application of general linear model to complex problems of data analysis. Relation of analysis of variance and covariance to regression analysis. Non-linearity and treatment of missing data. Course requires basic statistics. (Cross-listed as EDEP 604 and WS 654)

PSY 613 Factor Analysis (3) Theory and method; related methods of multivariate analysis. (Cross-listed as EDEP 605 and WS 655)

PSY 614 Multivariate Methods (3) Multivariate forms of multiple linear regression, analysis of variance and analysis of co-variance. Multiple discriminating analysis, canonical correlation, and principal components analysis are discussed. (Cross-listed as EDEP 606 and WS 656)

PSY 616 Measurement in Education and Social Sciences (3) Test theories and applications in education and social science and the testing of the test score model; reliability; generalizability theory; validity; item response theory; and applications in research.

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

Class requires knowledge in ANOVA and regression. (Cross-listed as EDEP 616 and SW 658)

PSY 617 Scaling: Measurement of Attitude and Perception (3) Theory and methods of major uni-dimensional and multidimensional scaling techniques. Examples from education, sociology, and psychology. Pre: graduate standing. (Cross-listed as EDEP 226)

PSY 719 Research in Psychometrics (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. Pre: consent.

EXPERIMENTAL PSYCHOLOGY (XXX)

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. NF DS

PSY 225 Statistical Techniques (3) Frequency distributions; graphic methods; central tendency; variability; correlation; reliability; tests of significance. Pre: 100. NF DS

PSY 322 Learning and Motivation (3) Theoretical interpretations; survey of major theorists and contemporary controversial 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 Animal Learning (3) Principal findings and major theories in animal learning. Detailed consideration of the contemporary literature.

PSY 625 Knowledge and Wisdom (3) Topics in the psychology of mind from Western and/or Asian perspectives. Repeatable in different topics. Pre: consent.

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)

PSY 722 Seminar in Learning (3)

PSY 729 Research in Experimental Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

PSYCHOBIOLOGY (XXX)

PSY 230 Introduction to Psychobiology (3) Survey of study of behavior from a natural sciences viewpoint. Evolution, ethological analysis of behavior and regulatory behavior and mental disorders. A-F only. Pre: 220 or consent. DB

PSY 331 Behavioral Neuroscience (3) Coverage of the neural, developmental and mechanistic bases of learning, memory and cognition, motivated and regulatory behavior and mental disorders. A-F only. Pre: 230 or consent. (Once a year) 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 Psychology (3) Comparative study of natural behavior, learned behavior, sensory processes, social behavior in animals. Pre: 631.

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. (Once a year)

PSY 634 Physiological Psychology (3) Relation of central and peripheral nervous systems to behavior. Pre: 240 or OAMR 230. DS

PSY 731 Seminar in Physiological Psychology (3) PSY 732 Seminar in Comparative Psychology (3) 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. NI DS

PSY 341 Social Development of Children (3) Survey of socialization process and acquisition of social behavior. Pre: 240 or EAMR 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 deviations: effects on growth and development of children. Pre: 100. Recommended: 240. DS

PSY 449 Development 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 developmental 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)

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, attributes, group behavior, stereotypes, social roles, aggression, helping, self-concept; applications. Pre: 100. NI DS

PSY 351 Cross-Cultural Psychology (3) Psychological theories and cultural systems; understanding of own and other cultures; psychological and cultural perceptions of behavioral and mental disorders; cultural similarities and differences in interpersonal relations. Pre: 100. DS

PSY 352 Psychology of Human Sexuality (3) Psychosexual 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. Pre: 250 or consent. DS

PSY 650 Social Psychology (3) Theories and research in social psychology. Pre: 250. DS

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 aspects of sexual 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) 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, relation to cultural-social determinants. Pre: 100. NI DS

PSY 361 Transpersonal Psychology (3) Psychological study of transpersonal human capacities, potentialities, awareness, and growth. Pre: 300. 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


PSY 763 Seminar in Transpersonal Psychology (3)

PSY 764 Seminar in Humanistic Psychology (3)

PSY 769 Research in Personality (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

ADJUSTMENT/CLINICAL (X7X) PSY 170 Personal Development (3) The application of psychology to the understanding, management, and enhancement of one’s life. DS

PSY 270 Introduction to Clinical Psychology (3) History, theories, types of psychological problems, methods of assessment, forms of intervention, current developments. Pre: 100. NI 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 behaviors. Pre: 100 or consent. Recommended: 220 or 322. DS

PSY 477 The Helping Relationship (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised practice, video lab. Pre: one of 100 and SP 151, SP 251 or SP 301. (Cross-listed as SP 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 (3) Coverage in-depth of some area 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 671 Introduction to Assessment I (3) Psychometric theory; ethics; diversity issues; principles and methods of cognitive-intellectual, neuropsychological, and personality assessment. Co-requisite: 670 or consent.

PSY 672 Introduction to Assessment II (3) Administration and interpretation of cognitive-intellectual and personality assessment devices. Pre: 670 and 671 or consent and enrollment in Clinical Studies Program.

PSY 673 Introduction to Assessment III: Behavior Assessment (3) Conceptual and methodological foundations of clinical applications of behavioral 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 Adult Psychopathology (3) Comprehensive study of the mental disorders of adults. 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 773 Seminar in Psychopathology (3)

PSY 774 Seminar in Clinical Psychology (V) Repeatable 10 times.

PSY 775 Seminar in Psychological Therapies (3)

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.

Key to symbols & abbreviations: see the first page of this section.
COMMUNITY AND CULTURAL PSYCHOLOGY (X8X)

PSY 280 Introduction to Community Psychology (3) Examination of human functioning in social and ecological context. Topics include stress, health, intergroup relations, culture, ethnicity, social competence, and community empowerment. Pre: 100. N/D

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 313) 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 professional roles in 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, correctional, or community action agencies. Pre: consent.

PSY 781 Community Psychology Seminar (3)

PSY 789 Community Psychology Research (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

RESEARCH (XX)

PSY 499 Directed Reading or Research (V) Repeatable. Pre: 100 and consent of instructor and department chair.

PSY 699 Directed Reading or Research (V) Pre: consent.

Public Administration (PUBA)

College of Social Sciences

PUBA 399 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 600 Political and Economic System Processes (7) Organized in a series of integrated, cross-disciplinary modules, the course addresses issues people in public service are likely to face. Modules include effective written and oral communication, group processes, political and economic perspectives on public institutions, the use of information resources relevant to public work, critical thinking, legislative process, and the issues of Hawaiian people. A-F only. (Fall only)

PUBA 601 Policy and Organizational Processes (4) Organized in a series of integrated modules, the course addresses issues people in public service are likely to face. Modules include frameworks for understanding and improving organizations, administrative law and issues of discretion, budget processes, research and analysis relevant to public work, public service ethics, and concern for future generations. A-F only. Pre: 600. (Spring only)

PUBA 612 Applied Certificate Seminar (1) Develop and coordinate learning experience for public administrators using skills and tools acquired in 600 and 601. Graduate certificate students only. Pre: 600 and 601.

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 images of organization and effective change strategies. A-F only. (Fall only) (Cross-listed as CEE 620)

PUBA 621 Public Organizations in a Political World (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. (Once a year)

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. (Spring only)

PUBA 623 Organizational Communication (3) Communication theory/research applied to formal organizations; assessments of strengths and weaknesses of organizational communications systems. Pre: consent.

PUBA 624 Intercultural Challenges in the Public Sector (3) Seminar on the dimensions of cultural variability and how they affect government operations from macro to micro, from international policy transfer to major intercultural task interaction processes such as negotiation, planning, and relationship management. Graduate standing only. A-F only. (Once a year)

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.

PUBA 635 Managing Major Aspects of the Nonprofit Sector (4) (3 Lic, 1 Seminar) Core for nonprofit management track of the graduate certificate. Covers major aspects of managing nonprofit organizations; intended for those currently working in the nonprofit sector as well as those wishing to enter it. A-F only. (Fall only)

PUBA 636 Nonprofit Management Certificate Completion Seminar (2) Seminar for the nonprofit management track of the graduate certificate that is tailored to participant interests/needs; student participation in selecting topics, readings, and guest speakers or site visits. Nonprofit management track students only. A-F only. Pre: 635 or departmental approval.

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. (Once a year)

PUBA 650 Public Budgeting (3) Institutions and issues related to public-sector budgeting at federal, state, and local levels. Process of developing public budgets and constraints on public policy reflected in budgets. A-F only. Pre: consent. (Spring only)

PUBA 660 (Alpha) Topics in Public Issues (3) In-depth analysis of significant contemporary issues related to public service work in Hawai‘i and the Asia-Pacific region: (B) public policy theory and analysis. Repeatable one time per alpha.

PUBA 662 Applied Policy Analysis (3) Explores significant contemporary policy issues relating to public administration practice. Develops analytic techniques and models of public-policy-making processes, and looks at how social, political, and economic pressures influence policy orientations. Pre: graduate standing and consent.

PUBA 663 Law, Economics, and Public Administration (3) Uses economic thinking to explore U.S. law and the legal system with special application to public institutions. Topics include: underlying rationale of law; elements of property, contract, and tort law; evolution of administrative law, and economic efficiency of the common law system. Explores economic forces that help shape the law, the effects of legal rules on economic behavior, and the implied role of public institutions. A-F only. Pre: graduate standing or consent. (Fall only)

PUBA 665 Collaborative Public Management: Managing Networks and Boundaries (3) Theories, skills, and tools needed to effectively manage networks in government and nonprofit organizations; explores how to administer, assess performance, and evaluate success in these dynamic new partnerships. A-F only. (Fall 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 and 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. Pre: 601.

PUBA 699 Directed Reading (V) PUBA 700 Thesis Research (V)

PUBA 709 Capstone Planning Seminar (1) Develops topics, methods, objectives, and resources to guide work of capstone seminar. Pre: 601.

PUBA 710 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. Pre: 709.

Public Policy Center (PPC)

College of Social Sciences

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. A-F only. Junior standing or higher.

PPC 601 Public Policy Internship (2) 160 hour internship in public policy. Open to certificate students who have completed the core courses. PPC certificate majors only. A-F only. Pre: POLS 670.

PPC 602 Public Policy Seminar (2) Final seminar for certificate in public policy. Open to certificate students who have completed the core courses and the internship. PPC certificate majors only. A-F only. Pre: 601 (or concurrent) and POLS 670.

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.

Public Health Sciences (PH)

School of Medicine

The courses listed below are offered subject to student interest and faculty availability. Please consult the Registration Guide/UH Mānoa Registration Homepage for confirmed offerings each semester. Individuals who are not public health students require instructor consent to enroll in courses; all courses 600 level and above require graduate standing. The minimum required grade for prerequisites is C- or better.

PH 301 Introduction to Public Health Issues (2) Seminar will explore current issues and case studies in epidemiology, issues and causes of chronic and infectious diseases, how the environment interacts with health, and how social and behavioral factors affect personal health.

Key to symbols & abbreviations: see the first page of this section.
PH 701 Health Communication (3) Skills-oriented course introduces 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. Topics will include randomized trials, quasi-experimental design, sampling, measurement, and correlation. Lab work will focus on the use of SPSS to analyze data for applied research problems. A-F only. Pre: 623 and 655, 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 approaches. Format includes lectures, discussions, readings, writing assignments, and a fieldwork project. DrPH majors only. A-F only.

PH 737 Policies/Programs in MCH Services (3) Development and organization of health services for mothers and children and analysis of policies and events, legislation and programs; current issues. Pre: consent.

PH 742 Qualitative Methods (3) Application of qualitative research methods in the development of health sciences disciplinary knowledge related to culturally diverse populations. A-F only. Pre: 655 (or equivalent) or consent.

PH 745 Maternal and Child Health and Disabilities I (V) Designed to teach leadership development for health professionals in an interdisciplinary seminar format. Inquiry-based learning approaches are applied with a series of families and children with neurodevelopmental and related disabilities to explore clinical, cultural, policy, and program implications for services and supports for individuals with disabilities and family members. Program evaluation and research analysis are also conducted with relevance to best practice with the MCH or CSHN population.

PH 746 Maternal and Child Health and Disabilities II (V) Designed to apply leadership development for health professionals in an interdisciplinary seminar format. Inquiry-based learning approaches are applied with a series of families and children with neurodevelopmental and related disabilities to explore clinical, cultural, policy, and program implications for services and supports for individuals with disabilities and family members. Program evaluation and research analysis are also conducted with relevance to best practice with the MCH or CSHN population.

PH 747 Statistical Methods in Epidemiological Research (3) Multiple variable statistical methods currently used in chronic disease epidemiology. Logistic regression, conditional logistic regression, proportional hazards regression modelling, generalized estimating equation-based methods, delta method approximations, exact tests. Pre: 656, 663, completion of one semester of calculus; or consent.

PH 748 Chronic Disease Epidemiology (3) Will cover selected topics in chronic diseases with critical analysis of the current epidemiologic 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 of neurological and neurodegenerative diseases and their risk factors, and methodological considerations for the study of these diseases. A-F only. Pre: 663 or consent.

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 will be 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 relation to physical and mental health outcomes. Repeatable one time. A-F only.

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 (2) Lecture/discussion providing an overview of the epidemiology of neurodegenerative diseases and their risk factors, and methodological considerations 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 (V) Advanced instruction in frontiers of tropical medicine and public health. Repeatable unlimited times. (Cross-listed as TRMD 705)

PH 765 Program Evaluation (3) Presented are principles of and frameworks for program evaluation. Students develop logic models and evaluation plans for a community program, and collect and analyze evaluation data. A-F only.

PH 770 (Alpha) Doctoral Seminar in Translation- al Research (2) Required for students in the DrPH program. (B) domestic and global health disparities; (C) research methods in health disparities; (D) evidence-based programs in global health and health disparities; (E) topics in health disparities and policy. Repeatable up to 8 credits. Each alpha can only be taken one time. A-F only. Pre: 600 (or concurrent) and 623 (or concurrent) and 649 (or concurrent) and 655 (or concurrent) and 663 (or concurrent) and 765 (or concurrent) or departmental approval. (702 (or concurrent) may be substituted for 649).

PH 771 Teaching Practicum (3) 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. Graduate standing in PH only. A-F only. Pre: 600 and 623 and 649 and 655 and 663 and 765 and 770; or departmental approval. (702 (or concurrent) may be substituted for 649).

PH 772 Research Practicum (3) Hands-on research experience with a faculty mentor. Meet in small groups to discuss issues related to research in public health. Final project will be submission of a publishable quality paper. Graduate standing in PH only. A-F only. Pre: 600 and 623 and 649 and 655 and 663 and 765 and 770; or departmental approval. (702 (or concurrent) may be substituted for 649).

PH 781 Environmental Health Lab Methods (1) Hands-on training for laboratory methods used in monitoring and detecting environmental health risk factors; learning and application of immunological- animal cell culture- and molecular biology-based technologies for studying environmental pathogens and toxic pollutants. Repeatable one time. 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. See Key to symbols & abbreviations: see the first page of this section.
REL 452 Sociology of Religion (3) Seminar on research in sociological aspects of religious sectarianism, historical and current; special reference to Hawai‘i. Pre: SOC 300 or consent. (Cross-listed as SOC 455) DS

REL 475 Seminar on Buddhism (3) Selected historical, thematic, and textual research topics in Buddhism; topics and geographical focus to be announced each semester. Pre: one of 150, 204, 207; or consent. DH

REL 476 Taoism in China (3) Seminar on religious Taoism, its historical development and its role in the present-day context. Pre: 203 or consent. DH

REL 480 Field Methods in Religion (3) Introduction to theoretical and methodological approaches to doing fieldwork in the study of religion. Application of these in studying Hawai‘i’s diverse religious environment. Pre: 300 or consent.

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 analysis of texts. Historical interactions with Christianity. Pre: 150, 205; 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) Repeatable up to six credits. 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. 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 (V) Practicum in methods of research, argument, and discourse in scholarly writing about selected topics in religious studies. Repeatable up to four credits. 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 appropriate academic or religious institution abroad or in Hawai‘i. Repeatable one time. 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. 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). Pre: 661B or 661C for (D).

REL 663 (Alpha) Seminar on South Asian Religions (3) Selected historical, thematic, and textual research topics in Indian religious traditions: (B) Indian religions; (D) Indian Buddhism. Repeatable up to three credits for (B).
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. 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 by student's project 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 approaches and concerns. Specific topics to be announced. Repeatable one time. Pre: 600 or consent. (Alt. years)

REL 699 Directed Reading and Research (V) Repeatable unlimited times.

REL 700 Thesis Research (V) Pre: consent of thesis chair.

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 633 Issues in Sex and Reproduction (V) Explores issues in sex and reproduction. Topics include defining male and female, nature/nurture influences on different sexual characteristics, controversies in reproduction and ethics associated with matters like pornography and age of consent. Repeatable unlimited times. CR/NC only. Pre: PHYL 604 or consent.

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 Languages, 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. N/HSL

RUS 202 Intermediate Russian (4) Continuation of 201. Pre: 201 or consent. N/HSL

RUS 209 Russian Phonetics (3) Basic theory of Russian sound system; practice in pronunciation, intonation, and fluency. Pre: 102 or 201 (or concurrent). N/HSL

RUS 260 Intensive Intermediate Russian Abroad (V) Intensive course of formal instruction on the second-year level in Russian language and culture in Russia. Pre: 102. N/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 (V) 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. 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: Modern Prose (3) Readings in various fields, emphasizing idiomatic usage. Pre: 312 or consent.

RUS 419 Advanced Reading of Russian Press (3) Materials from Soviet/Russian newspapers and magazines. Pre: 311 or consent.

RUS 431 Russian Folklore (3) Selected Russian folk narratives, bylines, songs, and proverbs. Influence of folklore on major Russian authors. Pre: 312 or consent.

RUS 441 Russian Short Story (3) Origin and development (19th and 20th century); the major writers. Pre: three years of Russian or consent. DL

RUS 442 Russian Novel (3) Origin and development from 18th century to present. Pre: three years of Russian language or consent. DL

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, Dostoevsky, or Tolstoy) or 20th century (e.g., Bely, Blok, Bulgakov, Chklovskii, Pasternak, Sholokhov, or Solzhenitsyn). Repeatable unlimited times with consent. Pre: 312, LLEA 351; or consent. DL

RUS 452 Topics in 19th- and 20th-Century Russian Literature (3) Continuation of 451. Pre: 312, LLEA 352; or consent. DL

RUS 460 Intensive Fourth-Level Russian Abroad (V) Intensive advanced courses of formal instruction on the fourth-year level in Russian language and culture in Russia. Pre: 360 or equivalent.

RUS 495 Seminar (3) Literary or linguistic topics, movements, genres, or their representatives. Repeatable unlimited times with consent. Pre: 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. Pre: 303 (or equivalent), consent or departmental approval.

Sanskrit (SNSK)
College of Languages, Linguistics and Literature

SNSK 181 Introduction to Sanskrit (3) Introduction to basic Sanskrit grammar; reading and analysis of progressively difficult classical texts. HSL

SNSK 182 Introduction to Sanskrit (3) Continuation of 181. HSL

SNSK 281 Intermediate Sanskrit (3) Continuation of 182. Reading and analysis of classical texts with review of grammar. Pre: 182. N/HSL

SNSK 282 Intermediate Sanskrit (3) Continuation of 281. N/HSL

SNSK 381 Third-Level Sanskrit (3) Continuation of 282. Reading and analysis of various classical texts. Pre: 282.

SNSK 382 Third-Level Sanskrit (3) Continuation of 381. Introduction to Veda.

SNSK 481 Fourth-Level Sanskrit (3) Continuation of 382. Reading, analysis, and interpretation of various Vedic or Sanskrit texts selected according to students' interests. Pre: 382.

SNSK 482 Fourth-Level Sanskrit (3) Continuation of 481.

Key to symbols & abbreviations: see the first page of this section.
Second Language Studies (SLS)
College of Languages, Linguistics and Literature
Courses below 380 are not applicable toward the MA in English as a second language.

SLS 302 Second Language Learning (3) Theoretical foundations for the learning and teaching of second/foreign languages. Pre: upper division standing.

SLS 303 Second Language Teaching (3) Survey of methodology; basic concepts and practices. Pre: 302.


SLS 380 Bilingual Education (3) Survey and analysis of current thinking and practices in bilingual/bicultural education; special emphasis on ESL/EFL. Pre: 302, graduate standing; or consent. DS

SLS 418 Instructional Media (3) Theoretical foundation and practical applications of using electronic and audiovisual media in second language teaching. Pre: 303 or graduate standing; or consent.

SLS 430 Pidgin and Creole English in Hawai‘i (3) Major historical descriptive, pedagogical aspects; pidgin and creole languages, linguistic change, language variation. Work with actual language data. Laboratory work required. Pre: 302 and LING 102, or graduate standing; or consent. DS

SLS 440 English Phonology (3) Basic course in English phonetics and phonology; emphasis on areas of interest to language teachers. Pre: 302. 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 one time if different alpha. Pre: 302 or consent for (E), (N), (R), (U); 303 or consent for (P). Not applicable toward graduate degrees offered in SLS except by departmental consent.

SLS 490 Second Language Testing (3) Measurement and evaluation of achievement and proficiency in second language learning. Pre: 302, 441, LING 102, or graduate standing.

SLS 499 Directed Research/Research (V) For interdisciplinary studies majors. Pre: a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in major, or consent of department chair.

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

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. Pre: graduate standing or consent.

SLS 610 Introduction to Teaching Second Languages (3) Survey and analysis of second language teaching traditions and perspectives. Pre: graduate standing or consent.

SLS 612 Alternative Approaches to Second Language Teaching (3) Examination, comparison with conventional approaches; interpersonal relationships in language teaching. Pre: 600 or consent.

SLS 613 Second Language Listening and Speaking (3) Key issues; overview and critique of published materials; practice in developing syllabi and other materials. Pre: 600 or consent.


SLS 618 Language and Learning Technologies (3) A wide range of emerging technologies for language learning and research 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: 600 or 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: 600 or consent.

SLS 630 Second Language Program Development (3) Designing, implementing, and evaluating language programs; systems-based approach to program and curriculum development. Pre: 600 or consent.

SLS 631 Second Language Program Evaluation (3) Combined lecture and discussion on theory, practice, and ethics of language program evaluation. Fulfills requirement for SLS MA specialization in language assessment, measurement, and program evaluation. Pre: 490 and 600, or consent. (Once a year)

SLS 640 English Grammar (3) Descriptive English grammar in relation to second language learning and teaching.

SLS 642 Comparative Grammar and Second Language Acquisition (3) Comparative study of structures of two or more languages; native speaking informants used. Consideration of language transfer in second language learning, role of typological features. Pre: 441, 460, or ENG 403.

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. Relationships are explored between SLA research and language teaching. Pre: 441 and 600, or consent.

SLS 660 Sociolinguistics and Second Languages (3) Theoretical and applied aspects of language, culture, and society; analysis and research methods in sociolinguistics, as they relate to second and foreign language issues. Pre: 600 or 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, 600, 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, and 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: 600.

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 (qualitative), and reporting the results. Pre: 600 or consent. (Once a year)

SLS 675 Second Language Qualitative Research (3) Philosophical and theoretical approaches, methodology, and ethics in second language qualitative research. Pre: 600 and 660 (or concurrent); or consent.

SLS 676 Integrative Qualitative Inquiry (3) Explores a range of qualitative inquiry methods and theories. Through a project-based approach, students will develop and carry out research projects that are meaningful to their own interests, immediate learning/teaching needs, and long term professional goals. Pre: 600 and 660 (or concurrent), or consent.

SLS 678 Discourse Analysis in Second Language Research (3) Survey of approaches to discourse; microanalytic qualitative research; theory and methodology. Pre: 600 and 660, or 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; (P) second language pedagogy; (R) second language research methodology; (U) second language use. Repeatable one time for different alphas. Pre: 650 for (E); 640 for (N); 600 or consent for (P); 670 or 675 or 678, or consent for (R); 660 for (U).

SLS 690 ESL Teaching Practicum (3) Student teaching in ESL classroom. Pre: 600, advancement to candidacy, and consent.

SLS 699 Directed Reading/Research (V) Individual reading in various fields of ESL. CR/NC only. Pre: consent of graduate chair and instructor.

SLS 700 Thesis Research (V) Individual reading in various fields of ESL. CR/NC only. Pre: consent of graduate chair and instructor.

SLS 730 Seminar in Second Language Education (3) Current issues and problems. Repeatable unlimited times. Pre: 660 and advancement to candidacy; or consent.


SLS 775 Seminar in Second Language Qualitative Research (3) Qualitative research in second language and multilingual contexts. Pre: 675 or consent.

SLS 799 Apprenticeship in Teaching (V) An experienced-based introduction to college-level teaching; graduate students will work as student teachers to professors; responsibilities include supervised teaching, and participation in planning and evaluation. Repeatable unlimited times. CR/NC only. Pre: graduate standing and consent.

SLS 800 Dissertation Research (V) Repeatable eight times. Satisfactory 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 220 Computer Applications in Social Sciences (3) Word processing, spreadsheets, database management, introductory statistics; other social sciences applications. Lab required.

SOCS 225 Statistical Analysis for Social Sciences (3) Statistical reasoning in the analysis of social science data, including descriptive statistics, exploratory data analysis, inference measures of association, decomposition of variance, and regression analysis. Lab required. Pre: any 100 level social science course or consent. N/D DS

SOCS 250 Social Science Enquiry (3) Survey of enquiry methods in social sciences with an emphasis on key symbols & abbreviations: see the first page of this section.
SW 403 General Social Work Practice IV (3) Examination of practice methods and interventional models; identification and analysis of issues related to practice. Pre: 402 complete with C or better, and majors only. Co-requisite: 491.

SW 440 Research Development in Social Welfare (3) Preparation to and application of language of research, theoretical concepts underlying advancement of knowledge, practical steps in research. Pre: completion of required junior-level SW courses (i.e., 302, 303, 325, 362, 360, 361, and 391) with C or better. Co-requisite: 402 and 490. DS

SW 475 Social Work with Children (3) Study of current social welfare services for children in the U.S. with focus on familiarization of child welfare programs and services in Hawai‘i. Pre: senior standing or consent.

SW 480 Topics in Social Welfare (V) An examination of current trends and issues in social work.

SW 490 Senior Practicum (4) Field instruction, application, and integration of classroom knowledge with field experiences. Pre: 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. Pre: 490 complete with C or better, and majors only. Co-requisite: 403.

SW 499 Directed Reading and Research (V) Planned individualized study or research in special area related to social work practice interest. Up to 3 credit hours. Pre: majors only, senior standing, and consent of program chair and faculty advisor.

SW 500 Master’s Plan B/C Studies (1)

SW 606 Social Work 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 practice with 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. Pre: admission to MSW program. (Fall only)

SW 607 Social Work Practice with Families and Groups (3) Practice course builds upon the generalist framework and foundation content presented 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. Pre: 606.

SW 630 Social Welfare Policy and Services (3) Examines in a historical and comparative framework the economic, social, political, organizational, and administrative factors influencing the development, formulation, and implementation of social welfare policies in the U.S. Provides opportunity for the application of various models of social policy analysis in major areas of social welfare programming and service delivery. A-F only. Pre: graduate standing. (Fall only)

SW 631 Social Work Practice in Communities and Organizations (3) Community conceptualization; organized resistance, broker, mediator, and advocate; diagnostic and 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. A-F only, 606, graduate standing, and consent. (Spring only)

SW 636 Policies, Programs and Services on Aging (3) Explores policies, programs, and services 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. Pre: 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 relationship to practices; use of published research. A-F only. Pre: graduate standing. (Fall only)

SW 650 Research Designs and Data Analyses for the Evaluation of Practice Effectiveness (3) Extending the study of scientific 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. Pre: 640. (Spring only)

SW 651 Quantitative Methods I (3) Introduction to quantitative methods in behavioral sciences. Introduction to general linear model as principle of data analysis. Course requires basic statistics. (Meets PhD common inquiry methods requirement or elective.

SW 652 Computer Analysis of Data (3) Introduction to the use of computers and computer-related equipment in the management and analysis of data in the behavioral sciences. Includes introduction to control language, use of SAS or SPSS routines, and interpretation of output. Emphasis on application through use of the University’s computing facilities. (Cross-listed as EDEP 602)

SW 654 Multiple Regression in Behavioral Research (3) Advanced application of the general linear model to complex problems of data analysis. Relation of analysis of variance and covariance to regression analysis. Non-linearity and treatment of missing data. Class requires basic statistics. (Cross-listed as EDEP 604 and PSY 612)

SW 655 Factor Analysis (3) Theory and method of factor analysis and related methods of multivariate analysis. Pre: 654 or consent. (Cross-listed as EDEP 605 and PSY 613)

SW 656 Multivariate Methods (3) Multivariate forms of multiple linear regression, analysis of variance, and analysis of co-variance. Multiple discriminant analysis, canonical correlation, and principal components analysis are discussed. (Cross-listed as EDEP 606 and PSY 614)

SW 658 Measurement in Education and Social Sciences (3) Test theories and applications in education and social sciences. Topics include the true score model; reliability; generalizability theory; validity; item response theory; and applications in research. Class requires knowledge of IRT/ANOVA and regression. (Cross-listed as EDEP 616 and PSY 616)

SW 659 Human Behavior in the Social Environment I (3) An overview of social work’s person-in-environment focus as it applies to human behavior in the context of families, groups, communities, and organizations. Using an ecological perspective, theories and evidence about human behavior are introduced and examined. A-F only. Pre: graduate standing. (Fall only)

SW 660 Human Behavior in the Social Environment II (3) Uses social work’s person-in-environment focus to organize knowledge development about biological, psychological, social, and cultural systems as they are affected by human behavior. It is designed to provide students with an overview of human behavior and healthy and unhealthy develop-
ment over the life span. A-F only. Pre: 650. (Spring only)

SW 663 Treatment of Chemical Dependency (3) Introduction to treatment of alcoholism and other chemical dependencies. Application of social work strategies in work with individuals and families in the disease and recovery process. Repeatable one time. Pre: graduate standing.

SW 672 Child Welfare as a Field of Social Work (3) Emphasis on the developments in child welfare; issues, concerns with regard to needs and rights, and the application of social work services to problems associated with needs for protection. Review of historical, theoretical, empirical, and legal findings for skill development in intervening in dysfunctional parent/child interaction. Pre: graduate standing.

SW 674 Community and Public Health Practice (2) Community organization and development applicable to the delivery of health services. Understanding community dynamics, mobilizing community groups for effective health care practice and delivery. Pre: PH 647 or PH 737 or consent. (Cross-listed as PH 671)

SW 680 Topics in Social Welfare (V) Current trends in field of social welfare. Recent courses have focused on child abuse and neglect, justice system, sexual assault and family violence, and gerontology. Meets seminar requirement. Pre: graduate standing.

SW 690 Practicum (3) Field units are maintained by the school in public and voluntary welfare agencies, as well as in governmental programs. Students receive instruction related to their school experience with social problem situations and an opportunity to see the applicability and to experience the use of concepts and principles in actual practice. Pre: admission to MSW program.

SW 691 Practicum (3) Field units are maintained by the school in public and voluntary welfare agencies, as well as in governmental programs. Students receive instruction related to their school experience with social problem situations and an opportunity to see the applicability and to experience the use of concepts and principles in actual practice. Pre: admission to MSW program.

SW 696 Health and Aging (3) Biological and physiological changes associated with aging. Social and psychological factors associated with health maintenance. Major threats to health, changing patterns of morbidity and mortality of the aged. Pre: graduate standing.

SW 699 Directed Reading and Research (V) Students, on the basis of special interest, select a faculty member to work with on a problem for which planned individualized study or research is deemed advisable. Pre: consent.

SW 700 Thesis Research (V) Independent research under supervision of a thesis committee. Includes formal proposal and defense of finished research.

SW 707 Methods of Group Psychotherapy (3) Designed specifically to train students in the theory and practice of leading psychotherapy groups; it includes historical developments, research, theories, and application of group psychotherapy, group techniques and exercises. Pre: 607 or consent.

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 intervention. 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. Pre: graduate standing.

SW 717 Social Work Practice with Children and Families (3) Advanced practice course for students specializing in work with children and families. Designed to provide students with an in-depth understanding of both theoretical formulations and therapeutic techniques for practice in the field of family and child welfare. Emphasis placed on the development of specialized knowledge and skills for assessment, intervention, and evaluation of a variety of common child and family practice situations. Pre: completion of foundation courses.

SW 718 Seminar in Social Work Practice with Children and Their Families (3) Designed for social work majors and students in the child and family concentration and builds upon past knowledge and skill development in practice classes and in the practicum. Students integrate, demonstrate, and extend earlier learning, acquire new knowledge, and learn and practice new skills. Organized around a variety of topics toward a consultation format. Meets seminar requirement. Pre: 717.

SW 722 Social Work Practice in Health Care (3) Didactic and experiential learning activity focuses on the major role of the social worker in the health field including assessment, contract negotiations, counseling, advocacy, case management, discharge planning, family group work, community and team building. Covers health care policy, research directions in practice and social work management issues. Pre: completion of foundation courses.

SW 723 Seminar in Social Work Practice in Health Care (3) Through the use of case studies developed by the students, social work practice is examined in three areas of health care: primary care provided in health departments and medical groups, hospital-based services, and long-term care. Meets seminar requirement. Pre: 722.

SW 724 Seminar in Social Work Practice in Mental Health (3) Prepares students for social work practice in mental health settings. As the first course in the concentration, it focuses primarily on minor or short-term mental dysfunction (e.g., reactions, depression, anxiety). Based on conceptual foundations and clinical implications of mental health, human ecology, life cycle events, strengths assessments, and research. Includes a seminar component which provides students with opportunity for research and exploration of topics. Pre: completion of foundation courses.

SW 725 Social Work Practice in Mental Health (3) Prepares students to work with persons who are experiencing major mental disorders and to improve the systems of care that have been developed to serve this population. Focuses on the complexity of the community mental health movement, discusses relevant policies and laws, and describes the current mental health system in the U.S. and Hawai'i. Pre: 724.

SW 726 Social Work Practice with the Aged (3) Designed for social work students specializing in social work practice with the aged and their families. Examines normal aging, institutional aging and its impact on physical processes, intellectual functions, and personality. Emphasis is placed on the development of specialized knowledge and skills for assessment, intervention, and evaluation of a variety of issues in the field of gerontology. Pre: completion of foundation courses.

SW 727 Seminar in Social Work with the Aged (3) Designed for social work students in the aged concentration, builds upon past knowledge and skill development from courses and practicum. Students examine micro and macro interventions used for a wide range of issues and problems encountered by older persons as they move through the older adult life cycle. Both case presentation and case consultations assignment. Meets seminar requirement. Pre: 726.

SW 731 Social Policy Analysis (3) Students pursue an in-depth specific topic in the areas of social planning, social policy analysis, evaluation of social programs, administration, and consultation. Selectively a comparative perspective is introduced and case studies used to illustrate concepts, principles, and techniques, with implications for practice. Meets seminar requirement. Pre: 630 or consent.

SW 737 Social Work and the Law (3) Knowledge of legal, ethical, and policy considerations in the social work profession. Pre: 630 and 737.

SW 740 Seminar in Social Work Practice with Children and Their Families (3) Designed for social work majors and students in the child and family concentration and builds upon past knowledge and skill development in practice classes and in the practicum. Students integrate, demonstrate, and extend earlier learning, acquire new knowledge, and learn and practice new skills. Organized around a variety of topics toward a consultation format. Meets seminar requirement. Pre: 717.

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. Pre: 650.

SW 743 Independent 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 selection of a topic related to the practice of social work or knowledge relevant to that practice, utilization of empirical research methodology in collecting and analyzing original data, and preparation of a scholarly paper. Pre: 650.

SW 744 Individual or Group Research Project—Plan B (V) Same as 743. Pre: 743.

SW 746 Individual or Group Research Project—Plan B (V) Same as 743.

SW 750 Analysis and Development of Knowledge for Social Work (3) Focuses on an understanding of philosophy of science, theory development, social work epistemology, and the analysis and development of knowledge for social work practice. Pre: PhD candidate in social welfare or consent.

SW 751 Quantitative Methods II (3) Empirical research methodology with emphasis on design principles and measurement of theory, design and measurement issues and problems in cross-cultural research. Pre: PhD candidate in social welfare or consent.

SW 752 Qualitative Research: Philosophical, Methodological and Analytic Approaches (3) Theoretical and methods of qualitative research: problem formulation, informant selection, study design, data collection and analysis utilizing qualitative approaches. Repeatable three times. A-F only. Pre: 640 or 651 or equivalent; departmental approval.

SW 755 Specialization Integration Seminar (3) Cumulating experience in social welfare doctoral specialization; integration of core and specialization course work. Pre: classified student in PhD in social welfare program 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 part-Hawaiians. Prerequisites: a course in Hawaiian culture. Pre: classified student in PhD in social welfare program or consent.

SW 775 Cultural Factors in Work with Hawaiians (3) Hawaiian culture, past and present. Explores and examines possible approaches to working with Hawaiians and part-Hawaiians. Prerequisites: a course in Hawaiian culture. Pre: classified student in PhD in social welfare program or consent.
Sociology (SOC)

College of Social Sciences

In addition to the prerequisites specified below, all 300-level courses have as 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 100 Introduction to Sociology (3) Basic social relations, social structures, and processes. DS

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. DS

SOC 218 Introduction to Social Problems (3) Theoretical and substantive survey of the nature and causes of social problems; selected types: poverty, inequality, deviance, etc. DS

SOC 231 Introduction to Juvenile Delinquency (3) Forms of juvenile deviance; conditions and processes that result in delinquency and deviation 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) The city in historical and comparative perspectives. Interplay of demographic, economic, and cultural factors in urban growth. Urban process, development, and interdependence. DS

SOC 305 Women and Health (3) Explores current issues in the conceptualization and delivery of health care for women. Pre: one of POLS 110, SOC 100, WS 151, or 202. (Cross-listed as WS 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 lifestyles and life chances; 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 322 Survey of Social Psychology (3) Major principles; social attitudes, theories of conformity and change, person perception and attribution theory, social role, role conflict and role behavior, group structure, and behavior. DS

SOC 325 Survey of Sociology of Education (3) Formal education as one aspect of socialization. Emphasis on American system; business, military, and religious institutions. DS

SOC 326 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; social attitudes, theories 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, including 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 organization. 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) Persistence and change in economy, policy, religion, education, family, and other institutions of modern Japan. 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, WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 362) DS

SOC 374 Law, Politics and Society (3) Relationship between law, politics, 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 SOCS course, or a 100 or 200 level POLS course, or consent. (Cross-listed as POLS 374) DS

SOC 401 Analysis in Urban Sociology (3) Urbanization in developed and developing countries, the rural-urban continuum, structure and process 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; community studies; historical and 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 PPST 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 transformations of industrial society to postindustrial one; corporate restructuring and downsizing and their impact on employment and income distribution; gender relations in workplaces; the impact of globalization on the newly industrialized economies. 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 racial division of labor nationally and internationally; racial and gender differentials in wages, training, working conditions and unemployment; historical trends and future directions. Pre: 300, or one 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. Scaling and measurement 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; or consent. (Cross-listed as WS 435) DS

SOC 441 Social Structure and the Individual (3) Effects of social institutions on individuals. Role of socioeconomic status, cultural background, family structure, peer group, schools, and occupational roles in socialization. DS

SOC 445 Analysis in Gender Violence (3) Historical and structural theories of gender-based 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. (Once a year) DS

SOC 446 Gender Violence Over the Lifecycle (3) Examines the problem of violence, particularly sexual violence, over the life cycle. Offers gendered perspectives in activities aimed at prevention and treatment of violence, and cross-cultural analyses. 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, mating, love, and choice. Empirical research emphasizing Hawai‘i. DS

Key to symbols & abbreviations: see the first page of this section.
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. 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 452) 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 300 level ES course, or consent. (Cross-listed as ES 456) DS

SOC 457 Sociology of the Arts (3) Relation of art to sociological roles of artist, audience, critic, patron, museum; Western and other societies; attitudes toward new styles. 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 selection, instrument construction, sampling techniques, data collection, computerized data analysis, and writing up research reports of the findings. 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/NC 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; theories of everyday life; reality construction. 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 multiethnic nations: Canada and the U.S. A-F only. Pre: 300 or one 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 or consent.

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

SOC 499 Directed Reading or Research (V) All graduate courses in the department require classified graduate standing in sociology or consent. Additional prerequisites are specified below.

SOC 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: 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 605. CR/NC only. Co-requisite: 605. DS

SOC 606 Research Methods and Design (3) Emphasis on theory selection, theory construction, and choice of research strategies. DS

SOC 607 Seminar in Methods of Content Analysis (3) (Cross-listed as AMST 638) 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; writing 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 and association, table construction, and elaboration models. Pre: consent. (Cross-listed as EDEA 608) DS

SOC 609 Seminar Qualitative Research (3) Advanced seminar on conducting fieldwork in natural social settings with emphasis on qualitative techniques, political and ethical considerations, data management and assessment, interpretation and reflexive writing. Repeatable one time.

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. Pre: graduate standing. (Fall only)

SOC 612 Contemporary Sociological Theory (3) Seminar offers a critical overview of major perspectives and representative works in sociology theory from the 1960s to the present, including intellectual contexts and historical development. A-F only. Pre: graduate standing. (Spring only)

SOC 613 Organizational Analysis (3) Theoretical approaches to organizations; organizational structure and process; organizational pathologies and effectiveness; the organization and its environment.

SOC 615 Sociology of Health and Health Services (3) Covers the major paradigms in medical sociology for analyzing social epidemiology, the political economy of health service organizations, health and wellness behaviors, illness perception and help-seeking, doctor-patient interaction, and adaptations to illness. Pre: 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 psychiatry models and current issues.

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 exercise of discretion and limits placed upon it. Pre: consent.

SOC 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. A-F only. Pre: graduate standing. (Cross-listed as AMST 638) DS

SOC 650 Introduction to Human Population (3) Comparative analysis of quantitative and qualitative aspects of population; factors affecting size, distribution, and composition; impact of population size and composition on society. (Cross-listed as PSST 650 and PH 651)
ambient strategies on contemporary conflicts. A-F only. Prereg: graduate standing or consent.

SOC 741 Seminar in Social Structure and the Individual (3) Intensive study and individual research projects in a selected topic. Theoretical and methodological issues in relating 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. Prereg: 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; lifestyles.

SOC 754 Seminar in Social Stratification (3) Classical and contemporary social class; contemporary developments; crucial research issues, appropriate methodologies. Repeatable one time only. Prereg: classified graduate standing or consent.

SOC 800 Dissertation Research (V) Research for doctoral dissertation.

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Spanish (SPAN)

College of Languages, Linguistics and Literature

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. Prereq: 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 plus laboratory practice. HSL

SPAN 201 Intermediate Spanish (3) Continuation of oral practice and grammar study; increasing emphasis on reading and written composition. Laboratory drill. Prereq: 102. NI HSL

SPAN 202 Intermediate Spanish (3) Continuation of 201. Prereq: 201. NI HSL

SPAN 203 Intensive Second-Year Spanish (6) Course content of SPAN 201 and 202 covered in one semester. Three two-hour sessions per week plus laboratory practice. Prereq: 102 or 103. NI 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. Prereq: 202. NI HSL

SPAN 259 Intermediate Spanish Abroad (3) Continuation of 258. NI HSL

SPAN 300 Reading in Spanish (3) Development of language skills through reading of literary and cultural texts. Prereq: 202 or placement exam or consent.

SPAN 301 Grammar and Composition (3) Select ed grammar review and intensive practice in effective use of the written language. Prereq: 202 or consent.

SPAN 302 Grammar and Composition (3) Select ed grammar review and intensive practice in effective use of the written language. Prereq: 301 or consent.

SPAN 303 Conversation I (3) Intensive practice in spoken Spanish, focusing on the preparation and completion of oral tasks and presentations. 40% or more of the grade is based on 3-4 oral communications presentations. Prereq: 301 (or concurrent), or consent.

SPAN 304 Conversation II (3) Continuation of 303. Prereq: 303 or consent.


SPAN 306 Commercial Spanish (3) Language as used in business communication; commercial terminology. Prereq: 305.

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. 300 or 301 may be taken concurrently. Prereg: placement exam. (Fall only)

SPAN 330 Phoneticon and Pronunciation Practice (3) Analysis of the Spanish phonological system, in contrast with pronunciation practice; laboratory drill. Prereq: 301.

SPAN 351 Spanish Cultural Perspectives (3) Survey of the history and cultures of Spain. Prereq: 301 or consent. DH

SPAN 352 (Alpha) Latin American Cultural Perspectives (3) Survey of the history and cultures of Latin America. (B) Pre-Columbian and Colonial periods; (C) Independence, nationhood and current issues. Repeatable one time for other topics, but not for the same topic. Prereq: 301 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. Prereq: 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. Prereq: 202 or equivalent.

SPAN 361 Masterworks of Spanish Literature (3) Reading and discussion of representative works of Spanish literature: origins to 18th century. Prereq: 301 or consent. DL

SPAN 362 Masterworks of Spanish Literature (3) Reading and discussion of representative works of Spanish literature: 18th century to present. Prereq: 301 or consent. DL

SPAN 371 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature: Colonial period through Romanticism. Prereq: 301 or consent. DL

SPAN 372 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature: Modernism to the present. Prereq: 301 or consent. DL

SPAN 399 Directed Reading (V) Independent study of approved reading with faculty supervision. A-F only. Repeatable two times. Prereg: consent of instructor and departmental approval.


SPAN 405 Spanish-English Translation (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. Prereq: any two of 301, 302, 303, 358, 359, or 360.

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. Prereg: any two of 301, 302, 303, 358, 359, or 360.

SPAN 460 Intensive Fourth-Level Spanish Abroad (V) Intensive course of formal instruction on the fourth-year level in Spanish language and culture in a Spanish-speaking country. For semester programs only. Prereq: 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. Prereq: 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. Prereq: 371 or 372, or consent. DL

SPAN 478 Hispanic Women’s Literature (3) The feminine experience in Western literate and cultural traditions as seen by women in Spain and Latin America. Prereq: 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. Prereq: one of 361, 362, 371, or 372; or consent. DL

SPAN 495 (Alpha) Topics in Hispanic Scholar ship (3) Hispanic authors, periods, or themes. (B) literature and society, DL; (C) Hispanic poetry, DL; (D) literature and film, DH. Repeatable for other topics, but not for the same topic. Prereq: one of 361, 362, 371, or 372; or consent. DH

SPAN 496 Studies in Latin American and Iberian Film (3) Intensive study of selected topics in Latin American and/or Iberian cinema: e.g. national or regional cinemas, periods, movements or issues, major filmmakers, film theory and criticism. Repeatable two times. Prereq: one of 361, 362, 371 or 372; 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. Prereg: consent of instructor and departmental approval.

SPAN 658 Seminar in Spanish Linguistics (3) Repeatable. Prereg: graduate standing or consent.

SPAN 660 Medieval Spanish Literature (3) Representative readings in prose and poetry, from origins through 15th century. Prereg: 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. Prereg: graduate standing.

SPAN 669 19th-Century Spanish Realism (3) Nineteenth-century Spanish realism in the novel. Authors include Galdós, Clarín, Alarcón, Pardo Bazán, Blasco Ibíñez, Valera. Prereg: graduate standing or consent.

SPAN 670 (Alpha) 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. Prereg: 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. Prereg: graduate standing or consent.

SPAN 682 Spanish-American Poetry (3) Study of representative poets from all periods: Martí, Dárió,
Mistral, Guillén, Neruda, Paz, 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) Pre: consent of department chair.

Special Education (SPED)

College of Education

SPED 304 and 485 are prerequisites for the graduate program in special education. Current TB clearance, background check, and liability insurance is a requisite for SPED 400, 490, 491, 626, 627, 628, and courses requiring practicum experiences.

SPED 201 Disability and Diversity (3) Explores the changing disability experience (from "stereotype" to "normalization") as depicted in film, literature and dialogue with persons with disabilities in the Pacific Northwest. Students will employ "technologies for voice" to share stories. 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. DS

SPED 390 Student Teaching: Elementary/Secondary and Special Education (V) Full-time supervised experience in school. Repeatable up to 12 credits. A-F only. Pre: 400 and requirements for registration listed under "student teaching." Co-requisite: 391.


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 extensive 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 (or concurrent) or consent. Co-requisite: one of 461, 462, or 485; or consent.

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 individuals with severe disabilities and autism; multicultural, family, and consumer issues; professional and ethical issues in providing services.

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 415 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 organizational procedures. Pre: 414 or consent.

SPED 421 Strategies for Reading Difficulties (3) Overview of methods, programs, and strategies for reading instruction designed to improve the performance of elementary students, grades K-6, who experience difficulties in reading acquisition, fluency, and comprehension. A-F only.

SPED 425 Partnerships with Families and Professionals (3) Knowledge and skills for relating effectively with families and professionals on behalf of the children and adults with whom and without disabilities. Coverage of the context in which family members and school personnel interact. 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 individuals with 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 KRS 443)

SPED 444 Educating Exceptional Students in Regular Classrooms—Elementary (3) Teaching strategies for students with disabilities and those who are gifted/talented. Using academic/social needs, classroom management, motivation, peer interaction, collaboration between special and regular educators. Includes an emphasis on instruction in writing. (Cross-listed as KRS 445)

SPED 445 Educating Exceptional Students in Regular Classrooms—Secondary (3) Teaching secondary students with disabilities and those who are gifted/talented. Using academic/social needs, classroom management, motivation, peer interaction, Collaboration between special and regular educators. Includes an emphasis on instruction in writing. (Cross-listed as ITE 445)

SPED 446 Seminar in Special Education (3) Study of issues, trends, and research into special education programming and service delivery. Repeatable two times. Pre: consent.

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. Pre: FAMR 230 (or concurrent) and FAMR 331 (or concurrent), or consent. (Cross-listed as ECDS 451)

SPED 452 Preschool Children—Special Needs (3) Examination of application of current research and practices for serving preschool children with special needs. Pre: FAMR 230 (or concurrent), or consent.

SPED 461 Assessment, Planning, and Instruction for Students with Mild/Moderate Disabilities (3) Techniques in the assessment, planning, and instruction for students with mild/moderate disabilities. Stress on program development to facilitate inclusion of students with disabilities into general education environment. Pre: 304 or consent.

SPED 462 Assessment, Planning, and Instruction for Students with Severe Disabilities/Autism (3) 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. Pre: consent.

SPED 480 Technology for Children with Disabilities (3) Overview of technologies for children with disabilities, highlighting battery operated toys, low, and high tech augmentative communication systems, software, computers and alternative input devices (keyboards, switches, visual search), and multimedia technologies to promote discovery and independence for children with disabilities and their families.

SPED 485 Classroom Organization and Management (3) Knowledge and skills related to basic organizational management of an inclusive classroom, including scheduling, including stress and time management; techniques of applied behavior management, emphasizing behavior change and practical implementation of learning principles.

SPED 486 Theoretical Basis for Teaching Special-Needs Students (3) Survey of biophysical, behavioral, social/ecological, psychodynamic/psychosocial, cognitive/developmental, counter-theoretical approaches to teaching exceptional students. Opportunity for the development and/or strengthening of one's own theoretical framework of reference.

SPED 487 Characteristics/Strategies for Teaching At-Risk Students (3) Survey of educational, behavioral, and emotional characteristics of students who are at-risk for school failure and strategies to work with such students.

SPED 499 Directed Reading/Research (V) Individual reading, research, and/or projects under direct supervision of instructors. Repeatable nine times. 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 526 Field Experience in Special Education-Post Baccalaureate (2) Students spend a minimum of 100 hours over a minimum of 11 weeks in settings appropriate to SPED-P Cert program emphasis (mild/moderate or severe/autism); supervision provided by participating teacher and/or college supervisor. Repeatable two times. Pre: consent of instructor or department chair.

SPED 527 Student Teaching in Special Education-Post Baccalaureate Programs (6) Supervised student teaching with a master teacher in PreK-12 educational settings appropriate to SPED-P Cert emphasis (mild/moderate, severe/autism); minimum 280 hours in minimum 11 weeks. Supervision by master teacher and university supervisor.

SPED 528 Internship in Special Education-Post Baccalaureate Programs (3) Supervised teaching experience in full-time-on-the-job PreK-12 educational settings appropriate to SPED-P Cert emphasis (mild/moderate or severe/autism); supervision provided by university supervisor. Must enroll for two consecutive semesters. Repeatable three 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–J) bilingual/multicultural/special needs; (K–N) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/SPED; (Q–R) arts/special needs; (S–T) arts/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–J) bilingual/multicultural/special needs; (K–N) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/SPED; (Q–R) arts/special needs; (S–T) arts/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 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–J) bilingual/multicultural/special needs; (K–N) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/SPED; (Q–R) computer/special needs; (S–T) arts/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.

Key to symbols & abbreviations: see the first page of this section.
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 practical foundations for providing effective instruction including: best instructional practices, lesson planning, teacher-directed and student-mediated instructional strategies, and curricular approaches for working with students with mild/moderate disabilities. A-F only. Pre: 304 or consent. Co-requisite: 626.

SPED 613 Advanced Assessment and Curriculum Development (3) Assessment methods and techniques that emphasize the bond between curriculum-based assessment and curriculum-based programming. Planning and cyclical instruction across content areas based on ongoing diagnostic assessment. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

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. 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 utilizing 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) Collaborative skills for working with general education teachers, specialists, related professionals, 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 and effective plans of study. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 618 Adaptations and Special Procedures—Students with Severe Disabilities/Autism (3) Adaptations 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. Pre: consent.

SPED 620 Strategies Across Content Area (3) Strategies for teaching math, science, and social sciences to students of all ages 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-related learning problems (e.g., speech, reading, writing) to students of all ages with learning problems. Pre: 304 or consent.

SPED 622 Children’s Literature for Deaf Students (3) Introduction 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 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.

SPED 627 Advanced Practicum (6) Supervised education/community experiences; minimum of 20 hours weekly with special-needs population (MR, LD, SED, SMH); pre-school through postsecondary settings (public/private). Related seminar or equivalent 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; must enroll for two consecutive semesters. A-F only. Repeatable two times. Pre: 626 and 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/application of assessment/intervention strategies to promote motor development; positioning and handling skills. Pre: 614 (or concurrent) or consent.

SPED 634 Inclusive Physical Education (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and individuals with exceptionalities, and how these influence instruction and curricular design for deaf physical education settings. Required field experience. Repeatable one time. A-F only. Pre: consent. (Cross-listed as KRS 654)

SPED 635 Procedures for Early Childhood Special Education (3) Assessment and intervention strategies to promote behavior change with young children with disabilities. Promoting child skill gains and integrated programming options. Pre: consent.

SPED 640 Seminar on Mild/Moderate Disabilities (3) Study of issues, research, program development in the area of mild/moderate disabilities. Repeatable two times. Pre: consent.

SPED 641 Seminar in Issues in Special Education (3) Seminar on issues, trends, research, and program development in the field of special education. Seminar may be repeated for credit as topics vary. Repeatable five times. A-F only. Pre: departmental approval. (Once a year)
SPED 642 Seminar on Applied Research/Special Education (3) Study and develop of applied research topics in special education. Repeatable two times. Pre: consent.

SPED 652 Transition/Supported Employment (3) Transition planning for youth with disabilities in preparation for employment as adults in private and public sector businesses. Pre: consent.

SPED 688 Research Practicum in Special Education (3) Directed research experience to demonstrate mastery of research skills and techniques through developing and writing research proposals. Repeatable one time. A-F only. Pre: 642 or consent, or departmental approval. (Once a year)

SPED 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. Repeatable one time. A-F only. Pre: graduate standing in Special Education.

SPED 699 Directed Reading/Research (V) Individual reading/research. Pre: consent of instructor and department chair.


SPED 705 Seminar in Exceptionalities (3) Current and historical topics, issues, and trends in the field of exceptionalities. Repeatable with different content. Pre: consent.

SPED 706 Doctoral Internship (6) Supervised internships minimum 30 hours per week) in program development and administration or research in the student’s area of emphasis. Pre: consent.

SPED 740 Single-Case Experimental Design (3) Advanced single-case experimental design; examines the logic of internal and external validity of small “N” design and its functionalist foundations. Pre: consent.

SPED 745 Special Topics in Exceptionalities (3) Critical examination and discussion of historical or current topic in early intervention, special education, and/or developmental disabilities. Repeatable two times. A-F only. (Once a year)

SPED 760 Grant Development/Procurement (3) Overview of grant development and procurement processes related to special education personnel preparation and research and demonstration programs. Students design a grant proposal related to a particular problem or need within their employment settings. Pre: consent.

Speech (SP)

College of Arts and Humanities

SP 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

SP 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 practice in skills. DS

SP 181 Introduction to Interpersonal Communication (3) Introduction to basic principles of interaction between two people. Emphasis is on enhancement of skills in a variety of interpersonal contexts. DS

SP 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

SP 251 Principles of Effective Public Speaking (3) Combined lecture/laboratory providing extensive practice in preparing and presenting effective public speeches with special emphasis on organization, outlining, audience analysis, analytical reasoning, and delivery skills. DA

SP 290 Interviewing (3) Principles and practice; training in informational, persuasive, employment, appraisal, and research interviewing. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. NA

SP 301 Introduction to Speech Communication Theories (3) Introduction to the theoretical perspectives that are the foundations of the speech communication discipline. Pre: one of 151, 170, 181, 185, or 251; or consent. DS

SP 302 Research Methods (3) Introduction to methods of inquiry in the field of speech. Topics include research design and problem formulation, sampling, analytic and observational techniques, and data interpretation. SP majors only. Pre: 200-level speech course (or concurrent) or consent. DS

SP 321 Speech for Classroom Teachers (3) Analysis of and practice in using major models of speech communication in the classroom. Role of speech in various academic disciplines as needed by teachers. Pre: one of 151, 170, 181, 185, 200, 251, or 301; or consent.

SP 333 Storytelling (3) Aesthetic communication through speaking for entertainment and education. Oral tradition; analysis of story types; techniques of preparation and presentation; performance. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DA

SP 335 Story Theater (3) Techniques and procedures for staging and performing narrative fiction. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DA

SP 351 Professional Presentations (3) Extends application of public speaking skills to professional contexts: group sales, press conferences, and corporate annual and public relations events. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.

SP 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. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.

SP 353 Argumentation and Debate (3) Adapting communication theory to forensic strategies for social action. Practice in formal argument. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.

SP 356 Leadership Skills (3) Principles and practices of organizational speech and its relationship to leadership, power, conflict, cultures, and organizations. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.

SP 371 Message Processing (3) Introduction to theory and research on human communication, comprehension, creation of understanding. Discussion of codes and media, information and message processing theories. Topics include inference-making, implicature, natural and artificial language, and deception. Junior standing or higher. DS

SP 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. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.

SP 381 Interpersonal Relations (3) Theory and research on the development, maintenance, and termination of interpersonal relationships. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS

Course Information (V) An introduction to speech and communication topics and skills necessary for the development of effective oral and written communication. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS

SP 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 peoples. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS

SP 386 Special Topics in Communication (3) Contemporary research and theory on intercultural communication. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS

SP 390 Interrogation and Interviewing (3) Survey of theory and research on the communicative demands of obtaining reliable information from others. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS

SP 395 Research on Speech Behavior (3) Survey of research on speech behavior. Verbal and nonverbal data collection; analysis of research data. Students design and implement a research project. Repeatable three times. Pre: 301 and 302. DS

SP 399 Internship (V) Application and analysis of speech/communication knowledge and behaviors in organizational settings. Repeatable up to six credits. A-F only. Pre: consent.

SP 453 Practicum in Debate and Forensics (V) Practicum focused on competitive intercollegiate forensics activities including evidence and parliametary debate, the interpretation of literature, and platform speaking. Includes diverse non-competitive forensics activities such as judging and organizing debate tournaments. Repeatable up to six credits. CR/NC only. Pre: 353 or consent.

SP 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. Pre: upper division standing or consent. DS

SP 455 Conflict Management (3) Examination of the theories, assumptions, practices, models, and techniques of managing interpersonal conflicts. Pre: one of 151, 170, 181, 185, 251, 301 or 381. DS

SP 464 Analysis of Public Communication (3) Analysis of communication in public settings; perspectives on the study of argumentative strategy and structure in public messages (debates, political or public service ads). Pre: 364 or consent. DS

SP 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. Pre: 151, 170, 181, 185 or 251; or consent. DS

SP 471 Verbal Communication (3) Roles of language: perception and assumption in human relationships; relation of language symbols to emotion and attitudes. Pre: upper division standing or consent. DS

SP 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. Pre: 301 or 302 (or concurrent), and 381; or consent. DS

SP 490 The Helping Relationship (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised practice, video lab. Pre: one of 151, 251 or 301 or PSY 100. (Cross-listed as PSY 477) DS

SP 496 Teaching Speech (6) For speech majors who wish to teach, under supervision, a freshman seminar section of speech. Pre: senior standing and consent. DS

SP 495 Health Communication (3) Develop understanding of how speech communication functions to facilitate or inhibit the delivery of health care in a variety of contexts. Focus on compliance process,
physician-patient interaction, nurse-physician interaction. Pre: 364 or 381, or consent. DS

SP 499 Directed Reading (V) Pre: consent of department chair and instructor.

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

SP 601 Theories in Speech Communication (3) Major theoretical foundations; humanistic and social scientific perspectives. Examination of the research and the development of different models of human communication. SP majors only. Pre: graduate standing in SP, or consent.

SP 602 Research Methods in Speech (3) Design and analysis of quantitative research in speech. Focus on measurement issues, research design, descriptive and inferential statistics. SP majors only. Pre: graduate standing in SP, or consent.

SP 620 Practicum for Instructional Communication (1) Combined seminar and lecture/discussion format on techniques and procedures for teaching speech skills and their related components in a laboratory setting. CR/NC only. Repeatable three times. SP majors only. Pre: graduate standing in SP, or consent.

SP 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 communication, and public speaking skills. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

SP 664 Persuasion and Social Influence (3) Theories of persuasion and resistance to persuasion; assessment of attitudes and measurement of change. Pre: 601 (or concurrent) or 602 (or concurrent) or consent.

SP 670 Message Processing (3) Theories of human message processing. Effects of verbal and nonverbal codes, channels, and message forms on encoding and decoding. Pre: 601 (or concurrent) or 602 (or concurrent) or consent.

SP 681 Relational Communication (3) Major models and theories of interpersonal speech communication; research on interpersonal relationships; interaction and functions of human discourse. Pre: 601 (or concurrent) or 602 (or concurrent) or consent.

SP 699 Directed Research (V) Repeatable unlimited times. Only three credits can count toward degree.

SP 700 Thesis Research (V) Repeatable three times.

SP 702 Researching Relational Communication (3) Methodological and analytical issues of research related to relational communication. Focus on repeated measures, multivariate analysis, longitudinal analysis, and reliability and validity issues. Pre: 602 or consent.

SP 721 Approaches to Instructional Communication (3) Speech communication theories and models in instructional environment; emphasis on development training in educational settings. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

SP 752 Research in Group Communication (3) Theory, concepts, research, and application of small group communication processes and decision-making. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

SP 764 Seminar in Persuasion and Influence (3) Contemporary research in persuasion and influence. Repeatable two times. Pre: 664 (or concurrent) or consent.

SP 770 Issues in Message Processing (3) Contemporary research in verbal and nonverbal message processing. Repeatable one time. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

SP 781 Seminar in Relational Communication (3) Contemporary research in interpersonal relations. Repeatable one time. Pre: 681 or consent.

SP 785 Research on Intercultural Communication (3) Functional approach to the study of speech communication in intercultural settings. Examination of culture-based variables and their impact on social influence, relational management, and message processing. Repeatable one time. Pre: 664, 670 or 681; or consent.

SP 795 Seminar in Health Communication Research (3) Contemporary interpersonal and/or public communication issues in health communication research. Topics include speech communication functions such as information management, interpersonal influence, relational management, emotional management, social influence. Repeatable one time. Pre: 664, 670 or 681; or consent.

Surgery (SURG) School of Medicine

SURG 531 Surgery Clerkship I, II (10) A clinically based, introductory course in general surgery and selected subspecialties. Repeatable one time. CR/NC only. Pre: BIOM 555 and third-year standing.

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. Inpatient-conducted for four weeks in an acute-care hospital facility. Repeatable one time. CR/NC only.

SURG 541 Emergency Medical Care (6) Clinical experiences in management of medical, surgical, and psychiatric problems requiring urgent care. Pre: 531 and fourth-year standing.

SURG 545 (Alpha) Unit VII Electives in Surgery (V) Advanced clinical experience in: (B) urology; (C) ophthalmology; (D) otolaryngology; (E) plastic surgery; (F) neurosurgery; (G) orthopedics; (H) anesthesiology; (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) extramural elect in surg; (Q) Sub-I—cardiovascular; (R) surgical research; (S) surgical anatomy; (T) preceptorship in Asia; (U) biomedical technology design. Repeatable one time for all except (U); repeatable two times for (U). Medical students only for: (U). CR/NC only. Pre: 531 or 532 for all except (M) and (U); and consent for (R) and (S); admission into JABSOM for (U).

TAHITIAN (TAHT)

College of Languages, Linguistics and Literature

TAHT 101 First-Level Tahitian I (4) Listening, speaking, reading, writing. Structure points introduced inductively. Meets one hour daily, Monday–Friday; four out of five hours devoted to directed drill and practice; regular on-line lab work and review of audiovisual materials. HSL

TAHT 102 First-Level Tahitian II (4) Continuation of 101. Pre: 101 or consent. HSL

TAHT 107 Reading and Writing Tahitian Script (3) Focus on Tahitian script reading and writing skills. For students with some aural and spoken skills in Standard Tahitian equivalent to those completing TAHT 102 or higher, but cannot read or write in Tahitian script. Lab work. Pre: consent. HSL

TAHT 112 Intensive Elementary Tahitian (10) HSL

TAHT 201 Second-Level Tahitian I (4) Continuation of 102. Integrated development of skills in listening, speaking, reading, and writing in Tahitian script. Meets 5 hours a week, regular on-line lab work and review of on-line audio visual materials. Pre: 102 or consent. N/H

TAHT 202 Second-Level Tahitian II (4) Continuation of 201. Pre: 201 or consent. N/H

TAHT 212 Intensive Intermediate Tahitian (10) N/H

TAHT 301 Third-Level Tahitian 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.

TAHT 302 Third-Level Tahitian II (3) Continuation of 301. Pre: 301 or equivalent.

TAHT 303 Accelerated Third-Level Tahitian (6) Course in conversation, reading, and writing in Tahitian. Prior course in Tahitian or equivalent prerequisite. Meets six hours a week. Advanced conversation and reading; emphasis on modern written texts. Lab work. Pre: 202 or equivalent.

TAHT 401 Fourth-Level Tahitian I (3) Continuation of 302/303. Advanced conversation and reading of specialized, scholarly texts. Pre: 302 or 303 or equivalent.

TAHT 402 Fourth-Level Tahitian II (3) Continuation of 401. Pre: 401.


TAHT 415 Tahitian Language in the Media (3) Development of reading and aural comprehension of authentic Tahitian language used in print and broadcast media through reading Tahitian newspapers, viewing

Key to symbols & abbreviations: see the first page of this section.
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) Standard language and regional and social varieties. Pre: LING 320 and one Southeast Asian language. DH

THAI 452 Structure of Thai (3) Continuation of 451. DH


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. Pre: 1930-1969; (C) 1970-present. Repeatable one time with consent. Pre: 402, 461(B) or 461(C), or consent. DL

Theater (THEA)

College of Art 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 Islands from the 5th century B.C. to the present. Analysis of political, religious, and technological conditions of theatre. Includes practical theatre workshop. DA

THEA 200 (Alpha) Beginning Theater Practicum (1) Beginning workshop experience in the practical application of theater skills. (B) acting; (C) stagecraft; (D) costume; (E) theater management. Repeatable up to four credits in each alpha. Pre: for 200B, audition and performance of role in a Department of Theatre and Dance production; for 200E theatre workshop. DA

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 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, etc. Pre: 201. (Alt. years) N/DF

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 Acting I: Introduction to Performance (3) Concentration on voice, relaxation, body awareness, and freedom from self-consciousness through theatre games, improvisations, monologues, and exercises. Emphasis on ensemble work. Repeatable one time with consent. DA

THEA 222 Acting II: Basic Scene Study (3) Basic character study and understanding of creation of roles through working on scenes from modern and contemporary plays. Repeatable one time with consent. Pre: 221. N/DA

THEA 240 Introduction to Theater Production (3) (3 Lec, 1-1 hr Lab) Survey class introducing basic tools, materials and skills of Technical Theatre: production, rigging, lighting, costume, make-up and painting. DA

THEA 240L Theatre Production Lab (1) Lab observations and projects illustrating basic principles of theatre production. A-F only. Co-requisite: 240.

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 311 World Theater I: Myth to Drama (3) Myth and ritual into drama, 1000 B.C.–1500 A.D. Development of Western and Asian secular drama from sacred and ritual beginnings. Required of all majors. Pre: 101 or consent. (Alt. years) DL

THEA 312 World Theater II: Elite–Popular (3) Court and marketplace, 1500–1700. Contrast between elitist and popular forms in Western and Asian theater. Required of all majors. Pre: 311 or consent. (Alt. years) DL

THEA 318 Playwriting (3) One-act 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 one previous film class; or consent. 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 consent for (E).

THEA 411 World Theater III: Realism (3) The rise of realism, 1700–1918. Development of romantic and regional forms of drama and theater, and the impact of realism. Required of all majors. Pre: 312 or consent. (Alt. years) DL

THEA 412 World Theater IV: Modern (3) Pluralism in modern theater, 1918–present. Reactions to realism and current Western and Asian alternative theater forms. Required of all majors. Pre: 411 or consent. (Alt. years) DL

THEA 413 (Alpha) Approaches to Dramatic Texts (3) Intensive analysis and discussion of dramatic texts from a variety of authors. Understanding trends and variations in dramatic form and content. (B) contemporary British and American drama; (C) political drama in the West. Pre: one of 311, 312, 411, 412, or consent. DL

THEA 414 Women in Drama and Theater (3) The role of women and their presentation in theatre from ancient Greece to the present; focus on socio-political status of women. Pre: 311. (Cross-listed as WS 414) DH

THEA 418 Advanced Playwriting (3) Workshop in experimental writing in dramatic form; full-length plays. Repeatable one time. Pre: 318. DA

THEA 420 (Alpha) Intermediate Voice for the Actor (3) Advanced vocal techniques. Pre: 318, 411, 412, or consent. DA

THEA 421 Acting V: Musical Comedy (3) Training in skills required to perform in musicals. Students present scenes from musical comedies for criticism and review. Repeatable two times with consent. Pre: one of 321, 322, MUS 221B, or consent; and/or audition. (Cross-listed as MUS 421) DA

THEA 422 Acting VI: Period Styles (3) Presentational acting in comedy and tragedy; emphasis on performance styles in Elizabethan, Restoration, and 18th-century drama. Repeatable one time with consent. Pre: 321 and 322, or consent. DA

THEA 426 South/Southeast Asian Acting Workshop (3) Training in skills and techniques for selected traditional southern and southeastern Asian theater forms. Emphasis on movement and vocal techniques. Repeatable one time. A-F only. Pre: 222 or consent. (Alt. years) DA

THEA 426 South/Southeast Asian Acting Workshop (3) Training in skills and techniques for selected traditional southern and southeastern Asian theater forms. Emphasis on movement and vocal techniques. Repeatable up to four credits in each alpha. Pre: consent. DA

THEA 429 Contemporary Performance Practices (3) Focus on individual training in the skills and techniques of contemporary experimental theater.
including acting, directing, and self-scripting. Repeatable two times. Pre: one of 222, 318, 380, or consent.

THEA 433 Movement Workshop (V) Special workshops in movement relating to specific departmental theatrical productions beyond the scope of movement taught in 437 and 438. Repeatable one time. Pre: one of 435, DNCE 435, or consent. (Alt. years) (Cross-listed as DNCE 433) DA

THEA 434 Taiji (T’ai Chi) for Actors II (3) Intermediate-level Taijiquan (T’ai Chi Ch’u’an) 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 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: 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. years) (Cross-listed as DNCE 436) DA

THEA 437 Period Movement Styles, 1450–1650 (3) Movement style and movement performance 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. years) (Cross-listed as DNCE 437) DA

THEA 438 Period Movement Styles, 1650–1800 (3) Movement styles and social movement 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 consent. (Alt. years) (Cross-listed as DNCE 438) DA

THEA 439 Musical Theater 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 DNCE 439) DA

THEA 445 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) In-depth exploration of costume production techniques; construction, crafts, and new materials; Western and Asian. Repeatable one time. Pre: 356 or consent. DA

THEA 447 Stage Management (3) Business, organization and management for theater and dance productions. Pre: junior standing or consent.

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 packages with a focus on drafting specific to theatre. A laptop with Vectorworks installed is required. Pre: 345 or consent. (Once a year)

THEA 453 Scenic Design (3) Workshop in advanced techniques and skills of scenic design; model making, drafting, and rendering. Pre: 353 or consent. DA

THEA 456 Costume Design for Theatre and Dance (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 DNCE 456) DA

THEA 462 Drama and Theater of Oceania (3) Survey of the contemporary drama and theater of Oceania that combines island and Western traditions. Includes Papua New Guinea, Hawai‘i, Fiji, Samoa, Australia, New Zealand. Pre: 101 or ANTH 350, or consent. (Cross-listed as PACS 462) DH

THEA 464 Drama and Theater of Southeast Asia and India (3) Court, folk, popular traditions, and the manner of their production. Pre: consent. DH

THEA 465 Drama and Theater of China (3) Yuan, southern, spoken drama; Beijing opera and the manner of their production. Pre: consent.

THEA 466 Drama and Theater of Japan (3) No, Kyogen, Bunraku, Kabuki, modern drama, and the manner of their production. Pre: junior standing.

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 474 Theater for Children (3) Theories and principles of formal theater for children. Study of and practice in the selection, direction, and production of plays. Pre: junior standing or higher, or consent. DA

THEA 475 Puppets and Puppetry (3) Methods of constructing puppets and stages with and for children 3 to 8 years of age. Use of puppets in the creative arts. Fieldwork. Pre: junior standing or consent.

THEA 476 Puppetry (3) History and scope of puppetry. Construction 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 ages 10 to 18 and adults. Pre: junior standing or above, or consent. DA

THEA 480 Intermediate Directing (3) Workshop: student directed one-act plays. Repeatable one time with consent. Pre: 380 and consent. (Alt. years) DA

THEA 490 Experimental Theater 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 acting, directing, playwriting, dancing; or consent.

THEA 492 (Alpha) Topics in Drama and Theater (3) (B) Qiqong (Chi Kung) for actors; (C) Shakespeare in performance. Skills and techniques for performing in Shakespearean productions; (D) topics in European theatre. Repeatable one time per topic, repeatable two times for (B), Pre: 434 or consent for (B), 222 or consent for (C), junior standing or consent for (D).

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 Theater Research (3) Bibliography and research methods; preparation for thesis and dissertation writing. Required of all graduate theater majors.

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)

THEA 612 History of Western Theater I (3) Theater 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 Theater II (3) Theater as a cultural and social institution in the West, from the 18th century to the present. Pre: one of 311, 312, 411, 412, or consent. (Alt. years)

THEA 615 (Alpha) Topics in Theory and Criticism (3) (B) performance theory. Pre: 311, 312, 411, and 412; or consent. (Alt. years)

THEA 616 Script Analysis (3) Study of dramatic texts in a seminar format; analysis of Western and Asian classical to post-modern plays. Pre: 312 or consent.


THEA 619 Advanced Topics: Playwriting and Dramatic Theory (3) Readings, research, writing, and seminar discussions. Pre: 418, 611, and consent.

THEA 621 Acting VII: Great Roles (3) Great roles from the Western theater repertory; focus on the individual actor and performance styles. Repeatable one time with consent. Pre: 422 and 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-Western texts. Workshop format. Repeatable one time. Pre: consent.

THEA 634 Taiji Weapons for Actors (3)  Advanced level Taijiquan (Tai Chi Ch’uan) weapons training. Repeatable two times. Pre: consent or consent for (D).

THEA 640 Problems in Design and Theatre (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: 345 or 445 or consent.

THEA 653 Problems in Scenic Design (3) Workshop dealing with special topics in scenic design, related skills, and portfolio construction. Repeatable two times with consent. Pre: 453 or consent. (Alt. years) DA

THEA 656 Problems in Costume Design (3) Workshop dealing with special topics in costume design and related skills. Repeatable one time with consent. Pre: 456 or consent.

THEA 657 Seminar in Design (3) Research, design, and discussion exploring collaborative design problems and solutions. Pre: 445, 453, 456; or consent.

THEA 660 Asian Theater Field Research (3) Goals and methods. Interview, questionnaire, observation, and performance study as research techniques. Practical application by designing a research project. Pre: 600.

THEA 663 (Alpha) Topics in Asian Theater (3) Comparative and cross-cultural examination. (B) origins; (C) theories and systems; (D) modern Asian drama. Repeatable one time. Pre: consent.

THEA 667 (Alpha) Topics in Youth Theatre/ Dance (3) Creative movement/drama, puppetry, and theater/dance. (B) production concepts. Repeatable when topics change. Pre: one of 470, 474, 475, 476, 477, DNCE 490; or consent.

THEA 680 Directing Asian Theater (3) Directing traditional Asian theater pieces and Western plays 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 theater major and one Asian theatre course, or 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 theater production for the director. Covers organization and techniques such as rehearsal planning, scheduling, and execution. Repeatable one time.

Key to symbols & abbreviations: see the first page of this section.
THEA 684 Theatre Governance (3) Covers the economic and managerial skills for starting a professional and/or non-profit theatre company or performing arts organization: artistic directorship, board development, non-profit legalities, season planning, fundraising, budgeting, publicity, international activities, etc. Pre: 600 or consent.

THEA 685 Directing Western Styles (3) Students direct scenes in classic or 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 Theater Workshop (V) Practical and theoretical work pertinent to professional degree objectives on productions being done in Kennedy Theatre or in other venues, by approval. Repeatable up to 6 credit hours. Pre: consent.

THEA 691 Seminar in Teaching Dance/Theater (3) Pedagogy and classroom experience in teaching technique and theory. (Alt. years) (Cross-listed as DNCE 691)

THEA 693 Internship: Youth Theater/Dance (V) Supervised leadership experiences in theater/dance program with children. Students spend nine hours per week in supervised setting and three hours in weekly class. Upper division or consent for one of 470, 476, or DNCE 490; or consent. (Cross-listed as DNCE 693)

THEA 695 Creative Projects (V) MFA play or dance productions, design projects, original full-length plays.

THEA 699 Directed Research (V) Reading or research in theater theory or history; reading and practice in particular areas of dramatic production. Repeatable two times. Pre: consent.

THEA 700 Thesis Research (V)

THEA 705 Seminar in Western Drama and Theater (3) Special topics. Repeatable when topics change. Pre: consent.

THEA 763 (Alpha) Seminar in Asian Theater (3) (B) Southeast Asia and India; (C) China; (D) Japan. Repeatable two times. Pre: one of 464, 465, 466, or consent.


THEA 800 Dissertation Research (V)

**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 Beginning Tongan (4) Listening, speaking, reading, and writing skills. Structural points introduced inductively. History and culture. Meets four (4) hours weekly.

TONG 102 Beginning Tongan (4) Continuation of 101. Pre: 101 or consent.

TONG 201 Intermediate Tongan (4) Listening, speaking, reading, and writing skills. History and culture. Meets four (4) hours weekly. Pre: 102 or consent.

TONG 202 Intermediate Tongan (4) Continuation of 201. Pre: 201 or consent.

**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 current issues involved in interpretation. Theoretical principles, ethics, and underlying techniques will be discussed in reference to conference, court, community, etc., interpreting. Pre: at least 300-level proficiency in a second language.

TI 405 Court Interpreting I (3) Introduction to the legal system, as well as theoretical principles, ethics, 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: practical information about the community interpreting. Repeatable one time. Pre: consent.

TI 407 Court Interpreting II (3) Combined lecture/discussion/practice. Continuation of 405 Court Interpretation, diving deeper into the practical side of oral interpreting for various proceedings, including arraignments, trials, witness testimonies, etc. Must be bilingual. Real courtroom observations required. Repeatable one time. Pre: 405 or consent. (Spring only)

TI 408 Medical Interpreting (3) Healthcare interpreting requires students to understand basic biosystems, common illnesses and treatments, as well as interpreting skills. Students must have 2 or above equivalency of second language skills (or instructor approval). Repeatable one time. Pre: 406 or consent.

TI 411 (Alpha) Technical Translation (English) (3) Language specific course. Basic techniques and procedures used in bilingual translation of nonfiction texts. Emphasis on the stylistic, syntactic, cultural, lexical, and terminological problems. Translation into English only; (G) general skills; (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: senior or graduate standing and pass CITS screening exam. Co-requisite: 401, 413 and 421.

TI 412 (Alpha) Technical Translation (English) (3) Translation of nonfiction texts into English. Forms and formats. Emphasis on editing target version and producing camera-ready copy. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: senior or graduate standing and pass CITS screening exam. Co-requisite: 402, 414, and 421.

TI 413 (Alpha) Translation Skills (Second Language) (3) Language specific course. Basic techniques and procedures used in bilingual translation of nonfiction texts. Emphasis on the stylistic, syntactic, cultural, lexical, and terminological problems. Translation from English into student’s working languages. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: senior or graduate standing, and pass CITS screening exam. Co-requisite: 401, 411, 421.

TI 414 (Alpha) Technical Translation (into Second Language) (3) Translation of nonfiction texts into English. Emphasis on editing target version and producing camera-ready copy. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: 413, senior or graduate standing, and pass CITS screening exam. Co-requisite: 402, 414, 452.

**Travel Industry Management (TIM)**

School of Travel Industry Management

Students should check with the department for grade requirements for prerequisite courses.

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 job search 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 (including 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 traditions, related major business components. Analysis of links between hotel, food, transportation, recreation, and other industries (including tourism).

**Key to symbols & abbreviations:** see the first page of this section.
Purchasing (4) A minimum of four hundred hours of travel industry experience. Position must differ from TIM 200 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 302 Information Systems Technology (3) Computer applications in the travel industry; operation and evaluation of specific travel industry systems and applied business systems. 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. 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 methods, research, promotion, and price for travel institutions. Students may not earn credit for 304 and BUS 312. Pre: 101.


TIM 311 Club Management (3) Introduction to club and institutional management, including operations, services, and facilities. A-F only. Pre: 101.

TIM 313 Foodservice Management (3) Critical and essential aspects of managing foodservice operations including principles of food safety and sanitation, purchasing and receiving knowledge in front and back of the house and guest relations. A-F only. Pre: 101 and 303.


TIM 315 Quality Food Management (3) Explore various aspects of the quality in foodservice operations and develop strategies to measure and improve the quality. A-F only. Pre: 101 and departmental approval.

TIM 316 Events Planning and Marketing (3) Introduction to special event planning processes and techniques. Emphasis on designing, planning, marketing, staging events, legal compliance, risk management, financial control, and successful event evaluation. A-F only. Pre: 313 and junior standing.

TIM 319 Quantity Foods and Institutional Purchasing (4) (3 Lec, 1 3-hr Lab) Quantity food and beverage operations, menu development and costing, dietary menu claims, purchasing procedures, inventory control, procurement, transportation, legislation, Institutional foodservice sanitation, Hazard Analysis Critical Control Point and National Restaurant Association Certification. Pre: FSHN 181 and FSHN 181L, or consent. (Cross-listed as FSHN 312)

TIM 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. A-F only. Pre: ECON 120 or 130 or 131; or consent. (Cross-listed as ECON 320) CR/NC only.

TIM 321 Sociocultural Issues in Tourism (3) Positive and negative impacts of tourism on society, social change, culture, residents, developing countries, and environment. Role of social planning. Pre: 101. DS

TIM 324 Geography of Global Tourism (3) Tourist landscape in relation to resources, spatial patterns of supply and demand, tourism development, and models of tourist space. Flows between major world regions. Pre: sophomore standing or higher, or consent. (Cross-listed as GEOG 324) DS

TIM 325 Destination Development and Marketing (3) Tourism development in Hawai’i and other Asia Pacific destinations. Emphasis on strategic and essential aspects of managing foodservice operations including principles of food safety and sanitation, purchasing and receiving knowledge in front and back of the house and guest relations. A-F only. Pre: 101.

TIM 333 Hotel/Resort Facilities and Design (3) Comprehensive understanding of facilities management and design including maintenance systems, sustainable development options and design and environmental management. A-F only. Pre: 313 and 314.


TIM 350 Introduction to Tourism Transportation (3) Introduction to managerial and operational issues related to all modes of transportation used by tourists into or within a tourist destination. Passenger behavior; transport infrastructure; transport networks; regulation; sustainable transport. Pre: 101.


TIM 353 Air Transportation Management (3) Marketing, management and strategies used by airlines, airports, catering, and aircraft manufacturer. Pre: 101.

TIM 354 Surface Tourism Transportation Management (3) Management of surface tourism transportation such as car rental, bus and coach operators, drive tourism, intercity rail, taxi. Includes marketing, ownership and financing, operations, regulation and promotion, human resources. Pre: 101.

TIM 365 Economics in Travel Industry (3) Microeconomic theory of consumer behavior and demand production cost analysis, market structure and pricing in travel companies. Economic impact of tourism. Students may not earn credit for 365 and BUS 313. Pre: either ECON 120 or ECON 130.

TIM 368 TIM Study Abroad (V) Study abroad instructional experience emphasizing international travel, tourism and hospitality management. Synthesis of concepts and theories that are most relevant to tourism management. Pre: either 365 and 389 or equivalent, accredited programs. Content varies depending on the course of travel of the student. Course qualifies as either a TIM or general elective depending on locus of instruction and instructor. Course qualifications for either a TIM or general elective with pre-approval. Repeatable unlimited times. Pre: consent.

TIM 369 (Alpha) Current Topics in Travel Industry Management (V) (B) resort development; (C) assets management; (D) transportation and public policy; (E) management by cultural values; (F) travel industry management; (G) hospitality management; (H) hotel management; (I) restaurant entrepreneurship; (J) tourism management; (K) recreation management; (M) leisure management; (N) transportation management; (O) travel industry management education; (P) travel industry management technology; (Q) meetings, incentives, conventions, and exhibition management. Repeatable five times with consent.

TIM 399 Directed Reading and Research (V) Reading and research into problems in hotel, restaurant, transportation or tourism sectors of the travel industry. Pre: junior standing or above, a minimum cumulative GPA of 2.5 and 300 level travel industry lectures and advisor based on student’s written proposal of content and objectives of course program.

TIM 400 (Alpha) Internship IV (2) Requires a minimum of 150 hours of internship, a business presentation, and an analytical report synthesizing experience and related theories. A-F only. Pre: 314. Recommended: 305.

TIM 402 Resort Mixed Use Development (3) Critical and essential aspects of developing and operating managing resort mixed use facilities. Includes multidimensional and dynamic interrelationships of site development and facilities, business mix, management structures and systems, and industry practices. A-F only. Pre: 313 or 369; and 314. Recommended: 313 and 401. (Fall only)

TIM 403 Revenue Management in Travel Industry (3) Application of revenue management theory, principles, concepts, tools, techniques, practices, and application to travel industry management. Focus will be on cost controls, pricing, inventory control, forecast, financial analysis, and economic analysis. Pre: 101, ACC 202, and ECON 130.

TIM 420 Sustainable Tourism Policies and Practice (3) Seminar examining the social, environmental, economic factors of sustainable tourism development. Emphasis on methods and processes and the role of stakeholders (government, industry, host community, tourists). Group projects. A-F only. Pre: 101 and departmental approval.

TIM 431 Strategic Management for the Travel/Hospitality Industry (3) Strategic management in the travel/hospitality industry. Case study analysis, discussion and written exercises, management problems and industry issues. Emphasis on writing instruction. A-F only. Pre: 303, 304, 305 and graduating senior.

TIM 442 Advanced Topics in Air Transportation (3) Advanced level of discussion in terms of air transportation, including management, economics, strategy, regulation, operating performance, fleet Management. Essential aspects of developing, financing, marketing and managing resorts. A-F only. Pre: 314. Recommended: 305.

TIM 493 (Alpha) Current Topics in Travel Industry Management (V) (B) resort development; (C) assets management; (D) transportation and public policy; (E) management by cultural values; (F) travel industry management; (G) hospitality management; (H) hotel management; (I) restaurant entrepreneurship; (J) tourism management; (K) recreation management; (M) leisure management; (N) transportation management; (O) travel industry management education; (P) travel industry management technology; (Q) meetings, incentives, conventions, and exhibition management. Repeatable five times with consent.

TIM 499 Directed Reading and Research (V) Reading and research into problems in hotel, restaurant, transportation or tourism sectors of the travel industry. Pre: junior standing or above, a minimum cumulative GPA of 2.5 and 300 level travel industry lectures and advisor based on student’s written proposal of content and objectives of course program.

TIM 400 (Alpha) Internship IV (2) Requires a minimum of 150 hours of internship, a business presentation, and an analytical report synthesizing experience and related theories. A-F only. Pre: 314. Recommended: 305.

TIM 402 Resort Mixed Use Development (3) Critical and essential aspects of developing and operating managing resort mixed use facilities. Includes multidimensional and dynamic interrelationships of site development and facilities, business mix, management structures and systems, and industry practices. A-F only. Pre: 313 or 369; and 314. Recommended: 313 and 401. (Fall only)

TIM 403 Revenue Management in Travel Industry (3) Application of revenue management theory, principles, concepts, tools, techniques, practices, and analysis to travel industry management. Focus will be on cost controls, pricing, inventory control, forecast, financial analysis, and economic analysis. Pre: 101, ACC 202, and ECON 130.

TIM 420 Sustainable Tourism Policies and Practice (3) Seminar examining the social, environmental, economic factors of sustainable tourism development. Emphasis on methods and processes and the role of stakeholders (government, industry, host community, tourists). Group projects. A-F only. Pre: 101 and departmental approval.

TIM 431 Strategic Management for the Travel/Hospitality Industry (3) Strategic management in the travel/hospitality industry. Case study analysis, discussion and written exercises, management problems and industry issues. Emphasis on writing instruction. A-F only. Pre: 303, 304, 305 and graduating senior.

TIM 442 Advanced Topics in Air Transportation (3) Advanced level of discussion in terms of air transportation, including management, economics, strategy, regulation, operating performance, fleet

Key to symbols & abbreviations: see the first page of this section.
management, and network management. Pre: 353 (undergraduate) or consent (graduate).

TIM 469 (Alpha) Advanced Topics in Travel Industry Management (V) (B) tourism planning; (C) advanced travel industry management; (D) advanced hospitality management; (E) advanced hotel management; (F) advanced restaurant management; (G) advanced tourism management; (H) advanced recreation management; (I) advanced leisure management; (J) advanced transportation management; (K) advanced travel industry management education; (L) advanced travel industry management technology; (M) advanced meetings, incentives, conventions, and exhibition management; (O) advanced food and beverage management; (P) leadership and advanced human resources; (Q) advanced assets management. Repeatable six times for (B), (C), (D), (E), (F), (G), (H), (I), (J), (K), (L), (M); repeatable six times for (O), (P), and (Q). A-F only for (O), (P), and (Q).

TIM 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate with consent.

TIM 602 Strategic Travel Marketing (3) In-depth study of marketing principles and problems related to travel industry organizations. Emphasis on strategic marketing. Research applications, international and domestic marketing of travel industry services. Pre: graduate standing or consent.

TIM 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 new information technology use as an area of research and strategic application. Pre: graduate standing or consent.

TIM 604 Managerial Accounting for Travel Industry (3) Advanced study of management accounting within travel industry: responsibility accounting, pricing decisions, concepts and application of central management, evaluation, and strategic accounting influences within travel industry organizations. Pre: graduate standing or consent.

TIM 605 Hospitality Management (3) Advanced human relations and operating issues; use of accounting, behavioral, financial, marketing, and informational systems in managing hospitality organizations. Pre: graduate standing or consent.

TIM 606 Tourism Transportation Management (3) Advanced study of the management of passenger transportation systems serving the travel industry. Emphasis on topics such as government policy, marketing and management, and the relationships between transportation systems and tourism development. Pre: graduate standing or consent.

TIM 607 Global Tourism Analysis (3) International trade theory and regional analysis methodologies applied to tourism and the service industry, including travel balance account, inter-regional transactions flow, economic impacts, and environmental economics, demand theory and forecasting. Pre: graduate standing or consent.

TIM 610 Research Applications in Travel Industry Management (3) Analysis of methodologies 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.

TIM 640 Financial Management for the Travel Industry (3) Applications of financial analysis to both the domestic and international travel industry. Pre: graduate standing or consent.

TIM 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 600-level TIM courses completed and a third concurrent; or consent.

TIM 694 Professional Paper (3) Independent project or paper under faculty supervision in lieu of Plan A, TIM 700 thesis. Requires proposal approved by supervisor and graduate chair prior to registration. A-F only. Pre: three 600-level TIM courses completed or consent.

TIM 695 Seminar: Travel Industry Management Policy (3) Integration of learning through analysis of policy issues, trends, and problems in the travel industry. A-F only. Pre: three 600-level TIM courses completed or consent.

TIM 699 Directed Reading (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.

TIM 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)

TAHR 099 International Exchange Study/Research (V) Study overseas in an approved international or similar exchange program. CR/NC only. Pre: consent of academic advisor.

Tropical Medicine and Medical Microbiology (TRMD)

School of Medicine

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 512 Unit II Concurrent Elective (1) Elective for first-year medical students. CR/NC only. Pre: BIOM 551 and consent.

TRMD 513 Unit III Concurrent Elective (1) Elective for first-year medical students. CR/NC only. Pre: BIOM 551 and consent.

TRMD 514 Unit IV Concurrent Elective (1) Elective for second-year medical students. CR/NC only. Pre: BIOM 551 and consent.

TRMD 515 Unit V Concurrent Elective (1) Elective for second-year medical students. CR/NC only. Pre: BIOM 551 and consent.

TRMD 525 Unit V Block Elective (1) Required elective for second-year medical students; objectives to be determined by contract. One option is a review of USMLE step. CR/NC only. Pre: BIOM 551.

TRMD 545 Topics in Tropical Medicine (E) Elective for fourth-year medical students. Pre: selected study of selected topics within the field of tropical medicine and medical microbiology. Pre: fourth-year standing.

TRMD 595 (Alpha) Selected Topics in Infectious Diseases (1) Elective for medical students; (B) infectious diseases; (C) parasitology; (D) epidemiology; (E) immunology. CR/NC only. Pre: MDED 554 or consent. (Fall only)

TRMD 599 (Alpha) Selected Research Topics in Infectious Diseases (1) Research elective for medical students; (B) infectious diseases; (C) parasitology; (D) epidemiology; (E) immunology. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

TRMD 603 Infectious Disease Microbiology I: Medical Parasiology (3) Epidemiology, pathogenesis, immunobiology and diagnostic aspects of human parasitic infections; principles of host-parasite interactions; public health aspects of parasitic infections. Repeatable one time. A-F only. Pre: MIRC 351 or equivalent. (Fall only)

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: MIRC 461 or equivalent. (Cross-listed as PH 665)

TRMD 605 Infectious Disease Micro II (3) Will 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: 604 and MIRC 351, or consent. (Cross-listed as 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. (Cross-listed as PH 668)

TRMD 607 Neurovirology (1) Seminar on neuroinvasive viruses giving basics of viruses causing nervous system diseases and discussing recent advances in the research field of neurovirology. Pre: MIRC 351 or equivalent; or consent. (Fall only)

TRMD 608 Infectious Disease Microbiology III (3) Basic structure, physiology, epidemiology, and genetics of pathogenic bacteria as well as the host response to these organisms. Correlation of these characteristics to disease pathogenesis in humans and animal models. A-F only. Pre: 604 or concurrent. (Spring only)

TRMD 609 Advances In Medical Immunology (3) Presentation/discussion of literature concerning recent advances in immunology relevant to disease and to disease processes. Pre: consent. (Alt. years: spring)

TRMD 650 Ecological Epidemiology (2) Applications of population biology, pathogen/host life history, and population genetics to infectious disease epidemiology, including micro- and macro-parasites, and implications to disease control and prevention of strategies. A-F only. Pre: consent. (Alt. years: spring) (Cross-listed as PH 650)

TRMD 652 Advanced Genetics and Evolution of Infectious Diseases (2) An evolutionary perspec- tive to examine the interaction and responses between infectious agents and the immune system. Topics will include natural selection, life history evolution, population genetics of pathogens and hosts, and anti-microbial resistance. A-F only. Pre: 604 (or concurrent) and 605 (or concurrent), or consent. (Alt. years: spring)

TRMD 653 Bioinformatics and Molecular Evolution (2) Combined lecture/computer lab on bioin- formatics tools used in genomics, including sequence assembly, search algorithms, alignment, phylogenetics, and molecular evolution. Focus will be on infectious disease examples. Open to nonmajors. A-F only. Pre: 604 (or concurrent) and 605 (or concurrent) or consent. (Fall only)

TRMD 671 Advanced Medical Parasitology (2) Consideration of ultrastructure, physiology, biochemistry, in-vivo and in-vitro relations of parasites, and host-parasite relationship of parasites of medical importance. A-F only. Pre: consent. (Alt. years: fall)

TRMD 672 Advanced Medical Virology (2) In-depth study of the major groups of viruses pathogenic for human; virus replication, host range, pathogenesis, immunology, and epidemiology. Pre: 604 or equivalent, or consent. (Fall only)

TRMD 673 Advanced Medical Bacteriology (2) Role of bacteria in infectious diseases, with emphasis on clinical aspects and identification of etiological agents. Pre: 605 or equivalent, or consent.
TPSS 120 (Alpha) Plants for People (1) The origins: social, cultural, and ceremonial traditions; culture; food and nutritional properties. Processing of a variety of tropical horticultural plants are presented, with tasting sessions and optional field trips. Topics will rotate among (B) beverage crops (e.g., coffee, tea, chocolate, kava, fruit juices); (C) herbs, spices, and flavoring (selection of examples to be determined); (D) tropical fruits (assortment offered depends on availability). (Cross-listed as NREM 120, or consent. (Alt. years)(Cross-listed as ECON 130 or NREM 220, or consent. (Cross-listed as NREM 341) DS

TPSS 341 Accounting and Financial Analysis (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 or NREM 220, or consent. (Cross-listed as NREM 341) DS

TPSS 350 Tropical Landscape Practices (3) (2 Lec, 1 3-hr Lab) Concepts and techniques of landscape installation and management in the tropics. Pre: 200 and 369; or consent. DB

TPSS 355 Landscape Architecture History, Theory, and Practice (3) Surveying the development of landscape architecture as an art form from Mesopotamia to present. Exploring the theory, process and art of landscape architecture in the western, social, economic, political, and cultural environmental factors. (Alt. years)(Cross-listed as ARCH 352) DH

TPSS 353 Landscape Graphics Studio (3) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques to create effective landscape graphics. Pre: consent. (Alt. years)(Cross-listed as ARCH 353) DA

TPSS 384 Horticultural Practices (2) (1 Lec, 1 3-hr Lab) Techniques of culture and management of horticulture crops. Pre: 200 (or concurrent). DB

TPSS 369 Oral Focus Designation. A-F only. Pre: ECON 130 or NREM 220, and ECON 321 or NREM 310; or consent. (Once a year) (Cross-listed as ECON 429 and NREM 429) DS

TPSS 430 Neighborhood Management (3) (2 Lec, 1 3-hr Lab) Management practices in production and operations of commercial nurseries in Hawai’i. Pre: 200 and 364; or consent. DB

TPSS 347 Genetics: Theory to Application (3) Fundamentals of genetic theory using biotechnological procedures in insect and plant pathogen control and plant and animal breeding as practical applications. Repeatable one time. A-F only. Pre: ECON 130 or NREM 220, and ECON 321 or NREM 310; or consent. (Once a year) (Cross-listed as ECON 429 and NREM 429) DS

TPSS 341 Accounting and Financial Analysis (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 or NREM 220, or consent. (Alt. years)(Cross-listed as ARCH 352) DH

TPSS 355 Landscape Architecture History, Theory, and Practice (3) Surveying the development of landscape architecture as an art form from Mesopotamia to present. Exploring the theory, process and art of landscape architecture in the western, social, economic, political, and cultural environmental factors. (Alt. years)(Cross-listed as ARCH 353) DA

TPSS 353 Landscape Graphics Studio (3) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques to create effective landscape graphics. Pre: consent. (Alt. years)(Cross-listed as ARCH 353) DA

TPSS 401 Vegetable Crop Production (3) (2 Lec, 1 3-hr Lab) Crop biology, requirements, and production techniques for commercial vegetable production in Hawai’i; the biotechnology of diseases. Pre: 200 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 (3) (2 Lec, 1 3-hr Lab) Botanical aspects and horticultural 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 or consent. DB

TPSS 409 Cultural Biogeography (3) Co-evolution of human societies and plants over the last 10,000 years. Foraging, farming and urban societies economics; spread and modification of selected plants; issues of preservation of genetic resources and traditional plant knowledge. The form and function of gardens. Pre: junior standing or higher, or consent. (Cross-listed as GEOG 409) DS

TPSS 416 Introduction to Social, Ethical and Political Issues Associated with Biotechnology (3) Introduces concepts of biotechnology, fundamental issues associated with use of this technology, with special emphasis on agricultural biotechnology. A-F only. Pre: 200 or BIOL 171 or NREM 210, or consent. (Once a year)
identify nutrient deficiencies and element toxicity. Pre: 450 or consent.

TPSS 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, FSHN 652, and NREM 652)

TPSS 654 Communications in the Sciences (1) (3- hr Lec/Lab 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.

TPSS 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Designed to introduce graduate students to grants and grant proposal writing through lectures, project. A grade of Satisfactory (S) is assigned when review. Open to CTAHR graduate students only; others with consent. (Fall only) (Cross-listed as ANSC 657 and FSHN 657)

TPSS 664 Orchidology (3) (2 Lec, 1 3-hr Lab) Classification, culture, cytogenetics, breeding of orchids. Pre: consent. Recommended: 200 and 402.

TPSS 667 Graduate Seminar (1) Presentation of research reports; reviews of current literature in plant and soil sciences. Pre: graduate standing or consent.

TPSS 670 Agrarian Systems Analysis (3) Comparative analysis of philosophy and process of interdisciplinary and participatory approaches to sustainable development and rural resource management including farming systems research and extension (FSRanDe), agroecosystem analysis (AEA), participatory action research (PAR), and rapid rural appraisal (RRA). Repeatable. Pre: consent.

TPSS 674 Plant Growth and Development (3) Contemporary literature is used as the basis for understanding the physiology for whole plant growth and development. Topics covered include vegetative and reproductive development, seed dormancy, senescence, abscission, and relevant biochemical and molecular processes. Pre: 470 and MBRE 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 processes; and to provide quantitative scales of point measurements. Fields, regions, and watersheds. State-space modeling also will be included. A-F only. Pre: GEOG 388 or ZOOL 631; or consent. (Cross-listed as 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 program.

TPSS 699 Directed Research (V) In-depth study of specialized problems. CR/NC only.Pre: consent.

TPSS 700 Thesis Research (V) 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, morphogenesis, genetics and breeding, culture and nutrition of tropical crops. A-F only. Pre: consent.

TPSS 800 Dissertation Research (V)CR/NC only. Pre: consent.

Key to symbols & abbreviations: see the first page of this section.
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; community social plans and programs organized by various kinds of agencies and organizations. Repeatable one time. Pre: 600 (or concurrent) or consent.

PLAN 615 Housing (3) Housing delivery systems as an aspect of urban and regional planning. Prec: 610 or consent.

PLAN 616 Community-Based Planning (3) Planning and programmatic aspects of community-based development. West and local planning perspectives on participatory development and intentional communities. Prec: 600 (or concurrent).


PLAN 619 Multiculturalism in Planning and Policy (3) Graduate seminar focuses on issues of governance, policy and planning in diverse multicultural societies. Differences in backgrounds, 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. Prec: 600 or consent.

ENVIRONMENTAL PLANNING AND RESOURCE MANAGEMENT

PLAN 620 Environmental Policies and Programs (3) Survey of the political, institutional, economic and scientific aspects of environmental policies and programs. Repeatable one time. A-F only. Prec: 600 (or concurrent) or consent.

PLAN 622 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. Prec: graduate standing. (Cross-listed as GEOG 622) DS.

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. Prec: 600 and 603.

PLAN 625 Environmental Planning (3) Knowledge and tools needed to prepare environmental plans and impact assessments mandated by national, state and local governments. Prec: 620 (or concurrent) or consent.

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. Prec: consent.

PLAN 627 Negotiation and Mediation in Planning (3) Applicability and limitations of selected approaches; role of planners; impact on planning. Prec: 600 or consent.

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. Prec: 600 or consent.

URBAN AND REGIONAL 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, regional planning, and frontier settlement in Asia and the Pacific. Repeatable one time. Prec: 603 or consent. (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. Prec: graduate standing.

PLAN 633 Globalization and Urban Policy (3) Urbanization and the identiy of the Asia-Pacific region with focus on the international dimension of national and local spatial restructuring. Prec: 630 or consent.

PLAN 634 Shelter and Services in Asia (3) Examines government and non-government organizations’ responses to the shelter issue and services in Asia. Prec: 630 (or concurrent) or consent.

PLAN 636 Culture and Urban Form in Asia (3) Cultural and historical impact on urban form, convention 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. Prec: 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 China’s Economic and Regional Development (3) A review of contemporary China’s economic and regional development, examining the changing plans, policies and performances in the Socialist Development and Market Transition eras, and the implications on spatial patterns. Prec: 630 or GEOG 353, or consent. (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. Prec: graduate standing. (Cross-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. Growth management and land use guidance systems. A-F only. Prec: 600 and 601, or consent.

PLAN 641 Neighborhood and Community Land Use Planning (3) Land use planning for urban neighborhoods and small towns. Theory and practice of neighborhood planning. Neighborhood and community dynamics, reinvestment, and stabilization. Prec: 640 (or concurrent) or consent.

PLAN 642 Planning Urban Infrastructure (3) Capital budgeting, project planning, and financing for large-scale urban infrastructure. Prec: 600, 601; and consent.

PLAN 645 Land Use Planning (3) Issues and methods of urban land use planning practice and plan making. A-F only. Prec: 640 or consent.

PLAN 648 Urban Transportation Policy and Planning (3) Theory and practice of urban transportation planning in developed and developing countries with an emphasis on the U.S., Asia, and Pacific region. A-F only. Prec: 600 and 601, or consent.

RESEARCH AND PLANNING METHODS


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. Prec: 601 or consent.

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 useful applied to planning, economic development, and environmental planning and resource management. Repeatable one time. Prec: graduate standing or consent.

PLAN 655 Advanced Planning Methods and Models (3) Advanced methods and deterministic and stochastic models used in urban and regional planning. Prec: 601, 605; or consent.

PLAN 661 Collaboration Between Sectors (3) Examines theories and practices of multictor 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) Provides a background for understanding the diverse components of this dynamic and expanding field. Prec: graduate standing or consent. (Once a year)

PLAN 671 Disaster Management: Understanding the Nature of Hazards (3) Combined lecture/discussion in disaster management 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. Prec: 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. Prec: 670 or consent. (Once a year)

PLAN 673 Information Systems for Disaster Management and Humanitarian Assistance (3) Combined lecture/laboratory in disaster management 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. Prec: 670 or consent. (Once a year)

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 628)

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. Prec: 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 699 Directed Reading and Research (V) Repeatable unlimited times. Prec: consent of instructor and department chair.

PLAN 700 Thesis Research (V) Limited to MURP students under Plan A. Prec: consent.

PLAN 721 Homeland Security: Terrorism (3) Combined lecture/discussion in disaster management and humanitarian assistance track focusing on developing multidisciplinary understanding of international terrorism and anti-terrorism planning and response. Prec: 670 or consent. (Once a year)
VIET 699 Directed Reading/Research (V)  
Pre: 600 or consent.

VIET 751 Planning Practicum (6)  
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, or consent.

VIET 752 Directed Project (V)  
Individual project in analysis, plan preparation and evaluation, and policy/program evaluation. Pre: 600, 601; and consent.

VIET 754 Urban Design Studio (6)  
Group experience in defining urban and regional design problems and potentials, developing and evaluating alternatives, formulating strategies for implementation. Pre: 640, ARCH 641; or consent.

VIET 800 Dissertation Research (1)  

Urdu (URDU)  
College of Languages, Linguistics and Literature  
URDU 205 Reading and Writing in Urdu (1)  
Introduces students to the Nastaliq (Urdu) script, alphabets, their various forms, and combination rules. Reading and writing is emphasized. A-F only. Pre: HNDI 102 or consent. Co-requisite: HNDI 201 or consent. (Fall only)

Vietnamese (VIET)  
College of Languages, Linguistics and Literature  
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. HSL

VIET 102 Elementary Vietnamese (4)  

VIET 201 Intermediate Vietnamese (4)  
Continuation of 102. After completion, most students should be able to use all major 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 through 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. Pre: consent.

Women’s Studies (WS)  
College of Social Sciences  
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: one of ENG 100A, 101, or ELI 100; or consent. A-F only. Pre: departmental approval.

WS 152 Gender and Sex and Sexuality (3)  
Explores the relationship between gender and sexuality, and the ways in which they are constructed and experienced. Pre: one of ENG 100A, 101, or ELI 100; or consent. A-F only. Pre: WS 151 or equivalent. (Cross-listed as DS 353) DS

WS 154 Global Perspectives to 1500 CE (3)  
Explores historical developments of world cultures up to 1500 CE. Pre: ENG 100A, 101, or ELI 100; or consent. A-F only. Pre: WS 151 or equivalent. (Cross-listed as DS 353) 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 early 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 Perspectives, 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 cultures from multiple perspectives, stressing issues and forces of continuing influence. A-F only. FGA

WS 200 Culture, Gender, and Appearance (3)  
Social construction of gender within and its visual expression through appearance. Analysis of role, identity, conformity, and deviance in human appearance. Open to nonmajors. (Cross-listed as APDM 200) DS

WS 202 Psychology of Women (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 230 Gender and Sport (3)  
Explores the influence of gender in sport from cultural, psychosocial, and political perspectives. Examines women’s and men’s roles as participants, spectators, and employees of sport and sports organizations. A-F only. Pre: one DS course.

WS 245 Women Writers of World Literature (3)  
Major women writers of world literature examined in context of feminist perspectives. Pre: one of ENG 100A, 101, or ELI 100; or consent. HSL

WS 257 Sexual Identity in Literature (3)  
Selected themes in major works of various types, cultures, periods. Requires a minimum of 3,000 words of writing. Pre: one of ENG 100A, 101, or ELI 100. A-F only.

WS 304 Women, War, and the Military (3)  
The military as it includes and excludes women as soldiers, nurses, wives, prostitutes, and victims. Women and war economics; feminism, war, and peace. Pre: one of 151, 362, 375 or SOC 362; or consent.

WS 305 Women and Health (3)  
Explores current issues in the conceptualization and delivery of health care for women. Pre: one of 151, 202, POLS 110, or SOC 100. (Cross-listed as SOC 305) DS

WS 306 Indigenous Women’s Health (3)  
Examines issues of indigenous women’s health and post colonial in Hawai’i, Asia, and the Pacific regions. A-F only. Pre: one of 151, 202, 303; or HWS 107, HWS 270 or HWS 285; or consent.

WS 311 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 norms about gender and sexuality, and shared and divergent 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; relationships of gender identity to women’s status. Pre: ANTH 152 (or concurrent). (Cross-listed as ANTH 315) DS

WS 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 151 or any 400- or 500-level course, or SOC 100 or any 400-level SOC course; or consent. (Cross-listed as SOC 318) DS

WS 320 Women and Madness (3)  
Interdisciplinary critical examination of the relationship between gender and mental health. Psychological research, feminist theory, autobiography, literature, and cinema. Pre: one of 202, 245, PSY 202; or consent. DS

WS 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. A-F only. Pre: one ES or WS course in the 100, 200 or 300 level, or consent. (Once a year) (Cross-listed as ASAN 339) DS

WS 345 20th-Century Literature by Women (3)  
Twentieth-century women writers and their works; novels, short stories, poems, autobiographies. Interrelations of gender and literature. Pre: one of 151, 175, 176, and 245; or consent. DL

WS 346 20th-Century Chinese Women Writers (3)  
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, menopause, 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 ANTH 356 and 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; feminist anthropological and historical analysis. Pre: any ANTH, SOC, or WS course. (Cross-listed as ES 363) 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: a 200 level economics course or any women’s studies course; or consent. (Cross-listed as ECON 361) DS

WS 362 Sociology of Gender (3)  
Effect of sex and gender roles (both traditional and nontraditional) on attitudes and behavior within the family and
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educational, economic, and governmental systems. Recommended: at least one WS course. Pre: 151 or any 200- or 300-level WS course, or SOC 100 or any 200-level SOC course; or consent. (Cross-listed as SOC 362) 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. Feminist alternatives to mainstream media. Pre: one of 151, 362, SOC 362. DS

WS 381 Gender, Sexuality and Literature (3) Basic concepts and critical essays for the study of literary constructions of gender and sexuality. Pre: one ENG DL course or consent. (Cross-listed as ENG 382) DL

WS 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 political goals and actions. Pre: 151 (or concurrent) or 362 (or concurrent) or any 100 level POLS course (or concurrent) or consent. (Cross-listed as POLS 384) DS

WS 390 Gender and Race in U.S. Society (3) Historical and sociological studies of race and gender in U.S. society, sexism and racism, and race/ethnic activism in the mainland and Hawai’i. A-F only. Pre: 151, ES 101, or Social Science Cores. (Cross-listed as ES 390) DS

WS 392 Sexuality (3) Multi-disciplinary course draws from psychology, sociology, biology, history, cultural anthropology, law, Hawaiian, ethnic, feminist, gender, and queer studies to explore human sexualities with emphasis on the U.S., Hawai’i and the Asia-Pacific regions. A-F only. Pre: one of 151, 202, 315 or 350; or consent. DS

WS 399 Directed Reading (V) Pre: consent.

WS 400 Food, Body, and Women: Analysis of Biopolitics (3) How food, body, and other "matter of life" are imbedded in biopolitics from the feminist perspectives. A-F only. Pre: 151 or three credits of upper division WS courses, or consent. (Spring only.) DS

WS 410 Gender and Politics in U.S.-Okinawa Relations (3) Examines gender in Okinawa in relation to historical dynamics in the Asia-Pacific region with attention to issues such as militarism and violence, colonialism and memory, and tourism and commodification of indigenous culture. A-F only. Pre: 151 or consent. (Cross-listed as ASAN 410) DS

WS 414 Women in Drama and Theater (3) The role of women and their representation in the theater from ancient Greece to the present; focus on the socio-political status of women. Pre: THEA 311 or consent. (Cross-listed as THEA 414) DH

WS 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. Pre: one 300-level WS or course, or SOC 300; or consent. (Cross-listed as ES 418 and SOC 418) DS

WS 419 Feminist Issues in Philosophy (3) Examination of basic feminist issues in philosophy, and of responses to them. Pre: any course 200 or above in PHIL or WS, or consent. (Cross-listed as PHIL 418) DH

WS 430 Seminar in the Biology of Women (3) Embryological, anatomical, and physiological development of human female; hormonal, neural, and behavioral determinants of female sexual behavior; psychobiology of pregnancy, ovariectomy, and menopause. Pre: 350 or BIOL 172 or BIOL 350, or consent. (Cross-listed as BIOL 430) DB

WS 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: 151 or any 200- or 300-level WS course, or SOC 300; or consent. (Cross-listed as SOC 435) DS

WS 436 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, the role of women and their representation in the theater, family and public relations. Pre: one of AMST 436 and POLS 436 DS

WS 437 Gender and Violence (3) Interdisciplinary course will examine western constructs of gender violence, as well as its correlates with ethnicity, race, sexual identity, nation, and empire. Repealable one time. A-F only. Pre: one of 151, 202, 360, 361, 439, 460, 462, or consent. DS

WS 438 Gender and Environmental Philosophy (3) Interdisciplinary approach to women’s perspectives and roles on ecological and environmental issues; critical analysis of eco-feminism 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 PHIL 438) DH

WS 439 Feminist Theory (3) Contemporary debates in feminist theory concerning gender, race, and class; subjectivity and representation; gender and colonialism; bodies, sexualities and “nature.” Pre: any 300 level WS or POLS course, or consent. (Cross-listed as POLS 339) DL

WS 440 Feminist Methods and Research (3) Overview of feminist issues with dominant theories of knowledge and major methodologies employed in the social sciences; and exploration of role of gender and feminist theory and feminist politics in feminist research. Pre: 151 or consent. (Cross-listed as DS 440) DS

WS 445 U.S. Women’s Literature and Culture (3) Reading of selected works 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 AMST 455 and ENG 455) DL

WS 446 Gender Violence Over the Lifecycle (3) Examines the problem of violence, particularly sexual violence, over the life cycle. Offers gendered perspectives in activities aimed at prevention and treatment of violence, and cross cultural perspectives. Pre: 151 or any 200- or 300-level WS course, or SOC 300; or consent. (Cross-listed as SOC 446) DS

WS 452 Marriage and Family: 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: 151 or any 200- or 300-level WS course, or SOC 300; or consent. (Cross-listed as SOC 452) DS

WS 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 intersects with ethnicity and class, locally and globally. Pre: 151 or consent. (Cross-listed as ED 453 and EDEF 453) DS

WS 456 Politics of Men and Masculinity in U.S. Culture (3) Examines American understandings of man, manhood, and masculinity, at the intersection of gender, race, class, and sexuality in the context of American nation and empire building in the 19th and 20th centuries. A-F only. Pre: one of 151, 175, 176, or 202; or consent.

WS 460 Feminism, Nation and Empire (3) Examines U.S. feminist movements in the 19th and 20th century by exploring how U.S. racism, nationalism and imperialism have provided the context from which feminism emerged. A-F only. Pre: 151, 360; or consent. DS

WS 462 Asian Women (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: 360, 361, or 439 or AMST 310, AMST 316, AMST 318, AMST 453, or POLS 339; or consent. (Cross-listed as AMST 438 and POLS 372) DS

WS 463 Gender Issues in Asian Society (3) Constructing the gender identity in Asian contemporary society. How these interface with other aspects of social difference and inequality (e.g. with class, religion, ethnicity). Pre: any WS course or ASIAN 201 or ASIAN 202, or consent. (Cross-listed as ASIAN 463) DS

WS 461 Women and Film (3) Exploration of film as a philosophical and artistic form in the context of gender, race, and sexuality. Pre: one of 151, 175, 176, and THEA 201; or consent. DH

WS 483 Studies in Literature and Sexuality and Gender (3) Intensive study of selected problems and issues in the construction and representation of sexuality and gender in specific genres, social and cultural contexts, thematic or figural clusters. Repeatable one time. Pre: ENG 320 and one other 300-level ENG course; or consent. (Cross-listed as ENG 482) DL

WS 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 HIST 492) DH

WS 495 Selected Topics (3) Problems and issues for reading and research: feminist theory, criticism, affirmative action, etc. Pre: any WS course in appropriate area. DS

WS 496 Teaching Women’s Studies (3) Strategies for teaching women’s studies; addressing complex issues of gender, race, nation, class, sexuality and culture in a contemporary multiethnic campus environment. Emphasis on classroom techniques, teaching pedagogies, and hands-on experience. Repeatable one time. CR/NC only. Pre: 151 and one or more WS course with a grade of B or better in all relevant courses, instructor recommendation; or consent.

WS 602 Transnational Feminist Teaching and Research (3) Introductory graduate seminar designed to develop common vocabulary and explore the core debates in transnational feminist teaching and research to encourage critical reflection about teaching assumptions, approaches, and techniques in the contemporary college or university environment. A-F only. Pre: graduate standing and no waiver.

WS 610 Faculty Seminar Series (1) Seminar/discussion to introduce students to obtaining the Graduate Certificate to the Woman’s Studies faculty and their areas of research, and to initiate student’s graduate studies in a woman’s studies field. Repeatable one time. Pre: classified graduate status (or status pending) and consent.

WS 612 Women in American Culture (3) Historical/contemporary status 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 AMST 612)

WS 613 Feminist Research and Methods of Inquiry (3) Examination of an emergent body of literature about how to shape questions concerning gender, sex, race, class, colonialism, and other vectors of power. Includes methods from social sciences and humanities and debates in the philosophy of science. Repeatable one time. Pre: classified graduate status and consent.

WS 615 Feminist Theory (3) Selected ideas from contemporary feminist theory concerning power, knowledge, and self; articulating women’s voice; deconstructing gender. (Cross-listed as POLS 615C)

WS 620 Feminism and Its “Others” (3) Relationship between feminist and other strains of feminist thought and scholarship that have contributed to creating anticolonial, antiracist, antimperialist theory, method and action. Questions the legacy of feminist coalition practices and engages the ongoing

Key to symbols & abbreviations: see the first page of this section.
transformation that have begun to produce new alliances and coalitions that disrupt traditional boundaries of identity and power. A-F only. Pre: graduate standing, no waiver.

WS 623 Topics in Feminist Social Policy Research (3) Feminist social scientists from a variety of fields have explored issues of gender, social change and social justice. Draw from their work to critically examine strategies for conducting social policy research that is feminist in values and impact. Repeatable one time. A-F only. Pre: graduate standing, no waiver.

WS 650 Research in Feminist Studies: Capstone Experience (2) Provide women’s studies graduate certificate students with an opportunity to design, develop, and complete a research project culminating in a publishable quality work and a professional quality seminar presentation. A-F only. Pre: classified graduate status and consent.

WS 699 Directed Reading and Research (V) Pre: classified graduate standing and consent of chair.

WS 753 (Alpha) Research Seminar in Chinese Literature (3) Study of authors, a genre, a period, or a problem, (M) modern; (T) traditional. Repeatable one time for (M). A-F only for (M). Pre: 615, 615, 650, or ALL 616 or consent for (M); CHIN 612 or consent for (T). (Cross-listed as CHIN 753 (Alpha))

Zoology (ZOOL)

College of Natural Sciences

All courses required for the BS and BA degrees and minor require a minimum grade of C (not C-) or better.

ZOOL 101 Principles of Zoology (3) Structure, development, physiology, reproduction, evolution, behavior, and ecology of animals. DB

ZOOL 101L Principles of Zoology Laboratory (1) Laboratory to accompany 101. Pre: 101 (or concurrent). DY

ZOOL 200 Marine Biology (2) Biology and ecology of marine plants and animals; coral reefs, the deep sea, rocky shores, marine mammals, fisheries, aquaculture, pollution, and conservation of marine resources. DB

ZOOL 200L Marine Biology Lab (1) (1 3-hr Lab) Laboratory, field trips to accompany 200. Pre: 200 (or concurrent) and consent of instructor. (Cross-listed as BIOL 200L)

ZOOL 306 Ethology (2) Introduction to animal and human ethology and sociobiology; emphasis on social and interspecific behavior, its causes and adaptive significance. Lab optional. Pre: 101 and 101L with C grade, or BIOL 265 with C grade; or consent of instructor. DB

ZOOL 306L Ethology Lab (1) (1 3-hr Lab) Application of methods in demonstrations, films, and projects. Pre: 306 (or concurrent). DY

ZOOL 320 Vertebrate Zoology (3) Introduction to the evolution and systematics of vertebrates, with emphasis on comparative morphology, physiology, and ecology. Pre: BIOL 265. Co-requisite: 320L. DB

ZOOL 320L Vertebrate Zoology Lab (2) (2 3-hr Lab) Laboratory to accompany 320. Pre: BIOL 172 and BIOL 172L. Co-requisite: 320. DY

ZOOL 340 Parasitology (2) Animal parasites of man, and domestic and wild animals; systematics, comparative morphology, life history, pathology, treatment, control. Pre: BIOL 275. DB

ZOOL 340L Parasitology Lab (2) (2 3-hr Lab) Laboratory to accompany 340. Pre: 340 (or concurrent) and BIOL 275. DY

ZOOL 399 Directed Study (V) Pre: written consent.

ZOOL 410 Corals and Coral Reefs (3) The biogeography, evolution, ecology, and physiology of corals and coral reefs, and the application of this information to the management of coral reefs. Emphasis will be placed on processes such as dispersal, the evolution and operation of mutualisms, calcification, reproduction, and the maintenance of diversity. Pre: BIOL 265. (Spring only)

ZOOL 416 Histology (3) Functional microanatomy of the animal body, emphasizing vertebrates. Oriented toward pre-professional students. Pre: BIOL 275. Recommended: BIOL 406. DB

ZOOL 416L Histology Lab (2) (2 2-hr Lab) Light microscopic study of animal tissues, especially vertebrates. Primarily for pre-professional students. Pre: BIOL 275. Recommended: BIOL 406. Co-requisite: 416. DY

ZOOL 417 Microtechnique (3) (2 Lec, 2 3-hr Lab) Preparation of animal tissues and organs for microscopic examination; introduction to cytochemical and histochemical techniques. Pre: BIOL 275 or consent. DB


ZOOL 420L Developmental Biology Lab (2) (2 3-hr Labs) Analysis of animal development by experimental methods, using local organisms. Pre: 420 (or concurrent) and BIOL 275, or consent. Recommended: BIOL 401; BIOL 406. DB


ZOOL 432 Comparative Physiology (3) Physical-chemical cellular mechanisms underlying function of organ systems; general principles inferable from study of adaption to diverse environments. Pre: BIOL 171 and 172, and MBBE 402 (or concurrent) or BIOL 441 (or concurrent) or consent. DB

ZOOL 439 Animal Ecology (3) Principles and theoretical aspects of animal ecology. Invertebrate and vertebrate, for sensory reception, integration, behavioral command and learning; insights from on-going research using molecular, genetic, biophysical, and imaging methods. Pre: BIOL 275 or consent. Pre: BIOL 406. DB

ZOOL 442 Introduction to Neuroscience (3) Nerve cells, their signalling capabilities and the developmental organization of nervous systems, both invertebrate and vertebrate, for sensory reception, integration, behavioral command and learning; insights from ongoing research using molecular, genetic, biophysical, and imaging methods. Pre: BIOL 275 or consent. (Spring only)

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

ZOOL 460 Avian Biology (3) Broad coverage of the morphology, physiology, ecology, behavior, and evolution of birds, emphasizing the relation of birds to general theory in biology. Pre: BIOL 265. DB


ZOOL 465L General Ichthyology Lab (1) (2 2-hr Lab) Overview of the major orders and families of fishes of the world; introduction to local Hawaiian fishes; coverage of basic fish anatomy; introduction to field and laboratory techniques in fish research. Pre: BIOL 265. Co-requisite: 465. DY

ZOOL 466 Fisheries Science (3) General characteristics of fisheries; harvesting methods; principles and techniques to derive data and analyze fish populations. Field trips. Pre: one of the following: 410, 465, 470, 608, or 620; or consent. DB

ZOOL 467 Ecology of Fishes (3) Reproduction, early life history, age and growth, feeding, niche specificity, competitive interactions, communities, and evolutionary mechanisms. Pre: 465 or consent. DB

ZOOL 470 Limnology (2) Biology, physics, chemistry of lakes, streams, estuaries. Pre: BIOL 172 or consent. Co-requisite: 470. (Alt. years) DY

ZOOL 471 Limnology Lab (1) (1 3-hr Lab) Experimental and descriptive field projects on the biology, chemistry, hydrology, and physics of lakes, streams, and estuaries. Pre: BIOL 172 or consent. Co-requisite: 471L. DB


ZOOL 480 Animal Evolution (3) Process of evolution: genetic basis, natural selection, population genetics, speciation, the fossil record. Pre: BIOL 265. Recommended: a BIOL or ZOOL course at 300 or 400 level. DB

ZOOL 485 Biogeography (3) Distribution of plants and animals and processes that cause, maintain, and modify them. Approach is synthetic and dynamic. Pre: BIOL 172. DB

ZOOL 487 Molecular Ecology (3) Practical introduction to molecular methods used to address ecological and evolutionary questions. Advanced undergraduate/graduate level. Two 3-hour labs/week. Focus on methods and application to independent research project. A-F only. Pre: BIOL 265/265L (or equivalent) or BIOL 275/275L (or equivalent), and BIOL 375/375L, and consent. (Alt. years) DY

ZOOL 490 (Alpha) Seminar in Zoology (1) Reports on research, reviews of literature, or research experience. Required of students majoring in zoology or entomology. (B) general zoology; (D) animal behavior; (E) ecology; (F) physiology; (G) developmental biology; (H) marine biology; Pre: 306 or equivalent or consent for (D).

ZOOL 492 Teaching Internship (1) Teaching internship in zoology. Required of ZOOL BS degree students. ZOOL BS majors only. CR/NC only. Pre: laboratory in an upper division ZOOL course.

ZOOL 499 Directed Reading or Research (V) Performance of a laboratory, field or library research project under the direction of a faculty advisor. Preparation of a proposal and written final report required. Limited to zoology majors.

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

ZOOL 606 Principles of Animal Behavior (2) Critical review of theories of ethology, sociobiology; social and interspecific behavior, communication, and evolutionary theory. Lab optional. Pre: graduate standing.

ZOOL 606L Principles of Animal Behavior Lab (1) (1 3-hr Lab) Group or individual research projects depending on interest of students. Pre: 606 (or concurrent).

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

Courses 509
ZOO 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)

ZOO 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: 608. (Alt. years)

ZOO 610 Topics in Development and Reproductive Biology
(V) Discussion and survey of literature on specific topics; some field and lab work may be required. Repeatable three times.

ZOO 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)

ZOO 620 Marine Ecology
(3) Principles of ecology of marine biota and environment. Pre: graduate standing in zoology, oceanography, or botany; or consent.

ZOO 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. Pre: 439, 439L, and 631; or consent. (Alt. years)

ZOO 631 Biometry
(3) (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 241 or consent.

ZOO 632 Advanced Biometry
(4) (3 Lec, 1 2-hr Discussion) Multivariate statistical methods: multiple regression and correlation; multiway anova; general linear models; repeated measures and multivariate anova; log-linear analysis and logistic regression. Pre: 631 and MATH 241, or consent.

ZOO 642 Cellular Neurophysiology
(3) Biophysical and membrane mechanisms of conduction, synaptic transmission, and other electrical responses of nerve cells. Pre: consent. (Alt years: spring)

ZOO 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, 621, 623, BOT 453, BOT 454, BOT 456, NREM 680, PEPS 671; or consent. (Cross-listed as BOT 652)

ZOO 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: BIOL 375 and either 480 or BOT 462; and either 410, 439, 620, 623, BOT 453, BOT 454, BOT 456, or BOT 492. (Cross-listed as BOT 690)

ZOO 691 (Alpha) Seminar in Zoology
(1) Reports on research or reviews of literature. Graduate students required to take this or one topics course (710–719) per year. (B) general zoology; (C) zoology literature; (D) animal behavior; (E) ecology; (F) animal physiology; (G) development biology; (H) marine biology. Repeatable five times.

ZOO 699 Directed Research
(1) Directed research and reading in various fields of zoology.

ZOO 700 Thesis Research

ZOO 710 Topics in Biometry
(V) Selected advanced topics in experimental design or data analysis for biologists. Repeatable unlimited times. Pre: 631 and 632, or consent.

ZOO 712 Topics in Nerve/Muscle Physiology
(V) Advanced treatment of selected topics under current active investigation. Repeatable unlimited times. Pre: a graduate course in physiology, neurology, or related subjects and consent.

ZOO 714 Topics in Animal Behavior
(1) Lecture-discussion of selected topics. Repeatable three times. Pre: consent.

ZOO 718 Topics in Animal Physiology
(1) Selected problems in environmental physiology, electrophysiology, or neurophysiology. Basic concepts and measurements of function at the organismic or cellular level. Repeatable three times.

ZOO 719 Topics in Systematics and Evolution
(1) Selected problems of current or historic interest. Repeatable three times. Pre: consent.

ZOO 739 Topics in Ecology
(1) 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.

ZOO 750 Topics in Conservation Biology
(1) Advanced topics in conservation and environmental biology. Repeatable three times. A-F only. Pre: consent. (Cross-listed as BOT 750)

ZOO 800 Dissertation Research