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

ACM 216 3D Animation (3) Artistic/acting and technical/computer aspects of character animation. Special emphasis on techniques for imbuing computer generated characters with the illusion of life. Project-based. A-F only. Pre: consent.


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

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

ACM 312 Cinematography (3) Comprehensive course in visual styles supporting screen narratives through a study of principles 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 game 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 or B or better in 255 and ART 113, or consent.

ACM 317 3D Cinematography and Dynamics (3) Computer animation directing and cinematography for the design and creation of visual effects. Using particles and dynamics systems to simulate natural phenomena. Compositing of visual layers. ACM majors only. A-F only. Pre: 215 and 216 or B or better in 255 and ART 113, or consent.

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

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

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: 215 and 216, 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 minimum B- in FW or ENG 200; or consent.

ACM 352 Screening Asian Americans (3) 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 AMST 352) DH

ACM 355 Oral Tradition to Screenplay (3) Adapting the stories, styles, and cultural values of traditional storytelling to cinematic narratives. A-F only. Pre: 255 (or concurrent) or consent.

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

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

ACM 372 Editing for Cinema (3) Advanced course examining the theory, techniques, and practices of motion picture editing; use of non-linear digital editing systems; and practical experience in digital editing projects. ACM majors only. A-F only. Pre: 310 (or concurrent) or 316 (or concurrent), or consent.

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

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

ACM 380 Genre and Narrative Theory in Creative Media (3) Focus on the concept of genre, genre films, genre filmmaking 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 author theory and specific application to authors: creators, screenwriters, 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 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. ACM majors only. Pre: 310 or 316, and 350, 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 (4) 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. Focus will be on narrative development; timely execution from pre-to-post-production. Repeatable one time with instructor approval. ACM majors only. A-F only. Pre: 310 and 350, or consent.

ACM 415 Computer Game Production (3) Students will work as a team to film a story, 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) Students will 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: 320 and 350 or consent.

ACM 450 Advanced Screenwriting (3) Application of narrative principles of character development, story structure and the thematic role and responsibilities of a screenwriter to short and feature-length screenplays. 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 values systems. Students must complete a certification workshop in camera and editing processes to be enrolled in this course. ACM majors only. A-F only. Pre: 310, and 350 or 355, or consent.

ACM 460 Ethics and Film (3) Ethical theory and dilemmas as reflected in film and filmmaking. Social responsibility for filmmakers. ACM majors only. A-F only. Pre: junior standing and 255.

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

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

ACM 485 Seminar in Creative Media (3) Intellectual issues in creative media. Conducted by regular and visiting faculty with 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 global phenomena, with an emphasis on international 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. Repeatable one time on different topics. ACM majors only. A-F only. Pre: 310 or 315 or 316, and 350, and consent.

ACM 499 Directed Study (V) Independent research or creative project under supervision of ACM faculty member. Repeatable two times. ACM majors only. Pre: 310 or 315 or 316, and 350, and consent.

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

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.

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. 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. Development of professional writing skills is integral to this course. Pre: 202 or BUS 624 with C- or better.

ACC 407 Taxation of Business Entities (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 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. Oral presentations with individual feedback required. 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 C 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, and current liabilities. Will also cover Government and Not-for-profit topics. A-F only.

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

ACC 583 Cost Accounting (5) Information for managerial 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.

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. Pre: 581.

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

ACC 609 Advanced Accounting Information Systems (3) Accounting systems analysis, control and design in manual and computerized environments. Knowledge and skills of information technology for auditing AIS systems. Hands-on experience with microcomputers and a computerized accounting system. A-F only. Pre: 323 with C- or better (or concurrent).

ACC 613 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, partnerships, 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, general fund, capital projects fund, debt service funds, enterprise funds, general long-term asset group, general fixed assets accounting group, and accounting entries for encumbrances. Pre: 323 with C- or better.

ACC 616 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. Development of professional writing skills is an integral part of this course. 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. Oral presentations with individual feedback required. 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 C 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, and current liabilities. Pre: 202 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.

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. Pre: 581.

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

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 enterprise information systems. Pre: 409 with C- or better.

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

ACC 619 Auditing (3) Advanced auditing courses. 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. Specific topics include international differences, international issues which create financial reporting, control, and decision-making within multinational business enterprises. Pre: 323 or 582 with C- or better, or consent.

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

ACC 631 Tax of Partners/Partnerships (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 the principles of fiscal accountability and reporting in governmental and not-for-profit organizations. 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 for 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 international 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 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. Repeatable one time. 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.

ACC 705 Research in Taxation (3) Provides an overview of accounting research in taxation topics. Specific research studies are examined as to their
Aerospace Studies (AS)

ROTC Programs

The leadership laboratory is required for all courses. Conducted within the framework of organized cadet corps with programs 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) Lab favors leadership 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 history, 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) Lab favors second-year AFROTC cadets with the skills needed to successfully complete AFROTC Field Training. Students will learn basic military skills. Final Tasking, and participate in physical fitness training. CR/NC only. Pre: consent.

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

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

AS 251L Leadership Laboratory (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)

AS 351 Air Force Leadership Studies (3) Integrated management course emphasizing the military officer as a manager in Air Force, 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 351. A-F only. Pre: must have completed 351.

AS 352L Intermediate Cadet Leader II (1) Continuation of 351L. 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 professionalism. A-F only. Pre: 352 or consent. (Fall only)

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

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

AS 402L Senior Cadet Leader II (1) Laboratory consists of providing prospective Air Force officers an opportunity 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.

American Studies (AMST)

College of Arts and Humanities

AMT 101 Introduction to American Studies (3) Introduction to different types of college-level writing through analyses of contemporary American culture and to the main themes and approaches used in American studies and the humanities. DH

AMT 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, Asian, and Polynesian civilizations, from 1492 to present. A-F only.

AMT 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

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 100 Introduction to American Studies (3) Introduction to different types of college-level writing through analyses of contemporary American culture and to the main themes and approaches used in American studies and the humanities. DH

AMST 100L Field Training (1) Field Training, students will learn basic military skills. Final Tasking, and participate in physical fitness training. CR/NC only. Pre: consent.

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

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

AMST 220 Introduction to Indigenous Studies (3) Interdisciplinary survey that explores the histories, politics, popular representations, self-representations, and contemporary issues of the indigenous peoples of the U.S. and its territories, including Native Americans, Alaska Natives, Kanaka Maoli, Chamorro, and Samoans. 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. DH

AMST 310 Japanese Americans: History, Culture, Lifestyles (3) Explores the experiences 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) History of selected African American 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. (Cross-listed as ENS 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 curricular issues. A-F only. Pre: sophomore or higher standing, or consent. (Once a year) (Cross-listed as POLS 325) DH

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

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

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

**AMST 340 War and Media (3)** Examination of a range of media, including photography, film, print journalism, television, video games, and the internet, as they have shaped popular representations and experiences of war in America from the Civil War through the present. A-F only. (Alt. years) DH

**AMST 343 American Thought and Culture (3)** Politics, family, philosophy, technology, etc.; their interrelationship with the social and cultural context. Pre-Colonial to end of Reconstruction. Pre: 150 or 201 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 348 American Design: An Historical Survey (3)** Examination of design in American culture over the last century. Readings in industrial design, architecture, urban design, and user interface design used to study issues of gender, race, and class in the U.S. Open to all class standings. A-F only. (Alt. years) DH

**AMST 349 Contemporary American Design (3)** Investigates design in contemporary American culture. Graphic, industrial, urban, and user interface design practices are situated within broader social and economic forces. Modes of design practice, production, and consumption studied as reflection of American society today. A-F only. (Alt. years) DH

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

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

**AMST 353 Indigenous Topographies (3)** Examines indigenous practices born of and located in Indigenous places. Analyzes how indigenous knowledge of place informs Indigenous cultural, linguistic, intellectual, and political survival and sovereignty, and resistance. DH

**AMST 354 American Travel Writing (3)** Surveys travel writing of the 19th century, with the travel writer as hero to the digital era, with an emphasis on criticism, genre and style, as well as cultural and sociopolitical context. DH

**AMST 365 American Empire (3)** Examines the interplay between an “American culture of empire” and the realities of the U.S. as a superpower. Topics: imperialism and political culture, 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 Americans in the U.S. and the diaspora. The course pays special attention to labor migration, cultural production and community politics. Pre: sophomore standing. (Cross-listed as ES 373) DS

**AMST 381 Junior Seminar (3)** Materials and methods for the study of American life and thought. For American studies majors and minors only. Pre: junior standing or consent. DH

**AMST 382 Junior Seminar (3)** Continuation of 381. For American studies majors and minors only. 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 405 Native Literatures and Cultures (3)** Comprehensive survey of Native American literatures and cultures, including oral traditions and cultural revival. Pre: 150 or HIST 151 or HIST 152; or consent. (Cross-listed as HIST 445) DH

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

**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 the 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, including the perspectives of historical trends, social processes, and contemporary political, social, and economic issues as they impact interrelated relations. DS

**AMST 420 American Ideas of Nature (3)** The natural world in American thought from Native Americans to modern ecologists. DH

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

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

**AMST 431 History of American Workers (3)** Conditions of labor in major phases of American development; response of labor and community to changing work environment. Capitalism, unionism, race, gender, law, etc. Emphasis on 20th century. DH

**AMST 432 Slavery and Freedom (3)** Examines the history of slavery, race, and abolition in the Americas from Colonial to end of Reconstruction. Pre: 150 or 201 or 202 or HIST 151 or HIST 152; or consent. (Cross-listed as HIST 436) DS

**AMST 433 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 industries, race, class, and gender. Repeatable one time. Pre: junior standing or consent. DS

**AMST 436 Gender, Justice and Law (3)** Examination 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) DS

**AMST 438 Asian Women (3)** History, culture, and contemporary reality of Asian women in Asia and the U.S. Includes study 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/ Media (3)** An exploration of the history and significance of melodrama as a dominant mode of American cultural production from the early republic to the present, with a focus on issues of race, gender, and national identity. 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)** Novelist: paint- ers, poets, jazz musicians as examples of culture of the 1920s and 1930s in the U.S. DH

**AMST 453 Culture, Society, and Literature (3)** Literary and non-fictional 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 455) DS

**AMST 456 Art of the United States (3)** Emphasis on the 18th and 19th centuries. Pre: 202 or ART 476, 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 varieties of film experiences from historical and contemporary viewpoints. DL

**AMST 459 Sports in America (3)** Sports as reflected in literature, films, and TV. DS

**AMST 460 Early 20th Century American Art (3)** American art in the first half of the 20th century and its impact on American culture. Junior standing or higher. Pre: ART 176 or consent. (Alt. years: fall) (Cross-listed as ART 460)

**AMST 461 America’s World Role (3)** Examination of America’s role in modern world affairs, against the background of history, perceptions, and values. DS

**AMST 464 America and Africa (3)** American Empire, and the contemporary reality of African women in Africa and in the U.S. Includes study 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 465 American Empire (3)** Conceptualization of American Empire role in modern world affairs, against the background of history, perceptions, and values. DS
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 sexual 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 issues 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 472) DH

AMST 480 Approaches to American Studies (3) Required seminar in American Studies methods in preparation for 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 nonthesis 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 cross-cultural encounters between oceanic peoples. (Cross-listed as HIST 489) DH

AMST 490 (Alpha) Topics in American Studies (3) Themes, problems, and issues not addressed in other American studies undergraduate courses, focused within these areas: (A) social structure and interaction, (B) arts and environment, Repeatable one time. Pre: junior standing or consent for (D).

AMST 499 Readings in American Studies (V) Directed readings and research for majors. Pre: consent.

AMST 500 Master’s Plan B/C Studies (1) Graduate standing or consent required for all 600-level courses.

AMST 600 Approaches to American Studies (3) Introductory survey of methodological issues underlying research in American studies.

AMST 601 Patterns of American Cultures (3) American cultural 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 History by 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. AMST majors only. A-F only. Pre: graduate standing and consent. (Cross-listed as HIST 639F)

AMST 615 Performance, Culture, and Theory (3) Survey of major critical works in fields of performing arts and public culture (e.g., dance, theater, music, commemoration). Topics include: theoretical implications for the discipline of American studies, and the impact of social movements and labor migration on the performing arts.

AMST 616 Gender and the African Diaspora in the Americas (3) Explores the impact of the African Diaspora on the cultures and histories of the Americas through interdisciplinary and feminist scholar- ship and cultural sources including fiction, foodways, film, poetry, religion, music, and dance. A-F only. Pre: Graduate standing only. (Spring only)

AMST 617 Social and Cultural Diversity in America (3) Examination of selected subcultures in America.

AMST 618 American Sexualities (3) Aspects of sexual identity within the context of American culture.

AMST 620 Indigenous Identity (3) Interdisciplinary and comparative focus on how Indigenous identity is constructed, asserted, acculturated, and deconstructed within and without Indigenous communities with attention to the U.S. Graduate students only. Pre: graduate level standing or higher.

AMST 623 American Architecture (3) Cultural analysis of the evolution of American architecture from the Colonial period to the present including 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. A-F only. 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 dissident movements in American history.

AMST 645 Historic Preservation (3) Federal, state, and local laws and regulations that regulate and provide protection to significant architectural 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.

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 its 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.

AMST 669 Advanced Topics: America and the World (3) Historical and contemporary issues in America’s global relationships.

AMST 670 Comparative Methods in American Studies (3) Examines approaches to American studies that use comparison as a primary method. Comparison of histories, institutions, of phenomena between the U.S. and another country as well as among communities in the U.S. Graduate standing only. Co-requisite: 600 or 601 or 602, or consent. (Every 2-3 years)

AMST 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 imagination 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, curators, conservators and others) in the care of collections, including study and interpreting the objects on display and planning and implementing exhibitions. Pre: or concurrent. Consent.

AMST 685 Museums and Education (3) Overview of museum education, including understanding the role of museums, program development and evaluation, and ethics and professional practice. Pre: or concurrent. Consent. (Cross-listed as EDCS 685)

AMST 686 Museum Studies Practicum (3) Applies course work in museum studies to hands-on activities under the direction of practicing professionals and university faculty. Museum studies certificate students only. Pre: consent.

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

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

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

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

AMST 700 Thesis Research (V) Repeatable unlimited times. Pre: admission to candidacy (master’s program).

AMST 800 Dissertation Research (V) Repeatable unlimited times.

Key to symbols & abbreviations: see the first page of this section.
ANSC 472 Endocrinology of Domestic Animals (3) Physiology of secretion and actions of hormones of pituitary, thyroid, adrenal, pancreas, parathyroid, thymus, other endocrine organs excluding reproduction. Pre: 301. DB
ANSC 490 Aquaculture Business Planning and Entrepreneurship (2) Practical aspects of planning and developing an aquaculture business from conceptualization to a final business plan. Topics include species/technology, project planning, business structuring, permitting, contracts, production plans, financial planning and analysis, market/competition analysis, capital acquisition, intellectual property and legal issues. Pre: 450 or OCN 450. Must have strong interest in hands-on rearing aquaculture animals and flexible time for live classes.
ANSC 491 Topics in Animal Sciences (V) Study and discussion of significant topics, problems. Offered by visiting faculty and/or for extension programs. Repeatable up to 18 credits. Pre: junior or senior standing.
ANSC 492 Field Experience (4) Integration and application of basic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: senior standing in ANSC. (Cross-listed as FSHN 492)
ANSC 499 Directed Study or Research (V) Limited to exceptional undergraduate students, generally with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in major. Exceptions may be granted for students with high achievement in last three semesters. Repeatable unlimited times. Pre: junior or senior standing.
ANSC 500 Master’s Plan B/C Studies (1) ANSC 601 The Science of Food Systems (2) (1 50-min Lec, 1 2-hr Discussion) Discussion of food systems as they apply to animal science, food science, and human nutrition. Repeatable one time. Pre: graduate standing or consent. (Cross-listed as FSHN 601)
ANSC 603 Experimental Design (4) (3 Lec, 1 3-hr Lab) Design of experiments and variance analyses in biological and agricultural research. Pre: graduate standing or consent. Recommended: ZOOL 632. (Cross-listed as TPSS 633)
ANSC 641 Seminar in Animal Sciences (1) Topics of current interest and current research related to nutrition, genetics, and physiology. Repeatable three times. Pre: consent.
ANSC 642 Advanced Animal Nutrition (3) An advanced course in the nutrition of monogastric, ruminant, avian, and aquatic species. Topics include digestive system structures, utilization of nutrients, energy metabolism, and experimental techniques used in the study of animal nutrition. Pre: graduate standing or consent.
ANSC 643 Physiology of Reproduction (3) Comparative differentiation, development, growth, and function of the reproductive systems of mammals and birds; external factors that influence response; artificial insemination. Pre: graduate standing or consent.
ANSC 644 Growth Biology of Meat Animals (2) Growth and development of meat-producing animals; skeletal muscle, adipose tissue, and bone; protein turnover, lipid metabolism, and bioenergetics; regulation of animal growth. Pre: graduate standing or consent.
ANSC 650 DNA and Genetic Analysis (2) Combined lecture-lab for students interested in genetic analysis of humans, animals, and other species. Molecular techniques, such as PCR, DNA marker identifications, transgenes, expression analysis and functional genomics, are included. Open to nonmajors. Pre: graduate standing or consent. (Cross-listed as FSHN 650 and MBBE 650)
ANSC 652 Information Research Skills (1) Examines the use of libraries and information technology for scholarly investigation in support of scientific research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as FSHN 652, NREM 652, and TPSS 652)
ANSC 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Emphasis on preparing graduate students to grants and grant proposal writing through lectures, class discussion, writing assignments, and peer review. Open to CTAHR graduate students only; others with consent. (Cross-listed as FSHN 657 and TPSS 657)
ANSC 687 Advanced Laboratory Techniques (3) (1 Lec, 2.5 3-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. Pre: graduate standing or consent. (Cross-listed as FSHN 687 and MBBE 687)
ANSC 699 Directed Research (V) Pre: consent. Repeatable unlimited times.
ANSC 700 Thesis Research (V) Repeatable unlimited times.

**Anthropology (ANTH)**

College of Social Sciences

Most 300- and 400-level courses have 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 courses 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 non-majors; 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. FGA

ANTH 165 Heritage Sites in Archaeology (V) Review of ethnohistorical and archaeological research and controversies in more than one specialty. Pre: graduate standing or consent. (Cross-listed as PACE 345)

ANTH 215 Physical Anthropology (3) Introduction to the nutrition of monogastric, 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. Pre: graduate standing or consent.

ANTH 241 Cultural Anthropology (3) Comparative analysis, capital acquisition, intellectual property and financial planning and analysis, market/competition structuring, permitting, contracts, production plans, species/technology, project planning, business structuring, permitting, contracts, production plans, financial planning and analysis, market/competition analysis, capital acquisition, intellectual property and legal issues. Pre: 450 or OCN 450. Must have strong interest in hands-on rearing aquaculture animals and flexible time for live classes.

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

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

ANTH 315 Visual Anthropology (3) Historical development of documentary films of native American peoples; critical examination of ways in which ethnographic films represent different cultures. Pre: 152 (or concurrent). DH

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

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

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

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

ANTH 323 Pacific Island Archaeology (3) Origins of Polynesian peoples; chronology of settlement; sequenc- es of culture in Australia, Melanesia, Micronesia, and Polynesia. Pre: sophomore standing or consent. DH

ANTH 325 Origins of Cities (3) Combined lecture/discussion on the emergence and development of ancient cities in comparative perspective and the dynamics of (pre)modern urban life. Examples are drawn from the Near East, Mediterranean, Africa, India, China, and the Americas. A-F only. Pre: 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 FSHN 326) DH

ANTH 327 Ethnohistory (3) Review of ethnohis- tory, 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 Eurocolonial history. A-F only. Pre: HIST 152, or consent. (Alt. years) (Cross-listed as IS 327) DS

ANTH 330 Social Organization (3) Systematic study of human institutions; general principles of social interaction formulated from ethnographic data. Pre: 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 other phenomena of tourism. Includes issues of cultural performance, identity, and commodification. Open to nonmajors. Pre: 341

ANTH 345 Aggression, War, and Peace (3) Bio- cultural, evolutionary, and cross-cultural perspectives on the conditions, patterns, and processes of violence, war, nonviolence, and peace. Pre: 152. (Cross-listed as PACE 345) DS

ANTH 350 Pacific Island Cultures (3) Intro- duction to cultures of Polynesia, Micronesia, and Melanesia from time of first settlement to emergence of modern nation states. Pre: sophomore standing or consent. DH
ANTH 368 Households in Cross-cultural Perspective (3) Study of cross-cultural patterns in household and community level organizations in Latin America and elsewhere. Topics may include gender relations, kinship structures, political economy, impacts of colonialization, modernization, and globalization on households. Sophomore standing or higher. (Cross-listed as LING 368) DS

ANTH 370 Ethnographic Field Techniques (V) Problems and techniques of social-cultural anthropological fieldwork. Ethnographic literature; work with informants. Repealable one time. Pre: 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, texts and practices. (B) Mesoamerica; (C) Andean Region. Repeatable one time for different alphas. Pre: sophomore standing or consent. (Cross-listed as ANTH 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. Pre: 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. Repealable two times. Pre: 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 a national or international archaeological site. Repeatable one time with consent. Pre: 210.

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

ANTH 384L Skeletal Biology Laboratory (1) Laboratory to accompany 384. Co-requisite: 384. DS

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

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 consent. Pre: 152. (Alt. years)

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 diversification. Focus on theoretical and methodological issues in paleoanthropological 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 exploring the interaction of language and gender. No previous knowledge of linguistics required. A-F only. (Cross-listed as LING 413) 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 Sexuality (3) Explores the intersection of sexuality research and queer theory with other anthropological concerns such as identity, race, gender, religion, economy, politics, and globalization. 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 to backgrounds “brought to 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.

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 media mass media; role of mass media in social and cultural processes of authority, 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, symbolism, with emphasis on religious and 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) Various forms 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 system, ideologies, and consumerism of patients. Pre: junior standing or consent. 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) Exploration 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 consumption 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 440 The Agriculture of Identity: Food and Farming in Anthropological Perspective (3) Exploration of agriculture from the perspective of anthropology, with a focus on alternatives to industrial agriculture, especially in the context of Hawai’i. Readings include academic writing and also literary fiction and journalism. AF only. Pre: 152. (Alt. years) DS

ANTH 442 Globalization and Identity in the Himalayas (3) Examines the influence of local culture and global flows on identity formation in the Himalayan region. Pre: junior standing or consent and conservation. Pre: junior standing or consent. (Cross-listed as REL 443)

ANTH 444 Spiritual Ecology (3) Lectures and seminars provide a cross-cultural survey of the relationships between sacred 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 from hunting and gathering groups to high civilizations; kinship, economic, political, and religious systems; social 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 sex, age, stature, race, 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, Key to symbols & abbreviations: see the first page of this section.
ANTH 462 East Asian Archaeology (3) Prehistoric and protohistoric of China, Japan, and Korea from earliest human occupation to historic times. Geographical emphasis may vary between China, Japan, and Korea. (Fall only) Pre: junior standing or consent.

ANTH 463 Anthropology of Global Health and Development (3) Seminar explores the definitions and histories of development and global health initiatives in developing countries from an anthropological perspective. Reading materials include scholarly and popular texts that propose and critique solutions to global poverty. Junior standing or higher. A-F only. Pre: 152 or 425. (Alt. years: spring) DS

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

ANTH 465 Science, Sex, and Reproduction (3) Explores anthropology’s critical analysis of approaches to reproductive health and procreation, primarily in developing countries. Examines sex and reproduction as sites of intervention from public health, development, and biomedical specialists, while also considering local strategies. A-F only. Junior standing or higher. Pre: 152 or 425 or WS 151. (Alt. years: Fall) (Cross-listed as WS 465) DS

ANTH 466 Quantitative Archaeology (4) Combined lecture/lab. Introduction to the basic principles of statistics as applied to the analysis of archaeological data. Exploratory data analysis approach. A-F only. Majors only, junior standing or higher. Pre: 210. (Alt. years) DS

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

ANTH 468 Archaeological Theory and Interpretation (3) Introduction to theory in archaeology; interpretative 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 473 Lithic Artifact Assemblage Analysis (4) Combined lecture/lab on the manufacture and analysis of stone tools. Emphasis on experimental collections and engagement in stone tool production. The ways in which lithics enlighten us about past human behavior are discussed. Pre: 210 and 380, or consent. DS

ANTH 474 Geoaarchaeology (3) Field and laboratory analysis of sediments and soils in archaeological context. Emphasis on depositional 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 collections with emphasis on identification and interpretation of nonhuman vertebrate remains. Pre: 210. DH

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

ANTH 478 New World Rituals and Ideologies (3) Study of cultural patterns in ritual behaviors and creolization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), African Christianity, spiritual conquest/renunciation, death, etc. Sophomore standing or higher. Minimum C- required grade for prerequisites. Pre: LAIS 360, or consent. (Fall only) (Cross-listed as LAIS 478 and REL 478) DH

ANTH 481 Applied Anthropology (3) The application of anthropological methods and concepts to solving practical human problems such as homelessness, domestic violence, maternal morbidity, conflict over resources, and the loss of indigenous languages. Includes a significant service-learning component. Pre: 152. DS

ANTH 482 Anthropology and the Environment: Culture, Power, and Politics (3) Investigates environmental problems from an anthropological perspective, and examines the cultural politics of contortions over the exploitation of and the meanings of nature. 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 genres, the course is organized thematically around issues and problematic scenes. DS

ANTH 485 Pre-European Hawai‘i (3) Pre-European society and culture from an anthropological viewpoint. Pre: 210. DS

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 487 Okinawa and Its Diaspora (3) Explores the ties of identity that exist within and between Okinawa and its diasporic populations. Pre: 210. (Alt. years) DS

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

ANTH 490 History of Anthropology (3) Development of anthropological ideas, focusing on theoretical and methodological issues concerning culture, society, and human nature. Required of majors. 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: ART 175, or consent. (Once a year) (Cross-listed as ART 490D) DH

ANTH 493 Oral History: Theory and Practice (3) Literature and methodology; project design. Students develop and execute an oral history project. Junior standing or consent. (Cross-listed as ES 493) 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 anthropological 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 systematics, primates biology and behavior, paleontology, 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 reality, examining discursive 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 disease 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 collective memory. Attention to interactional 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 in Social and Cultural Anthropology (3) Major theoretical problems in (B) kinship; (C) cognitive systems; (D) religion; (E) political institutions; (F) cultural and identity; (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 and landscape; (D) applied archaeology; (E) economic/resources; (F) survey/localization. Repeatable two times. Pre: 603.

ANTH 645 Historic Preservation (3) Federal, state, and local laws and regulations that regulate and
provide protection to significant archaeological and historical resources in Hawai‘i and the region. (Alt. years: spring only) (Cross-listed as 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 663 Anthropology of Global Aid (3) Examines ideologies of development, humanitarian, and global health interventions from an anthropological perspective. Explores the discrepancy between discourses that portrays global aid as easing suffering and those that accuse it of maintaining relationships of domination. A-F only. (Alt. years: spring)

ANTH 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 Anthropology Field Methods (V) (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 Archaeology students 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 regulations. Pre: consent. Cross-listed as AMST 676 and PLAN 676)

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

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

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

ANTH 699 Directed Reading or Research (V) Repeatable nine times. Pre: graduate standing and consent. ANTH 700 Thesis Research (V) Research for master’s thesis. Repeatable nine times.

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) anthropology; (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.

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 situ- ation-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) 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 strategy. Pre: 201 or exam or consent. (Spring only) HSL.

ARAB 301 Third-Level Arabic I (3) Develop proficiency in reading/listening comprehension in Modern Standard Arabic. The instructional materials consist of authentic 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 level of proficiency. Course includes extensive reading, composition exercises, listening skills, conversation practice and extensive review of Arabic grammar. Developmental fluency is the main objective of this course. Classes meet 3 hours weekly. Pre: 301 (or equivalent), or consent.

Architecture (ARCH)

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

ARCH 100 Introduction to the Built Environment (3) Introduction to the breadth of design in today’s global culture. Exploration of human responses to place, climate, culture, communication, and technology, with emphasis on the impact of scientific knowledge on environmental design. Open to nonmajors. DS

ARCH 101 Basic Design Studio (4) Introduction to creative design processes focusing on the investiga- tion of combining objects within a definable space. Hands-on exploration of materials and structures as an introduction to design processes. Open to non-majors. A-F only. 

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

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

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

ARCH 220 Introduction to Environmental Systems (3) Focuses on the impact of human activities on planet earth and the role of environmental systems in creating livable environments. Pre: 235. DA

ARCH 235 Computer Applications in Design (4) Exploration of digital design fundamentals and their application to design analysis, conceptualization, design process, and communication of design intent. Pre: 200, 101, and 152.

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 from 1500 B.C. to the present. Investigation of architecture in relationship to social, political, technological, and material forces. Open to non-majors. Pre: HIST 151. DH

ARCH 272 World Architecture and Urbanism B (3) Investigation of the history and theory of archi- tecture from the 15th century C.E. to the present. Exploration of urban design, and construction management. Open to non-majors. Pre: HIST 152. DH

ARCH 321 Introduction to Environmental Sys- tems (3) Introduction to environmentalism; focus- ing on the impact of human activities on earth and global environment; the role of environmental regulations/ certifications, and understanding of sustainable principles (economic, social, and natural systems). Pre: 100, 101, and 152.

ARCH majors only. A-F only. Pre: 302, and PHYS 151/151L.

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


ARCH 350 Introduction to Planning (3) Perspec- tives on planning: planning tools and methods; specific Hawai‘i planning/research problems 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

Key to symbols & abbreviations: see the first page of this section.
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 processing model that combines free-hand and technical drafting techniques to creative effective landscape graphics. Pre: consent. (Alt. years) (Cross-listed as TPSS 353) DA

ARCH 354 Tropical Landscape Planting Design Studio (3) Students will develop basic skills of residential landscape graphic and design processes in order to clearly articulate the ability to think, analyze, and extend a physical solution in the proper scale. Repeatable one time. A-F only. (Alt. years) (Cross-listed as TPSS 354) DA

ARCH 371 Design Theory (3) Examination of theories, movements, and practices in architectural history focusing on contemporary issues. Introduction to analytic techniques for achieving understanding of formal and spatial ordering of architectural and site construction. ARCH majors only. A-F only. Pre: 271 and 272.

ARCH 372 Special Topics in Architectural History and Theory (3) An examination of specific theories, movements, or periods of architectural history. Changing topics to be taught by both regular and visiting faculty. Repeatable three times. DA

ARCH 399 Directed Work (V) Pre: consent.

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

ARCH 405 Selected Design Studio (3) Specialized architectural design issues individually selected by students or faculty to sharpen design skills, Repeatable three times. DH

ARCH 406 Office Research Practicum (3) Learn design research method[s]. 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 practical aspects of the practice of architecture via shadowing an architect relative to specific design process activities, communication techniques, and professional ethics issues. A-F only. Pre: 200.

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

ARCH 422 Green Building Evaluation and Rating Systems (3) Introduction to green building design, construction, and operation standards and rating systems. Emphasis on understanding the intent, criteria, and process of the LEED system in preparation for application in a professional setting. ARCH majors only. A-F only.

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; project administration, procedure and compensation; construction law and contract administration. A-F only. Pre: 200 and 341.


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. DS

ARCH 451 Landscape Architecture Design Seminar (3) Exploration of the landscape architecture within the comprehensive design processes of the built environment. Focus on context-specific sociocultural, economic, political, environmental determinants of landscape forms and patterns. Open to non-majors if space available. A-F only.

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 methodology. Open to non-majors if space available. A-F only.

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

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 and quantitative development of an optimum environment. Repeatable three times. Pre: consent.

ARCH 490 Special Topics (3) Selected topics in any aspect of architecture. Content to be announced. Repeatable three times.

ARCH 492 Special Topics in Architecture History (3) Specialized work on the history and theory of architecture. Repeatable unlimited times. ARCH majors only. A-F only.

ARCH 492 Special Topics in Architectural Technology (3) Specialized investigation of technological development and practices impacting the design and construction of buildings, and/or the use of materials. Repeatable unlimited times. ARCH majors only. A-F only.

ARCH 493 Special Topics in Architecture and Design (3) Work on specialized topics in the fields of architecture and design. May include research and/or studio experiences in architecture, interior architecture, computer-aided design, professional practice, advanced visual design, and architectural graphics. Repeatable unlimited times. ARCH majors only. A-F only.

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

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.

ARCH 516 Architecture and Urban Design Theory (3) Exploration of architectural theories in architecture and urban design and examination of their impact on contemporary architectural practice in varied geo-political contexts. Open to non-majors. A-F only.

ARCH 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: MATH 140.

ARCH 523 Architecture Systems II: Qualitative, Bioclimatic Structural Performance (3) Introduction to the theory of bioclimatic structural systems and the ability to analyze, assess, select, design, and integrate them as initial determinants into the building design. ARCH majors only. A-F only. Pre: graduate status.

ARCH 524 Architecture Systems III: Quantitative Structural Analysis and Design (3) Introduction to procedures and wood, steel, concrete, and masonry material properties used for structural analysis and design of individual structural elements and building structural systems. ARCH majors only. A-F only. Pre: 523.


ARCH 526 Architecture Systems V: Building Systems Integration (3) Properties, evolution, and range of building materials, assemblies, and systems and their applications in integrated high-performance building design with a focus on the role of detail and systems in the design process. ARCH majors only. A-F only. Pre: 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, conceptual analysis, and 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 or 531.

ARCH 534 Forms and Frames of Practice (3) Comprehensive study of architectural practice within the global context with emphasis on the Asia Pacific region. Exploration of information technology systems, materials and design process research, construction technology, computer aided manufacturing, and entrepreneurial arch. ARCH majors only. Graduate students only. A-F only.

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

ARCH 539 Research Methods Seminar (3) Comprehensive assessment of objectives and function of research in architecture. Lecture, seminar, independent work with emphasis on doctoral 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.

ARCH 541 Architecture Studio II (6) Design of a medium complexity building and site engaging social, cultural, codes, building systems, and sustainable design. Production of program and schematic design documents. Individual projects. ARCH majors only. A-F only.

ARCH 542 Architecture Studio III (6) Design of complex, large scale building and site engaging social, cultural, code, sustainable systems, and acoustic issues. Production of schematic and design development documents. ARCH majors only. A-F only. Pre: 523, 533, 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 544 Architecture Studio V: Comprehensive Design (6) Design and programming for a moderately complex building and site. Production of design development and technical construction documents describing sustainable building assemblies and construction cost. ARCH majors only. A-F only. Pre: 524, 525, 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, comprehension of visual art forms, and a critical understanding of the methods used by art historians and art historians. A-F only. Pre: 542, 533, and 542.

ARCH 546 (Alpha) Doctorate Project I (V) Individual development of a doctoral project with an approved chair and doctoral project committee that advances architectural knowledge through research, scholarship, design, and engages theoretical and architectonic propositions. (C) China; (G) global; (H) Hawai‘i; ARCH majors only. A-F only. Pre: 546G for (C); 548C for (G); 547C; 547P, or 547E for (H).

ARCH 550 (Alpha) Architecture Studio VI: Urban design focused on investigating social, cultural, political, and technological factors; study of historical precedents, building/block typology, circulation, infrastructure, and context response. (C) China; (G) Global. A-F only. ARCH Global Track only. Graduate standing only. Pre: 547B or 547G for (C); 550C for (G).

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. ARCH majors only. A-F only. Pre: 544.

ARCH 555 Advanced Global Practice (3) Comprehensive study of architectural practice investigating architect’s response to global forces, including entrepreneurial practice, office organization, project delivery, comprehension of visual art forms, and a critical understanding of the methods used by art historians and art historians. A-F only. Pre: 542, 533, and 542.

ARCH 560 Study Abroad: Architectural Study Tour (V) Firsthand examination of the architecture of various countries, with emphasis on experiencing and comprehending significant spaces within historical, cultural, and physical 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.

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.

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 one time. ARCH majors only. CR/NC only. Pre: 548.

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

ARCH 595 Building and Landscapes: Theory and Practice (3) Research into landscape, landscape architecture, and architecture from historical, historiographic, and theoretical perspectives. ARCH majors only. A-F only.

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 architectures, cultural landscapes and material culture, with an emphasis on 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 three times. Pre: consent.

ARCH 691 Special Topics: Architecture History/ Theory (3) Specialized work at an advanced level on the history and theory of architecture. Repeatable unlimited times.

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

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

ARCH 699 Directed Work (V)

Art and Art History (ART)

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

ART STUDIO CORE COURSES

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

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

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

ART HISTORY & THEORY CORE COURSES

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

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

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, printing, 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: 176 and consent. DH

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

Key to symbols & abbreviations: see the first page of this section.
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. Pre: 214, 225, 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, emphasizing independent development. Required for BFA capstone in painting. Repeatable one time. Pre: 513 and 514 or 323 and 324 with a B (not B-) or better; or consent. DA

ELECTRONIC ARTS

ART 201 Introduction to Electronic Arts (3) Theory and practice course investigating language common to all art activities particularly as related to the contemporary arts. Pre: any studio art course; or consent. DA

ART 301 (Alpha) Electronic Arts Studio I (3) (6 Lecture) Concept 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 art areas and related disciplines. (B) Imaging and (D) Interactive Systems. Pre: 201 and one 200-level studio; or consent. DA

ART 401 Advanced Electronic Arts Studio(3) Tutorial studio that encourages exploration in combined and new media through independent work within an environment of theoretical and critical discourse. Repeatable one time. Pre: 301 or consent. DA

FIBER

ART 103 Introduction to Fiber Arts (3) Broad-based studio exploration of materials, techniques, concepts in contemporary fiber art. May include surface patterning/manipulation, papermaking, woven, other 2D and 3D construction techniques. Focus on creative problem solving, experimentation in a cooperative studio setting. DA

ART 237 Woven Structures (3) Structured studio exploration of creative potential of working with threads under tension. In-depth introduction to a variety of traditional and experimental processes/materials. Tradition of pattern weaving to experimental woven forms. A-F only. Pre: one of 103, 116; or consent. DA

ART 238 Fiber Forms (3) In-depth studio exploration of on-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 335 Papermaking (3) Studio emphasis on handmade papermaking techniques, conceptual exploration in two and three dimensions. Repeatable one time. A-F only. Pre: one fiber course or one of 104, 113, 116; or consent. DA

ART 336 Wearable Art—Body and Material (3) Studio exploration of clothing as art form and the body as living armature and performance. Emphasis on development of concept, skill, collaborative and individual work, within an interdisciplinary investigation, research, discussions, lectures, individual and group projects. Repeatable one time. A-F only. Pre: one 200-level fiber course, or 116 and one 200-level studio course; or consent. DA

ART 337 Fiber Sculpture—Endurance and Impermanence (3) Studio exploration in contemporary dimensional fiber using both conventional and non-conventional materials and processes. Emphasis on concept development, sensitivity to the evocative potential of materials, context, surface treatment and its relationship to concept and structure. Repeatable one time. A-F only. Pre: one 200 level fiber course or 116 and one 200 level studio course; or consent. DA

ART 339 Designing Surface (3) In-depth studio exploration of fiber techniques for patterning and manipulating cloth and other related experimental surfaces. Engages conceptual exploration through experimentation with traditional fiber patterning techniques such as dyeing, resist, direct magic, embellishment drawing with thread and piercing. Group and individual projects. A-F only. Pre: 113 and 116; or consent. DA

ART 437 Textile Conservation/Research (V) Independent study of textile conservation and research. Individually arranged. Direct 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.

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

ART 439 Installation/Performance—Material in Context (3) Studio investigation of the definition/transformation of space through artist intervention. Emphasis on the evocative potential of materials in context (physical, social, political, psychological) as well as experimental subject based interventions. Repeatable one time. A-F only. Pre: two 200-level or above studio courses, or consent.

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. A-F only. Pre: 107.

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 coldjoining 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, fusible sheet glasses and enameling on glass. Pre: 234 or consent. DA

ART 306 Lost Wax Glass Casting (3) Glass kiln casting techniques, lost wax fuse casting, pâte de verre. Repeatable one time. 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 semantic 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; or consent. 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 265L. DA


ART 365L Design: Studio II Lab (1) Intermediate instruction in the Macintosh computer environment, software, and peripheral devices, including intermediate layout. Introduction to graphic design industry standard multi-media and web design programs. CR/NC only. Pre: 265, 265L, and 266; or consent. Co-requisite: 365. DA


ART 465L Design: Studio III Lab (1) Advanced instruction in the Macintosh computer environment, including software and peripheral devices. Instruction in image manipulation and editing will video images for the web, CD, DVD, and portable interface devices. CR/NC only. Pre: 365, 365L, and 366; or consent. Co-requisite: 465. DA

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

ART 469 Design: Advanced Studio (3) Individual and team investigations of complex problems in graphic design. Emphasis on projects with actual clients (when available) and/or independent investigations addressing advanced and current issues in the graphic design field. A-F only. Pre: (465 and 465L) with a minimum grade of B. (Spring only)

PHOTOGRAPHY

ART 107 Introduction to Photography (3) Studio/lecture examining the major themes and issues in historical and current photographic production. Direct black and white darkroom experience. Students must have 35mm film-based camera with adjustable shutter speed, aperture, and 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: 107. 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 and 207 with a minimum grade of B and positive portfolio review, or consent. DA

ART 308 (Alpha) Advanced Photographic Techniques (3) Emphasis on aesthetic and critical analysis. Techniques covered include continuous light, strobe and handheld flash. Repeatable one time with consent. Pre: 202 and 207 with a minimum grade of B and positive portfolio review, or consent. DA

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

ART 104 Introduction to Printmaking (3) Foundations exploration in the processes of relief, intaglio, and stencil printmaking. Direct workshop studio experience in the basic techniques and concepts of woodcut, linoleum cut, drypoint, monotype, and basic stencil processes. Pre: consent.

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. DA

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

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

ART 255 Sculpture—Carving, Mixed Media (3) Investigations of traditional and contemporary carving concepts and methods. Repeatable one time. Pre: consent. 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-Scale (3) 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 360 Exhibition Design and Gallery Management (3) Design theory and techniques for presentation of artworks and mounting exhibitions. Pre: junior standing and consent. DA

ART 369 (Alpha) Study Abroad-Studio Art (3) Intensive study of topics in studio art at a UH Mānoa-approved study abroad institution. (B) introductory; (C) upper-division. Repeatable one time per alpha. A-F only. Pre: consent. DA

ART 389 (Alpha) Study Abroad-Art History (3) Intensive study of advanced topics in art history at a UH Mānoa-approved study abroad institution. (B) introductory; (C) upper-division. Repeatable one time per alpha. A-F only. Pre: consent. DA

B, 9 for MFA. Repeatable unlimited times. Pre: consent of instructor and department chair.

ART 700 Thesis Research (V) Repeatable unlimited times.

Arts and Sciences (CAS)

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: Admittance 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.

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, culture, and traditional issues. Pre: senior standing.

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)

ASAN 201 Introduction to Asian Studies: East Asia (3) Understanding East Asia through multidisciplinary approaches. Examines the relationship of policies, economy, 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 interrelationships of policies, 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 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 cultural tradition and technological modernization in the social transformation process. A-F only. Pre: sophomore standing or higher, or consent. (Cross-listed as SIS 308)

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) Multidisciplinary examination of problems and issues affecting peoples and institutions of contemporary...
Asia: ethnic, language, religious, and cultural differences; population growth; public health; economic development; political and social change; environmental problems; etc. Pre: 201 and 202, or consent. DS

ASAN 320 (Alpha) Asian Nation Studies (8) Multidisciplinary examination of major Asian countries: cultural, social, economic, and political lives of their peoples. (C) China; (I) South Asia; (J) Japan; (K) Korea; (O) Okinawa; (P) Philippines; (S) Southeast Asia; (Z) Other. Pre: 201 and 202, or consent. Repeatable three times in different alphabas. 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 design, and politics. (Cross-listed as HIST 323) DS

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 (or concurrent), 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. (B) 1900-1960; (C) 1960-present; (D) special topics. Pre: upper division standing or consent. (Cross-listed as EALL 325) DH

ASAN 326 Art and History (3) Study and analysis of Chinese film: its history and relationship to cultural, social, philosophical, and aesthetic contexts. Pre: 201 and 202, or consent. (Cross-listed as EALL 330) DH

ASAN 360 Buddhist Philosophy (3) Survey of central thinkers and schools. Pre: any course 100 or above in PHIL, CHN, JPN, PALI, SNSK, or TIB; or consent. (Cross-listed as PHIL 360) 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) DH

ASAN 364 20th-Century Chinese Women Writers (3) A survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Trace 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 393 (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 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. (Cross-listed as HIST 406) DH

ASAN 410 Gender and Politics in U.S.-Okinawa Relations (3) Survey 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) DH

ASAN 462 Contesteds Issues in Contemporary Japan (3) Familiarizes students with public discourse in Japan by analyzing key current issues widely debated in the Japanese media and in public forums in light of their political, historical, cultural, social and economic contexts. A-F only. Pre: 201, 202, 312, 320, ANTH 483, ANTH 484, ECON 317, POLS 307H, SOC 357, or upper level undergraduate standing; or consent. DS

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 464 J-pop, J-rock, and Idol: Japanese Popular Music and Society (3) Examines modern Japan through popular music. Examines genres from early modern J-pop music to post-war enka and idol groups, up to today’s J-pop and J-rock. A-F only. (Summer only)

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

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

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 between 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 theatre 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 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, media studies, and literary criticism. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EALL 474) DH

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

ASAN 480 Culture and Economy of Southeast Asia (3) An exploration of the cultural and economic development of the countries of Southeast Asia from early times to the present day, with an emphasis on the effects of outside influences. Pre: 201 and 202, or consent. DH

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

ASAN 491 (Alpha) Topics in Asian Studies (3) Selected topics in Asian Studies. Pre: EALL 310. (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 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 and WS 492) DH

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

ASAN 495 Encountering Tourism in Asia-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 or 202, or consent. (Cross-listed as EALL 496) DS

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 two times (for a maximum of three times) with consent.

ASAN 600 Asian Studies Seminar: Scope and Methods (3) Scope of Asian studies as a field; contributions of major disciplines to study of Asia; resources and methods of research; preparation of research proposal. (C) China; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia. Pre: graduate standing.

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, POLS 308, or POLS 341; or consent. (Cross-listed as POLS 645C and PLAN 608) DS

ASAN 611 Comparative Muslim Societies in Asia (3) Will compare Muslim societies and cultures in Asia with each other and with the so-called “core” Middle Eastern Muslim societies. Pre: 600 or consent.

ASAN 612 20th Century Literary and Cultural Studies (3) Critical scholarship in Chinese literature and cultural studies broadly defined to include the People’s Republic of China, Taiwan, Hong Kong, and others. Reading knowledge of Chinese desirable but not required. Repeatable one time with consent. Pre: consent. (Cross-listed as EALL 611) DS

ASAN 620 Problems/Issues of Contemporary Asia (3) Analysis from multiple perspectives: 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 artistic production. This seminar examines gender reflected in traditional music, dance, and theatre, including character role and performer personas; approaches of performance and culture studies, and an “Asian way.” (Cross-listed as EALL 623) DS

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) Critical and comparative developmental analysis of Asia’s leading economies. Considers Japanese political and economic developmental model; discusses problems for continued Asian growth; examines Korea, Taiwan, China, Indonesia, Thailand, Philippines and other Asian nations. Pre: 312, 600, or consent.

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

ASAN 627 Ethnic Nationalism in Asia (3) Contemporary theories of ethnic and cultural nationalism from perspective of Asia. Issues of nation-state, power hierarchies, modernity, and identity in contemporary Asia (in 2-3 years), or concurrent; or (once a year) Pre: 310 and 312, or concurrent. (Once a year)

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

ASAN 636 Culture and Urban Form in Asia (3) Cultural and historical impact on urban form, conditioning 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. Offered as a course in 312, ARCH 341, PLAN 310, or PLAN 600. (Cross-listed as PLAN 636)

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

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

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

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

ASAN 653 Major Authors in Modern Korean Literature (3) Advanced study of major Korean fiction writers from the 1910s to the present with emphasis on critical readings of their literary works and writings to arrive at informed appraisal of their contribution to modern Korean literature. Repeatable one time. Pre: KOR 494 or consent. (Cross-listed as KOR 652)

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

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

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

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

ASTR 241 Foundations of Astrophysics I: The Solar System (3) Solar system astrophysics. Dynamics of planets, satellite systems, asteroids and comets; internal and atmospheric structure of terrestrial and giant planets; thermal balance; the Sun as a star. A-F only. Pre: PHYS 170, MATH 242 or 252A, and PHYS 272 (or concurrent). (Fall only) DP

ASTR 242 Foundations of Astrophysics II: Galaxies and Stars (3) Astrophysics of galaxies and stars. Galactic structure and dynamics; active nuclei; large-scale structure. Elements of Newtonian and relativistic cosmology; Stellar atmospheres and spectral lines. Stellar interiors; nuclear energy generation; main-sequence and evolved stars. A-F only. Pre: PHYS 274 (or concurrent), and MATH 243 (or concurrent) or 253A (or concurrent). (Spring only) 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 spacecraft and communication. Pre: 110 or 240, or consent. (Spring only) DP

ASTR 300 Observational Astronomy (3) Principles and techniques of optical and near-infrared astronomical observation. Astronomical coordinate systems. Telescopes, cameras, spectrographs, and detectors. Astrometry, photometry, and spectroscopy of astronomical objects. A-F only. Pre: 240 or 242; PHYS 152 or 274; MATH 215, 241, or 251A. (Fall only) DP

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

ASTR 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 orbiting other stars. Space exploration and colonies, geological perspectives on this fundamental question. Given concurrently with 630. Pre: PHYS 170 or consent. (Alt. years: spring) DP

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

ASTR 622 The Interstellar Medium (3) Atomic and molecular gas orbiting other stars. Searches for life on Mars, oceans on Europa, planets orbiting other stars. Space exploration and colonies, interstellar spacecraft and communication. Pre: PHYS 274 or consent. (Alt. years: spring)

ASTR 627 Cosmology (3) Geometry and evolution of the universe. Dark matter. Early universe. Forma-
tion of large–scale structure, galaxies, and clusters. Cosmological models. Pre: consent. (Alt. years)

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

ASTR 631 Radiative Transfer in Stellar Atmospheres (3) Examination of the principles of 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 scaler, vector and tensor field theories. Exact symmetric 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: 435, consent. (Alt. years: spring)

ASTR 655 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) Repeatable unlimited times. Pre: consent.

ASTR 700 Thesis Research (V) Repeatable unlimited times.

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

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

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

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

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

ASTR 800 Dissertation Research (V) Repeatable unlimited times.

Biochemistry (BIOC)

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

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

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

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

BIOC 441L Basic Biochemistry Lab (1) Experiments working with substances discussed in 441. DY

BIOC 481 Introduction to Molecular Biology (3) Biochemical basis of life presented in terms of the structure and function of the gene in the production of biological catalysts. Pre: 441 or consent. DB

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

BIOC 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.

BIOC 545 Topics in Biochemistry (V) Fourth-year elective in which medical students take an in–depth study of selected topics in biochemistry. Pre: fourth-year medical student 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, hematologic, gastrointestinal, endocrine, musculoskeletal and neurological systems, and relevant to medical clinical. DM 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; radioimmunossay, in vivo studies of nucleic acids. Pre: 441 or consent.

BIOC 644 Metabolic Biochemistry (2) Biochemi- cal 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, physiologi- cal systems, cellular processes and signaling, informatics, and emerging technologies for health, biological production/processing, and discovery. Pre: MATH 241 (or concurrent) and CHEM 162 (or concurrent), coreq: 1 year of biology. (Fall only) DB

BE 150 Introduction to Bioengineering (2) Discussion and experimental investigation of physical and chemical principles underlying representa- tive biological processes and systems. Bioproduc- tion, energy conversion processes, physiological sys- tems, biological treatment, biosensors, biomechanics, and related natural and engineered systems. A-F only. Pre: MATH 140 or consent. DY (One a year)

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

BE 260 Mass and Energy Balances (3) Introduction 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; consent only. DP


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

BE 373 Transport Phenomena (3) Fundamental principles and applications relating to mass, momentum, and energy transfers in biosystems and other engineering systems for engineers and biologists. Pre: 260, CEE 270, MATH 243 or 252A, CEE 270; or consent. Co-require: CEE 320 and ME 311. DP

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

BE 410 Biomass Conversion to Biofuels and Bioenergy (3) Overview of biofuel/energy 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 processing of biofuel residues; selected case studies. A-F only. Pre: 373 or consent. (Once a year)

BE 411 Food Engineering (3) Principles and applications of thermodinamics, 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 243, PHYS 151 or PHYS 170; or consent. (Once a year) (Cross-listed as FSHN 411) DP

BE 420 Sensors and Instrumentation for Biological Systems (3) Principles of common physical and chemical sensors. Interfacing sensors to different electronic circuits and instrumentation systems. Elec- tronic detection and quantification of biomolecules (biosensors). Applied control for biological processes. Pre: 350, EE 160, and EE 211; or consent. (Cross- listed as FSHN 420) DP DY

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) Environ- mental impact and control; the microorganism 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: CHEM 181A; or consent. DP

BE 437 Biosystems Unit Operations (2) Pumps and fans; size reduction; cleaning and sorting; materi- als handling; processing of fruits, nuts, vegetables, 

Key to symbols & abbreviations: see the first page of this section.
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 and computer laboratory on theory and practice of bioprocess design and analysis, involving biological basics and engineering principles of bioprocessing, computer-aided unit operations, process integration, and economic evaluation. A-F only. Pre: 373, or 437 (or consent); or 460 (or concurrent); or (Alt. year) 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 opened design project. Pre: 350/350L, 373, CEE 320 or ME 322; ME 311/311L; 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 nine 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 606 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. Pre: 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 for biofuel and environmental impacts; life-cycle analysis; value-added processing of biofuel residues; selected case studies; term paper and presentation. A-F only. Pre: consent. (Once a year)
BE 625 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 environmental protection. 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, operational theory and design basis of aerobic, anaerobic and anoxic 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 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 424 or consent. (Fall only) (Cross-listed as CEE 665 and NREM 660)
BE 699 Directed Research (V) Repeatable unlimited times.
BE 700 Thesis Research (V) Repeatable unlimited times.
BE 750 Seminar (1) Use of computer and video technology in technical presentation, review of current biosystems engineering research. Pre: consent.

**Biology (BIOL)**

**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 Introduction to Biology I Lab (1) 1 3-hr Lab) Lab exercises illustrating topics and methods in the biological sciences.

**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 careers. Proposal writing, project implementation, and report preparation guidelines. Orientation to the Marine Option Program. (Cross-listed IS 100)**

BIOL 125 Hawaiian Environment Science (3) Characteristics of science and interaction with society illustrated by topics from biology, geography, oceanography, and biology of Hawaiian Islands. DB
BIOL 310 Environmental Issues (3) Global environmental problems in historical perspective; physical, biological, sociocultural views. Pre: one of 101, 123, or GEOG 101; or consent.

BIOL 320 The Atoll (3) Atoll as ecosystem and as human environment. Formation, structure, distribution, biota. Pre: two semesters of introductory science or 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. A-F only. Pre: CHEM 151, MATH 241, and ME 311; or consent.

DB 350 Sex Differences in the Life Cycle (3) Human sex differences, their biological basis and significance; gender and behavioral determinants of sexual differentiation; biology of gender, sexuality, parenting, masculinity, and aging. Pre: one semester of biological science. (Cross-listed as CMB 351) 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 ecosystem endangerment; contemporary legislation, 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 101, 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 psychoactive 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, genetics, evolution, viruses, bacteria, and simple eukaryotes. Pre: CHEM 131 (or concurrent), CHEM 151 (or concurrent), 161 (or concurrent), CHEM 171 (or concurrent), CHEM 181A (or concurrent), or consent. Co-requisite: 171L. DB

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

BIOL 172 Introduction to Biology II (3) Anatomy, physiology, and systematics of plants and animals; behavior; ecosystems, populations, and communities. Pre: CHEM 131 (or concurrent), 151 (or concurrent), 161 (or concurrent), 171A (or concurrent), or consent. Co-requisite: 172L. DB

BIOL 265 Ecology and Evolutionary Biology (3) Principles of ecology and evolution for life science majors stressing integrated approach and recent advance. Pre: C (not C-) or better in 171/171L, 172/172L (or concurrent). DB

BIOL 265L Ecology and Evolutionary Biology Lab (1) (1 3-hr Lab) Laboratory to accompany 265. Pre: C (not C-) or better in 171/171L, 172/172L (or concurrent). 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. 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. DY


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

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. DB

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

384 Courses
Biol 304 Biotechnology: Science and Ethical Issues (3) Introduction to the concepts, goals, ethical issues and consequences of biotechnology using real-life case studies of cloning, DNA fingerprinting, gene therapy and genetic engineering. Pre: 171 or consent. (Cross-listed as MBBE 304)

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 taxonomic and ecological identification, necropsy, immunology, population estimating methods, tracking, field distribution surveys, strandings, and energetics, and/or similar depending on field access and availability of specimens. A-F only. Pre: C (not C-) or better in 171/171L, 172/172L, and 265/265L, 331L and 331 (or concurrent), or consent. DY

Biol 363 Biological Field Studies (V) Biological study 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 inhabitants. 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 Genetics (3) Genetic concepts at advanced undergraduate level: genetic transmission, recombination, gene action, mutation, population and evolutionary genetics. Pre: 275 or consent. DB

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

Biol 390 Communicating in Biological Sciences (3) Combined lecture/lab impart essential knowledge and skills in technical writing, poster design, and oral presentations for effective communication for life science majors. Research papers, lab reports, project proposals, and written consent are covered. Life sciences majors only. A-F only. Pre: C (not C-) or better in 171/171L, 172/172L, and ENG 100. DB

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

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

Biol 401 Molecular Biotechnology (3) General principles and 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 in general or concentration (Cross-listed as MBBE 401) DB

Biol 402 Principles of Biochemistry (4) Molecular basis of living processes in bacteria, plants, and animals; emphasis on metabolism of carbohydrates, lipids, proteins, and amino 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) Integrated program of intensive lectures, laboratory experiments, and field research that focus on the biological processes that shape the lives of marine organisms, A-F only. Limited space; enrollment by consent; GPA considered. Pre: C (not C-) or better in 301/301L and consent. DB

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

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

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

Biol 408L Advanced Molecular and Cellular Biology Laboratory (2) (2-3 hr Lab) A laboratory to accompany 407 and 408; Pre: 407 (or concurrent) or 408 (or concurrent). DY

Biol 410 Human Role in Environmental Change (3) Human impacts through time on vegetation, animals, landforms, soils, climate, and atmosphere. Special reference to Asian/Pacific region. Implications of long-term environmental change for human habitability. Pre: one of 101, GEOG 101 or 123 and either 310 or GEOG 326; or consent. (Cross-listed as GEOL 410) DB

Biol 425 Wildlife and Plant Conservation (3) Principles of conservation biology and wildlife management tools and 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 project and field trips. Pre: C (not C-) or better in 265/265L. or consent. DB

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

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 at MBBE 483)

Biol 490 Mathematical Biology Seminar (1) Reports on research in mathematical biology, reviews of literature, and research presentations. Required for Certificate in Mathematical Biology. Repeatable one time. Pre: junior standing or higher and consent. (Cross-listed at MATH 490)

Biol 499 Biological Problems (V) Directed reading and research. For juniors and seniors majoring in life science 1-2 credits. Repeatable up to 9 credits, up to 6 credits apply towards BA and BS Biol major requirements. 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.

Biol 602 Marine Biology-Processes and Impacts (4) (3 hr Lee, 3 hr Lab) Investigation of biological phenomena and processes related to productivity and food webs, community structure and ecology, adaptations, and physiology, and impacts of human activities and fisheries. Graduate standing in Marine Biology graduate degree program only. A-F only. Pre: 601. Minimum prerequisite grade of B. (Spring only)

Biol 603 Molecular Ecology (3) Practical introduction to molecular methods used to address ecological and evolutionary questions. Advanced undergraduate/graduate level. Focus on methods and application to independent research project. A-F only. Pre: 265/265L (or equivalent) or 275/275L (or equivalent) and 375/375L (for advanced; 375/375L repeatable one time. Pre: consent.)

See other science professional development courses NSCI 501, 502, 503, 504, 505, and 619 under the Natural Sciences (NSCI) 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 640 Clinical Research Methods (2) Instruction in developing clinical research questions and creating a concise protocol that includes a literature review, study design, subject recruitment and sampling, instruments, data analysis, and biostatistics, sample size, consent form, budget and timetables. 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 CBM 626)

Biom 642 Applied Clinical Epidemiology and Biostatistics (3) Introduction to epidemiological 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 are introduced and model evaluation are included. A-F only. Pre: 640, 642, or consent.

Biom 644 Bioanalytical Methods (2) Introduction to disease molecular genetics: methods to identify and map candidate genes, analysis of mutations, use of markers, 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 the development, Governance structures of funding agencies; funding opportunities and decisions; review processes; NIH, application processes and reading RFAs; compliance issues; cultural sensitivity; and types of questions using databases are addressed. 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 (3) Introductory lecture-seminar on the conduct of multiracial and multicultural 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 discussions, presentations. Enrolled in MS or PhD in Biomedical Sciences program only. A-F only. (Alt. years)

BIOM 649 Advanced Ethics in Biomedical Research II (3) Develops biomedical ethics through case studies to incite discussions on topics such as gene therapy, gene enhancement, genetic counseling, informed consent, health care professional/patient 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. Involves 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 (1) Present discoveries in the area of molecular genetics of 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 direction of a mentor. Participants will be responsible for submission of a proposal, acquisition of IRB approval, and conduct of the project. Repeatable five times or up to 12 credits. BIOM students only. A-F only.

BIOM 667 Advanced Biostatistics for Clinical Research (3) Current methods for analyzing longitudinal data 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 645, or consent.

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


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

BIOP 499 Directed Research and Reading (V) Independent research or selected reading of current literature. Emphasizes experimental approaches in biophysics. Repeatable unlimited times. Pre: consent.

BIOP 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.

BIOP 602L Biochemistry-Biophysics Lab (2) Basic biophysical techniques: spectroscopic methods for macromolecular characterization; ultracentrifugation; receptor methodology; in vitro studies of nuclear acids. Pre: BIOM 441 or consent.

BIOP 629 Bioenergetics and Membrane Function (2) Energy transducing membrane systems; relationships of structure to function. Pre: BIOM 441, CHEM 351, or consent.

BIOP 641 Structures and Interactions (3) Proteins, nuclear acids are examined to understand the physical and chemical bases of their structures, binding, kinetics, and interactions between biomolecular components. Pre: BIOM 441 and CHEM 351 (or concurrent), or consent.

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

BIOP 700 Research and Reading (V) Research for master's thesis. Repeatable unlimited times. Pre: consent.


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

Botany (BOT) College of Natural Sciences

BOT 100 Freshman Seminar (1) Discussion of hot topics in botany, including conservation of rare plants, invasive species, marine botany, ethnobotany, poisonous plants, evolution in action, fungal networks, and careers in botany with emphasis on Hawaiian examples. Students should enroll in BOT 100 and 101/101L, or DB 101 and BIOL 171/171L. Repeatable one time. A-F only. Pre: BOT 100/101L or BIOL 171/171L. (Once a year)

BOT 101 General Botany (3) Growth, functions, and evolution of plants; their relations to the environment and particularly to humans and human activities. DB

BOT 101L General Botany Lab (1) (1 3-hr Lab) Lab exercises and experiments illustrating basic principles of plant biology. Pre: 101 (or concurrent).

BOT 105 Ethnobotany (3) (2 Lec, 1 Demonstra- tion) Plants and their influence on culture and history including: plant domestication and agriculture; plant biogeography and human migration; plant use in religious, medical, and shamanic traditions; and cultural aspects of plant conservation. FG

BOT 105L Ethnobotany Laboratory (1) (1 3-hr Lab) Laboratory exercises, experiments, and analysis in ethnobotany. A-F only. DB

BOT 110 Biodiversity: Evolution, Ecology, and Conservation (3) Lecture exploring the range of Earth’s diversity, the evolutionary processes that generate it, the ecological roles it plays, the consequences of its loss, and the measures by which it can be conserved. A-F only. (Fall only) DB

BOT 135 Magical Mushrooms and Mystical Plants (3) Impact of fungi in nature and on human kind. Selected historical events in which fungi played a significant role, their activities as decomposers and pathogens, and their uses as sources for mind altering drugs in religious ceremonies and in food and beverage production in various societies. DB

BOT 160 Campus Plants (3) Nontechnical course emphasizing recognition of the many interesting tropical plants seen on campus; origin, status in Hawai‘i, and cultural and economic uses of campus flora. DB

BOT 180 Plant Life in the Sea (4) (3 Lec, 1-3 hr Lab) Combined lecture-lab to introduce common marine plants in Hawaiian coastal areas via discussion of morphology, growth, ecological functions and native/alien status. Field trips to observe plants in local habitats. DB, DY

BOT 200 Sophomore Seminar (1) Presentations by faculty highlighting research in tropical ecosystems. Topics include alien species, biodiversity, ecosystem services, ethnobotany, marine ecology, plant-animal interactions, and systems of Hawaiian species. Assigned reading and writing exercises from papers in current journals. Repeatable one time. A-F only. Pre: 101L/101L or BIOL 171/171L. (Once a year)

BOT 201 Plant Evolutionary Diversity (3) Significance of evolutionary trends in the planet world, including reproductive, morphological, and life history adaptations by algae, fungi, and vascular plants. Pre: 101L or college general biology. Co-requisite: 201L. 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: 201L. DY

BOT 202 Plant Ecology (3) Lecture with complementary 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: 101L. Co-requisite: 202L. (Once a year) 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. Co-requisite: 202L. (Once a year) DB

BOT 300 Conservation Ethics (1) Introduction to and discussion of ethical issues associated with biodiversity, ecology, and conservation biology. Repeatable one time. A-F only. Pre: any DB course or consent. (Once a year)


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

BOT 302 Grant Writing Seminar (2) Provides three rounds of opportunities for grant writing associated 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: 301 (or concurrent) and 303, or consent. (Once a year)

BOT 303 Field Botany (5) Combined lecture-laboratory with intensive field experience for observation and experimental field work in native Hawaiian ecosystems. Field experience typically held during spring break. Terrestrial, freshwater, and marine habitats considered. A-F only. Pre: 202L/202L, or consent. (Once a year) DB

BOT 350 Resource Management and Conservation in Hawai‘i (3) Management of native Hawaiian organisms and terrestrial ecosystems with particular attention to strategies, planning, research, and management actions necessary to control alien influences and promote native species. Pre: college general biology. DB
BUS 627 Business, Government, and External Environment (1.5) Important issues related to the external environment of business. This includes international trade and finance, regulatory environment, social impacts of business. A-F only. Pre: 622 or consent. Co-requisite: 628.

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

BUS 629 Managerial Finance (3) Financial management theories and tools for business professionals; asset management; capital budgeting; capital structure and dividend policies. A-F only. Pre: 621, 622, and 624; or consent.


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

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

BUS 667 Business Study Abroad (V) Study abroad experience emphasizing international business issues. Content varies depending on course of study and 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 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. Required group travel to selected international business cities. Repeatable one time. A-F only. Pre: 675 and consent. (Summer only)


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 sources, results expected and means of measurement) must be prepared by student and approved by supervisor and chair of graduate programs before registration. Repeatable up to 12 credits.

BUS 700 Thesis Research (V) Required for Plan A candidates only. At least 12 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) Introduces students to research and teaching at 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 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 Converting 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 Converting 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 (2) Pre: 100. CR/NC only. Pre: PhD student status in international management or consent.

CAM 201 Intermediate Modern Khmer (4) Continuation of 200. Conversation, reading, writing, 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

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)

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)

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

CAM 212 Intensive Intermediate 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 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: 207 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 Genetical Problems (V) Directed reading and research in genetics. Repeatable unlimited times. Pre: 351 or 411

CMB 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. 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 that examines biological processes and challenges relevant to human health.
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, BIOI 441 or BIOI 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 621, BIOI 441 or BIOI 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: 606A, consent from the course director. (Cross-listed as PHRM 640)

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

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

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


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

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

Chemistry (CHEM) College of Natural Sciences Credit allowed for only one of CHEM 100, 131, 151, 161, 171, or 181A.

CHEM 00 Chemistry and Society (3) Introduction to chemistry for non-science majors. Discussion of basic chemistry concepts and their application to everyday life. No credit for science and engineering majors. A-F only. DP

CHEM 151 Preparation for General Chemistry (B) For students lacking preparation in chemistry. Provides background in algebra and elementary concepts of chemistry in preparation for entering the General Chemistry sequence. A-F only.

CHEM 151 Elementary Survey of Chemistry (3) Nonrigorous but adequate background in fundamentals. Pre: 151 (or concurrent).

CHEM 152 Survey of Organic and Bioorganic Chemistry (3) Structure, nomenclature, properties, reactions of organic compounds. Pre: satisfactory Placement Exam score, and MATH 215 or MATH 251A. (Fall only) DP

CHEM 181L Honors General Chemistry Lab (1) (3.5-hr Lab) Laboratory experiments illustrating fundamental principles of chemistry. Co-requisite: 181L. (Fall only) DP

CHEM 191A 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 251A. (Fall only) DP

CHEM 191B Honors General Chemistry Lab (1) (3.5-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. DP

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). DP

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

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

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. DP

CHEM 274L Principles of Analytical Chemistry Lab (2) (2 3-hr Lab) Phase separations, chromatography, spectrophotometry, e.g., 162L or 171L or 181L, and 274 (or concurrent). DP

CHEM 351 Physical Chemistry I (3) Principles and theories: physico-chemical procedures. Pre: 274L, PHYS 272S with a C (not C-) or better, PHYS 272L, and MATH 242 or MATH 253A. DP

CHEM 352 Physical Chemistry II (3) Continuation of 351. Pre: 351. DP

CHEM 352L Physical-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 361 Physical Biochemistry (3) Biochemical thermodynamics, chemical and enzyme kinetics, biomolecular structure, and biomolecular spectroscopy. A-F only. Pre: 162, PHYS 170, and MATH 242 or 252A with a grade of C or better for prerequisites. (Fall only) DP

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

CHEM 380 Professional Ethics for Chemists (1) Discussion of contemporary ethical issues in chemistry. (Fall only) Pre: consent or CR/NC only. Pre: 274 (or concurrent). Spring only)

CHEM 399 Directed Reading or Research (V) Pre: chemistry major, and minimum cumulative GPA of 2.7 or minimum GPA of 3.0 in chemistry. Repeatable unlimited times.
CHEM 425 Synthesis and Analysis of Inorganic Compounds (3) Lecture on advanced methods of preparation and characterization of inorganic compounds and materials. A-F only. Pre: 351 (or concurrent) or 361 (or concurrent). (Fall only) DP
CHEM 425L Preparation and Analysis of Inorganic Compounds Laboratory (2) Laboratory on preparative methods and analytical techniques and instruments in inorganic chemistry. A-F only. Pre: 425 (or concurrent). (Fall only) DY
CHEM 427 Advanced Inorganic Chemistry (3) Classification, description, fundamental theory. Pre: 425. DP
CHEM 445 Synthesis and Analysis of Organic Compounds (3) Introduction to multi-step synthesis and instruments/analytical techniques used to characterize organic compounds. Retrosynthesis and diastereoselective reactions; spectroscopy (optical methods, NMR), mass spectrometry. Chromatography (GC, HPLC) and coupled techniques (GCMS, LCMS). CHEM majors only. A-F only. Pre: 273 with a grade of C (not C-) or better, or departmental approval. (Spring only) DY
CHEM 445L Preparation and Analysis of Organic Compounds Laboratory (2) Laboratory on the preparation of organic compounds and physical methods for their characterization. Includes optical methods (UV-vis, IR), chromatography (HPLC, GC), mass spectrometry (GCMS and LCMS), and NMR. A-F only. Pre: 273L with a grade of C (not C-) or better, or departmental approval. Co-requisite: 445. (Spring only) DY
CHEM 462 Advanced Biochemistry (3) Advanced topics in biochemistry including nucleic acid replication, transcription, and translation; genetic and epigenetic regulation; bioenergetics and control of metabolism; alternative metabolic strategies; and enzyme structure and mechanism. A-F only. Pre: 361 and BIO 402. (Spring only)
CHEM 463L Advanced Biochemistry Lab (2) Advanced biochemistry lab techniques: protein purification and characterization, enzyme kinetics, ligand binding, nucleic acid structure, protein structure, fluorescence. A-F only. Pre: 273L, and BIO 273L, and BIO 402 (or concurrent). (Fall only)
CHEM 600 Introduction to Research (1) Introduction to field-specific methods and skills needed for success in graduate research. Includes training in modules for safety, ethics, and library resources. Short faculty research overviews may also be given. CHEM majors only. Graduate students only. CR/NC only. (Fall only)
CHEM 601 Theory of Chemical Bonding (3) Application of quantum mechanics and symmetry principles to descriptions of chemical bonding. Pre: graduate standing in CHEM.
CHEM 602 Chemical Applications of Spectroscopy (3) Introduction to magnetic resonance, infrared, UV, and visible spectroscopy, emphasizing applications to organic and inorganic chemistry. Three topics each semester—1 credit hour per topic. Repeatable unlimited times in different topics. Pre: graduate standing in CHEM.
CHEM 622 Organometallics I (3) Reactivity and reaction mechanisms of compounds containing metal-carbon bonds. Pre: 552 and 427.
CHEM 623 Coordination Chemistry (3) Survey of Lewis acids and bases, coordination numbers, geometries, spectroscopy, ligand field theory, formation constants, and bioinorganic chemistry. Pre: 601 and 602 (or concurrent).
CHEM 624 Organometallics II (3) Introduction to the principles of catalysis and the classes of catalytic reactions affected by organometallic compounds. A-F only. Pre: 622 and a minimum required grade for prerequisites of B.
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 647 Organic Synthesis II (3) Continuation of 642, and is the second half of a two-semester course in Modern Organic Synthesis. Pre: 642 and a minimum required grade for prerequisites of B. (Spring only)
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 chemically significant 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) Chemistry Seminar I (1) Current topics in (D) analytic-inorganic; (E) organic; (Q) biochemistry; (Z) inorganic chemistry. Repeatable unlimited times. Pre: graduate standing.
CHEM 692 (Alpha) Chemistry Seminar II (1) Continuation of 691. Current topics in: (D) analytic-physical; (E) organic; (Q) biochemistry; (Z) inorganic chemistry. Repeatable unlimited times. Pre: graduate standing.
CHEM 699 Directed Research (V) Repeatable unlimited times. Pre: consent.
CHEM 700 Thesis Research (V) Repeatable unlimited times. Pre: candidacy for M.S. 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) Repeatable unlimited times. Pre: candidacy for PhD degree and consent of dissertation chair.

Chinese (CHN)

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 course is required for continuation.

CHN 101 Mandarin I (3) Listening, speaking, reading, writing, grammar. Meets one hour, four times a week. Pre: placement test. HSL
CHN 102 Mandarin II (3) Continuation of 101. Pre: 101 or consent. HSL
CHN 103 Accelerated Mandarin I (8) Content of 101 and 102 covered in one semester. Meets two hours, four times a week. Pre: placement test. HSL
CHN 105 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
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 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. HSL
CHN 202 Intermediate Mandarin (4) Continuation of 201. Pre: 201 or consent. HSL
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. HSL
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) or consent. HSL
CHN 211 Intermediate Conversational Mandarin I (3) Further development of listening and speaking skills in Mandarin. The student is expected to be able to comprehend and produce speech at the paragraph level. Pre: 102 or 103 or 112; or consent. HSL
CHN 212 Intermediate Conversational Mandarin II (3) Continuation of 211. Pre: 201 or 111, or consent. HSL
CHN 251 Reading and Writing Chinese I (3) For students who have completed the conversational Mandarin courses up through 202 and wish to continue on to 301, or others who can handle daily conversation in Mandarin but cannot read or write in the language. Pre: 212 or consent.
CHN 252 Reading and Writing Chinese II (3) Continuation of 251. Pre: 251 or consent.
CHN 301 Third-Level Mandarin (4) Vocabulary building and extended mastery of sentence structures of modern Chinese through reading and related conversation. Meets one hour a day, four times a week. Pre: 202 or 204 or 205 or 252; 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, and 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.

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

Courses 391
CHN 319 Chinese Dialect Studies (V) Advanced Cantonese or other Chinese dialects. Repeatable one time. CR/NC for native Chinese speakers. Prerequisite: consent.

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. Prerequisite: 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. Prerequisite: 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. Prerequisite: consent.

CHN 401 Fourth-Level Mandarin (4) Extensive reading in academic topics. Meets one hour a day, four times a week. Prerequisite: 302 or 303 or 305; or consent.

CHN 402 Fourth-Level Mandarin (4) Continuation of 401. Prerequisite: 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. Prerequisite: 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. Prerequisite: 305 (or equivalent) or consent. (Spring only)

CHN 411 Advanced Mandarin Conversation (3) Systematic practice on academic topics of conversation. Lab work. Prerequisite: 302 or 303, or consent.

CHN 412 Advanced Mandarin Conversation (3) Continuation of 411. Prerequisite: 411 or consent.

CHN 421 (Alpha) Chinese Translation (3) Training in techniques; theory of translation. (B) Chinese–English; (C) English–Chinese. Prerequisite: 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 exams and reflect on authentic texts on academic, research-oriented topics with a view to meeting learners’ eventual independent research needs. Prerequisite: 401 (or concurrent) 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. Prerequisite: 401 (or concurrent) or consent. (Spring only)

CHN 451 Structure of Chinese (3) Introduction to phonology and morphology of Mandarin Chinese; some discussion of usage and linguistic geography. Prerequisite: 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. Prerequisite: 202 or 204; or consent. DH

CHN 453 Study of Chinese Characters (3) Origin, structure, and evolution. Prerequisite: 402, 461; or consent. (Alt. years)

CHN 454 Study of Chinese Characters (3) Continuation of 453. Prerequisite: 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. Prerequisite: 202, 204; or consent. DH
processes; with an emphasis on instruction in writing lab reports. A-F only. Pre: 271. DP

CEE 330 Environmental Engineering (4) (3 Lec, 1 2-hr Lab) Parameters and indices of environmental quality; materials 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 soils, compressibility, consolidation, shear strength. Substantial emphasis on writing lab reports. A-F only. Pre: 320. 370. DP


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

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

CEE 375 Construction Materials (3) (2 Lec, 1 2-hr Lab) Introduction to the crystalline and molecular structure of materials. Properties of metals, concrete, concrete admixtures, asphalt, wood, and other materials commonly used in construction. A-F only. Pre: 305 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. (Crosslisted as BE 391-B.)

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 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 floodplain 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, wet and dry 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). (Alt. years) DP

CEE 424 Applied Hydrology (3) Surface water hydology topics include hydrologic cycle, hydrographs, regression methods, urban rain-runoff process, flood frequency analysis, flood routing and hydrology for detention basin design. Groundwater hydrology topics include seawaiater intrusion, theory of groundwater flow and solutions to steady and unsteady aquifer flows. A-F only. Pre: 305 or 320. 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 pollutants; special topics; Pre: 320. 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 Resources 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 phosphorus 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 and recycling. Lectures and presentations by experts and enrolled students. Senior standing or higher. A-F only. Pre: senior standing, open to engineering, science, urban planning, and economics majors. (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. Pre: 355. DP

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


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

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 and senior standing.


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, test, class projects, laboratory discussions, case study, and computers. Pre: 375.

CEE 481 Undergraduate Structural Research (3) Individual research project for undergraduate students in the structures track. Topic to be determined by consultation with the faculty advisor. A-F only. Pre: 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. Pre: 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. Pre: 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 frames. Pre: 381. DP

CEE 489 (Alpha) Senior Topics (V) (B) Surveying and AutoCAD (2 cr.) Basics of surveying and AutoCAD for civil engineering application; use of AutoCAD for drafting, plans, and layouts. Pre: senior standing in CEE and 489B. (Spring only)

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

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

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

CEE 500 Master’s Plan B/C Studies (1) CEE 602 Construction Scheduling and Claims (3) 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, Eichleay Formula, acceleration, overtime, stacking, claims of additional time, and AutoCAD (2 cr.) Basics of surveying and AutoCAD for civil engineering application; use of AutoCAD for drafting, plans, and layouts. Pre: senior standing in CEE and 489B. (Spring only)

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, Eichleay Formula, acceleration, overtime, stacking, crowding, efficiency losses, contract interpretation, Leonard Study, Kupfer model, labor escalation, claims case studies, term paper. A-F only. Pre: 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, comparative budgeting, 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 class presents a “hands-on,” skill-building approach to the newest ideas, as well as centuries-old techniques, about the skill lawyers will use most often in their private practice—negotiation. The class also examines the rapidly developing field of alternative dispute resolution (ADR), including

Key to symbols & abbreviations: see the first page of this section.
media, facilitation, arbitration, and conflict avoidance. (Cross-listed as LAW 508)

CCEE 618 Parallel Computing for Engineers (3)

Concepts and techniques in high performance parallel computing. Topics include parallel language and algorithms, parallelizing pre-existing serial codes, statistical analysis, and techniques up to increase computational speed and accuracy for problems requiring large memory size. Repeatable one time. A-F only. (Cross-listed as PUBA 620)

CCEE 622 Fluid Mechanics (3)

Theory of fluid dynamics: flow past objects, conservation of motion, vortex generation, flow in rotating frame, potential theory, laminar flow, and introduction to turbulence.

CCEE 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 evaluation. A-F only. Pre: 627 or consent. (Fall only) (Cross-listed as GG 657)

CCEE 625 Hydrologic Processes in Soils (3)

Hydrologic properties in soils and the processes involved in water infiltration, drainage and solute transport. Emphasis on key parameters required for modeling. Recommended: 424 or consent. (Fall only) (Cross-listed as BE 664 and NREM 660)

CCEE 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. (Alt. time series analysis of hydrologic data is discussed. Pre: consent. (Alt. years)

CCEE 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 Hawaii’s type hydrology. Recommended: 424 or consent.

CCEE 633 Physical and Chemical Treatment (3)

Introduction to physical and chemical processes for water and wastewater treatment: Review of momentum and mass transfer, chemical reactions, colloidal chemistry and regulation and Hocclusion, granular filtration, sedimentation, carbon adsorption, gas transfer, disinfection and oxidation. A-F only. Recommended: 451 or consent.

CCEE 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. Pre: consent. (Alt. years: spring) (Cross-listed as BE 634)

CCEE 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 redox reactions, sorption, organic chemicals in the environment. Pre: consent.

CCEE 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. CE majors only. A-F only. Pre: graduate standing in CE or consent. (Once a year)

CCEE 641 Marine Disposal of Wastewaters (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. Pre: consent. (Alt. years)

CCEE 643 Hazardous Waste Remediation (3)

Introduces the national problems dealing with the contamination of groundwater and presents remedial measures. Such measures include pump and treat (P&T) technology, in-situ bioremediation, soil vapor extraction, air sparging, electrokinetics, hydraulic fracturing, reactive walls, and phytoremediation. A-F only. Pre: 627 or consent. Co-requisite: 634 and 635. (Fall only)

CCEE 644 Water Quality Modeling (3)


CCEE 648 Membrane Separations (3)

Applications of membrane separations to desalination, power generation, and ultrapure water systems. Discussion of reverse osmosis, osmosis-driven processes, ultrafiltration, microfiltration, electrodialysis and ion exchange techniques. Membrane applications to concentration polarization from practical/theoretical standpoints. A-F only. Pre: 635 or consent.

CCEE 650 Seepage, Drainage, and Dewatering (3)

Theory of seepage, field and laboratory methods of measurement; graphical and numerical methods; design of drainage systems and dewatering. A-F only. Recommended: 455 or consent. (Alt. years)

CCEE 651 Deep Foundations (3)

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

CCEE 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.

CCEE 653 Advanced Soil Mechanics (3)

Soil continuum mechanics principles; elastic, plastic, and Cam clay soil behavior; critical state and strength; interpretation of laboratory test results. Repeatable two times. A-F only. Pre: 455 or consent. (Alt. years)

CCEE 654 Design with 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)

CCEE 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)

CCEE 656 Marine Geotechnics (3)

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

CCEE 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)

CCEE 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.

CCEE 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)

Key to symbols & abbreviations: see the first page of this section.
ers. A-F only. Recommended: 482 (or concurrent) and 486, or consent.

CEE 686 Finite Elements in Structures (3) Finite element method in structural engineering. Extension of structural theory. Virtual work, one- two-, and three-dimensional elements; axisymmetric elements; plate bending, and nonlinear problems. Recommended: 681 or consent.

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

CEE 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 cememtious matrices (Fiber Reinforced Cement Composites). Repeatable two times. A-F only. Recommended: 570 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 two times. CR/NC only. Pre: graduate standing or consent.

CEE 693 Plan B Master's Project (3) Independent study for students working on a Plan B master's project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. CR/NC only. 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) Repeatable unlimited times. Pre: consent.


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

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

Communication (COM)

College of Social Sciences

COM 201 Introduction to Communication (3) An overview of communication emphasizing interpersonal, organizational and international communication and the role of the communicator 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. DA COM 320 Communication and Communities (3) Combined lecture-discussion on communication within organizational communities and between organizations and their communities with attention to interpersonal, intercultural, and online interactions. Pre: 201 (or concurrent) or consent. DA COM 330 Information and Communication Technology Concepts (3) Combined lecture-discussion on basic technical concepts related to ICT's embedded in sociocultural context. Pre: 201 (or concurrent) or consent.

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: 201 (or concurrent) 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 consent.

COM 340 Intercultural Communication (3) Problems and opportunities of communication in a variety of intercultural contexts. Focus on theory, research, and managing intercultural effectiveness. 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 Workshop (2) Short-term intensive workshops in journalism and mass communication skills and projects. (B) workshop in news media; (C) workshop in reporting; (D) workshop in editing; (E) workshop in broadcast journalism; (F) workshop in public relations. Repeatable with different topics up to six credit hours. COM or JOUR majors only. Pre: 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 and work of living. 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, diverse publics, ethics, and social responsibility will be emphasized. A-F only. Pre: COM major or consent.

COM 422 Public Relations Tactics (3) Students apply principles of effective and ethical writing to traditional and social media assignments likely to be encountered in modern public relations. COM majors only. A-F only.

COM 431 Studio Production (3) Studio production ranging from three-camera studio production to broadcast and magazine show formats to on-line web production. Fundamental knowledge of lighting, sound, blocking, and equipment competency. Pre: COM major or consent.

COM 432 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 theory to creating and revising commercial and dramatic script material for video production. Pre: 331 or consent.

COM 436 Media Effects (3) Social, political, economic, and cultural effects of broadcast media are examined to understand their impact on human behavior. Pre: COM major and junior standing, or consent.

COM 438 Telecommunication in the Pacific Hemisphere (3) Development of international telecommunication, with special emphasis on the evolution of wireless communication and the internet. Pre: COM major or consent.

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 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 and communication in terms of requirements for a theory, theory development, as-
COM 612 Communication Inquiry (3) Introduction to inquiry and the array of quantitative and qualitative research methods commonly used in communication.

COM 623 Strategic Organizational Communication (3) Theories, concepts, and applications of strategic communication and public relations to achieve organizational goals. Pre: 611 (or concurrent) or consent.

COM 633 Information and Communication Technologies (3) Information and communication technologies, structures, processes, and networks as an area of research and study in the social sciences. Pre: 611 (or concurrent) or consent.

COM 634 Social Media (3) Systematic study from a social science perspective of current and emerging social media. Attention to user needs and impact. Pre: 612 (or concurrent) or consent.

COM 643 Intercultural Communication (3) Problems and opportunities of intercultural communication from theory and research, consulting and training, and policy and program perspectives. Pre: 611 (or concurrent) or consent.

COM 644 Global Communication and Journalism (3) Analysis of the emerging global media landscape as digital technologies enable the sharing of news, information, and commentary across geographical and cultural borders. Focuses on causes, characteristics, and consequences. Pre: 612 (or concurrent) or consent.

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: 613 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 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. Pre: consent. Repeatable up to six credits. CR/NC only. Pre: 611 and 612, or consent.

COM 699 Directed Reading and Research (V) Individual research 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)

Interdisciplinary Programs

CIS 689 Directed Reading and/or Research (V) Repeatable unlimited times.


CIS 702 Communication/Theory of Technologies (3) Technological 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 704 Special Topics in Communication and Information Sciences (V) Seminar reflecting research interests of faculty and current interdisciplinary topics in communication and information sciences. Repeatable unlimited times. Graduate students only.

CIS 720 Interdisciplinary Seminar in Communication and Information Sciences (1) Exploration of relationships among social sciences, science and technology, and humanities. Faculty and student presentations. Repeatable unlimited times. CR/NC. 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) Repeatable unlimited times.
CSD 708 Seminar in Right Hemisphere Brain Damage and Traumatic Brain Injury (3) Traumatic brain injury and right hemisphere communicative disorders are explored with emphasis on assessment methods and treatment. Review of current treatment literature, communication and cognitive theories, and practical exercises in treatment planning. Pre: 622 and consent.
CSD 709 Dysphagia: Disorders of Swallowing (3) Explores the dynamics of normal and disordered swallowing across the life span with emphasis on the adult population. CSD majors only. A-F only. Pre: 604 (with a minimum grade of B-). (Summer only)
CSD 710 (Alpha) Special Topics in Audiology and Speech-Language Pathology (3) (B) study of contemporary developments in speech/language pathology; (C) study of contemporary developments in audiology. Repeatable for credit for different alphabas 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.
CSD 717 Advanced Practicum in Audiology II (2) Clinical practice in administering tests and interpreting results; counseling individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Pre: 603, 617, 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 (V) Clinical practice in diagnostic and therapeutic procedure with various types of speech and language problems in different clinical settings. Repeatable unlimited times.
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: 603, 617, 717, and consent.

Communicology (COMG) formerly Speech (SP)

College of Arts and Humanities

COMG 151 Personal and Public Speech (3) Develops communication skills necessary to function effectively in today's society. Students will enhance their communication skills in one-on-one situations, public speaking, and small group situations. Ideal for new majors and non-majors. DA
COMG 170 Introduction to Nonverbal Communication (3) Beginning course on the fundamental components of nonverbal communication. Aspects of body movements, facial expressions, eye behavior, physical appearance, voice, touch, space, smell, time, and environmental features will be examined in a lecture/discussion format. Extensive practice in skills. DS
COMG 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
COMG 185 Multicultural Communication Skills (3) Exposes students to practical skills needed for effective intercultural communication. Offers guidelines for improvement in diverse cultural settings such as business, education, counseling, and healthcare. DS
COMG 251 Principles of Effective Public Speaking (3) Combined lecture/laboratory providing extensive practice in preparing and presenting effective public speeches with special emphasis on organization, outlining, audience analysis, analytical reasoning, and delivery skills. DA
COMG 290 Interviewing (3) Principles and practice; training in informational, persuasive, employment, appraisal, and research interviewing. Pre: one of 151, 170, 181, 185, 251 or 301; or consent.
COMG 301 Introduction to Communicological Theories (3) Introduces theoretical perspectives that are the foundations of the communication discipline. Pre: one of 151, 170, 181, 185, or 251; or consent. DS
COMG 302 Research Methods (3) Introduction to methods of inquiry in the field of communication. Topics include research design and problem formulation, sampling, analytic and observational techniques, and data interpretation. COMG majors only. Pre: 200-level COMG course (or concurrent) or consent. DS
COMG 321 Speech for Classroom Teachers (3) Analysis of and practice in using major models of communication in the classroom. Role of communication in various academic disciplines as needed by teachers. Pre: one of 151, 170, 181, 185, 200, 251, or 301; or consent. DA
COMG 333 Storytelling (3) Aesthetic communication through storytelling for entertainment and education. Oral tradition; analysis of story types; techniques of preparation and presentation; performance. Pre: one of 151, 170, 181, 185 or 251; or consent. DA
COMG 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
COMG 351 Professional Presentations (3) Extends applications of public speaking skills to professional contexts: group sales, press conferences, and corporate annual reports. Emphasis on organization, preparation, and delivery. Pre: 251 or consent.
COMG 352 Group Decision-Making and Leadership (3) Study of decision-making within the small group. Effects of organization, leadership, membership, and goals on achieving group purposes. Pre: one of 151, 170, 181, 251 or 301; or consent.
COMG 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.
COMG 361 Leadership and Organizational Communication (3) Principles and practices of organizational communication and its relationship to networks, leadership, culture, and other contemporary views of organizational work, change, and development. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 364 Persuasion (3) Theories, concepts, strategies, and processes of persuasion and social influence in contemporary society. Focus on analyzing, developing, and resisting persuasive messages. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 371 Message Processing (3) Introduction to the theory and microanalysis of communication, comprehension, creation of understanding. Discussion of codes and media, information and message processing theories. Topics include inference-making, implication, natural language processing, and deception. Junior standing or higher. DS
COMG 380 Family Communication (3) Focuses on the role of interaction patterns (both constructive and destructive) in the evolution of family communications. The impact of family dynamics upon these interaction patterns is given equal attention. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 381 Interpersonal Relations (3) Theory and research on the development, maintenance, and termination of interpersonal relationships. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 385 Culture and Communication (3) Survey of major factors affecting interpersonal communication between members of different cultures. Emphasis upon interaction between U.S. and Asian-Pacific peoples. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 386 Special Topics in Culture and Communication (3) Contemporary research and theory on intercultural communication. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 390 Interrogation and Interviewing (3) Survey of theory and research in the communicative dynamics of obtaining reliable information from others. Pre: one of 151, 170, 181, 185, 251 or 301; or consent. DS
COMG 395 Research on Communication Behavior (3) Survey of research on communication 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
COMG 399 Internship (V) Application and analysis of communication knowledge and behaviors in organizational settings. Repeatable up to six credits. A-F only. Pre: consent.
COMG 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 pre and competitive forensics activities such as judging and organizing debate tournaments. Repeatable up to six credits. CR/NC only. Pre: 353 or consent.
COMG 454 Political Communication (3) Survey of interpersonal and mass communication theories in the political context. Topics may include communication in public opinion processes, elections, debates, political campaigning and advertising. Pre: upper division standing or consent. DS
COMG 455 Conflict Management (3) Examinations of the theories, assumptions, practices, models and techniques of managing interpersonal conflicts. Pre: one of 151, 170, 181, 185, 251, 301 or 381. DS
COMG 464 The Evolution of Public Discourse in the Digital Era (3) Analysis of evolving public discourse in and about cyberspace; focus on changes in civic engagement and sociopolitical involvement from digital technology use; discussion of social and semantic networks. Pre: 364 or consent. DS
COMG 465 Theories and Research in Strategic Communication (3) An in-depth overview of theories related to strategic communication and scientific approaches to attitude formation and changes. Junior standing or higher. Pre: 301 or 364 or consent. DS
COMG 470 Nonverbal Communication (3) Understanding communication beyond the words themselves. Review of theory and research on gestures, facial expressions, touch, personal space, and physical appearance. Pre: 151, 170, 181, 185 or 251; or consent. DS
COMG 471 Verbal Communication (3) Roles of language: perception and assumption in human relationships; relation of language symbols to emotion and attitudes. Pre: upper division standing or consent. DS
COMG 472 Deceptive Communication (3) Survey of major social deceptive theories, concepts, and research findings on deceptive communication, in a lecture/discussion format. Emphasis is on how people create deceptive communications, deception detection, and strategies used to detect deception. Junior standing or higher. Pre: 301 or 302 or consent. DS
COMG 481 Relational Management (3) Survey and critical discussion of current theory and research in relational management literature. Focus on conversation management, deception, jealousy, privacy, communication of emotions. Pre: 301 or 302 (or concurrent), and 381; or consent. DS
COMG 490 Communication in Helping Relationships (3) Theory and application of...
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

COMG 493 Teaching Speech (6) For communicol- majors who lead, under supervision, a freshman seminar strategies for communication. Pre: senior standing and consent.

COMG 495 Health Communication (3) Develop understanding of how 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

COMG 499 Directed Reading (V) Pre: consent of department chair and instructor.

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

COMG 601 Theories in Communication (3) Major theoretical foundations; humanistic and social scientific perspectives. Examination of the research and the development of different models of human communication. COMG majors only. Pre: graduate standing in COMG, or consent.

COMG 602 Research Methods in Communication (3) Design and analysis of quantitative research in communication. Focus on measurement issues, research design, descriptive and inferential statistics. COMG majors only. Pre: graduate standing in COMG, or consent.

COMG 620 Practicum for Instructional Communication (1) Combined seminar and lecture/ discussion format on techniques and procedures for teaching communication skills and their related components in a laboratory setting. CR/NC only. Repeatable three times. COMG majors only. Pre: COMG GTA or consent.

COMG 660 Business Communication (3) Analysis of communication issues in business through discussion of verbal/nonverbal messages, interpersonal relationships, conflict, and persuasion. Focus on interviewing, group communication, and public speaking skills. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

COMG 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.

COMG 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.

COMG 681 Relational Communication (3) Major models and theories of interpersonal communication; research on interpersonal relationships; interaction and functions of human discourse; Pre: 601 (or concurrent) and 602 (or concurrent) or consent.

COMG 685 Foundations of Intercultural Communication (3) Major models, theories, and concepts of intercultural communication; basic methodological and analytical issues of research related to intercultural communication; research on intercultural communication. Graduate standing only. A-F only. Pre: 601 (or concurrent) and 602 (or concurrent) or consent.

COMG 699 Directed Research (V) Repeatable unlimited times. Only three credits can count toward degree.

COMG 700 Thesis Research (V) Repeatable three times.

COMG 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.

COMG 721 Approaches to Instructional Communication (3) Communication theories and models in instructional environment; emphasis on development training in educational settings. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

COMG 752 Research in Group Communication (3) Theories and research on development in small group communication processes and decision-making. Pre: 601 (or concurrent) or 602 (or concurrent), or consent.

COMG 764 Seminar in Persuasion and Influence (3) Contemporary research in persuasion and influence. Repeatable two times. Pre: 664 (or concurrent) or consent.

COMG 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.

COMG 781 Seminar in Relational Communication (3) Contemporary research in interpersonal relations. Repeatable one time. Pre: 681 or consent.

COMG 785 Research on Intercultural Communication (3) Functional approach to the study of communication in intercultural settings. Examination of culture-based variables and their impact on social influence, relational management, and message processing. Repeatable one time. Pre: 664, 670 or 681; or consent.

COMG 795 Seminar in Health Communication Research (3) Contemporary intercultural and/ or paper communication in health communication research. Topics include communication functions such as information management, interpersonal influence, relational management, emotional management, social influence. Repeatable one time. Pre: 664, 670 or 681; or consent.

Complementary and Alternative Medicine (CAAM) School of Medicine

CAAM 595 Nutrition for Clinicians (1) Provides in-depth lectures and case studies reviewing the role of nutritional therapy in health and illness. MD majors only. CR/NC only. Pre: MDED 354 or consent. (Fall only)

CAAM 599 Research Topics in Complementary and Alternative Medicine (V) Research elective for medical students. MD students only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

Curriculum Studies (EDCS) College of Education

EDCS 415 Foundations in the Field of Early Childhood Education (Birth to 8 Years) (3) Emphasizes interrelated historical and philosophical roots and socio-cultural context and their influence on policy and practice in early childhood education settings. A-F only. Pre: FAMR 331 or consent.

EDCS 415L Foundations in the Field of Early Childhood Education (Birth to 8 Years) Lab (3) Direct experience with children in early childhood settings in order to apply concepts from 415 and gain perspective on the role of the practitioner in ECE settings.

EDCS 416 Early Childhood: Foundations and Curriculum (3) Continuation of 415: focuses on the design, implementation, evaluation of meaningful, challenging integrated curriculum that promotes comprehensive developmental and learning outcomes for diverse young children (PK-3). Pre: 415 or consent. (Cross-listed as ITE 416)

EDCS 416L Early Childhood: Foundations and Curriculum Lab (3) Continuation of 415L. Co-requisite: 416. (Cross-listed as ITE 416L)

EDCS 431 Collaborative Language and Learning (3) Examination of language (talking, reading, and writing) processes within collaborative teaching framework in the secondary curriculum. Field experience may be required.

EDCS 432 Adolescent Literature and Literacy (3) Selection and interpretation of young adult literature, including multicultural literature for middle level and high school students. Theory and teaching strategies for integrating literary instruction in the literature program for diverse student populations. A-F only.

EDCS 433 Interdisciplinary Science Curriculum (3) Conceptual schemes and processes for integrating science curriculum with the curricula and subject areas. Methods and models of curricular integration such as interdisciplinary, culturally relevant, place and community-based learning. Repeatable one time.

EDCS 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 ITE 440)

EDCS 450 Methods and Materials in Science (3) Selecting and using methods and materials, demonstrations and simulations, open-ended experimentation, inquiry and discovery, task analysis, measurement tools and techniques, activities from various curricula, opportunity for individualized goals and projects. Repeatable one time. Pre: ITE 323, ITE 409(H), teaching experience; or consent.

EDCS 451 Programs for Infants/Toddlers (3) Examination of current theory, research, issues, and models in programs for infants and toddlers, including criteria for evaluation and planning. Pre: FAMR 230 (or concurrent), FAMR 351 (or concurrent); or consent. (Cross-listed as SPED 451)

EDCS 453 Gender Issues in Education (3) Examination of current and historical issues in education and how they are impacted upon by gender, with particular reference to gender as it 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 problem selection according to interest 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: ITEC 442 or consent. (Cross-listed as ITE 480)

EDCS 494 Problem Solving in Mathematics Education (3) Experiencing and learning to teach heuristics of solving mathematical problems; designing curricula, classroom organization, evaluative measures for problem solving. Pre: consent.

EDCS 495 Difficulties in Learning Mathematics (3) Identification, analysis, and remediation of difficulties in learning 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 modern 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. Exploratory, explanatory, and confirmatory research will be highlighted culminating in an outline for Plan B Thesis proposal. (Cross-listed as DSES 506)

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.

EDCS 608 Literacy Across the Disciplines, K-12 (3) Explores theoretical and practical principles of literacy across academic disciplines K-12, investigating the role of language and literate practices of reading, writing, staging, visualizing, and representing in social, cultural, and educational contexts. Graduate students only. A-F only.

EDCS 610 Early Career Teaching, K-12 (3) Focuses on research and practice related to the first five years of teaching. Especially recommended for beginning teachers and graduate students interested in this stage of teaching development. Repeatable one time.

EDCS 617 Early Literacy and Language Development (3) Theory and practice for PK-3 early literacy and language communication. Focus is on current knowledge and pedagogical strategies that support the optimal development of oral language, reading, and writing skills in PK-3 classrooms. A-F only.

EDCS 618 Early Childhood Education: Advanced Topics (3) Analysis and practical application of selected early childhood education program and/or instructional materials. Restricted to majors. Repeatable two times. Pre: 415 and 416, or consent.

EDCS 622 (Alpha) School Curriculum (3) Development and improvement of curriculum. (B) early childhood; (D) middle school; (K) K-14. Pre: 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 alphas.

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

EDCS 625 Social Studies Curriculum (3) Examination and evaluation of social science content, societal values and research 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 EDEF 630)

EDCS 632 Qualitative Research Methods (3) Methodology of 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. Writings and integrating visual arts across the curriculum, developing evaluation methods observing stages of artistic growth among students of multiple ages/abilities. (B) painting, drawing, printmaking; (C) fiber arts, ceramics, sculpture; (D) photography, technology, collage; (E) Combination of any three of B, C, and/or D, Previous BA, BS, BEd, and BFA only. Repeatable two times. A-F only. Pre: teaching experience or consent. (Once a year)

EDCS 659 Business and Marketing Education Curriculum (3) Business theory, philosophy, objectives, and development of business and marketing education curriculum. Pre: ITE 390D or consent.

EDCS 660 (Alpha) Seminar (3) Study in trends, research, and problems of implementation in teaching field. (C) English; (H) mathematics; (I) literacy; (J) science; (K) social studies; (M) interdisciplinary education; (N) art. Repeatable two times. Pre: teaching experience or consent.

EDCS 661 (Alpha) Seminar in Foreign Language (3) Study in trends, research, and problems of implementation of language education instruction. (B) French; (C) German; (D) Japanese; (F) Spanish. Pre: teaching experience, and consent.

EDCS 662 (Alpha) Seminar in Diversity Issues (1) Examination of principles in multicultural education and diversity. (D) middle level; (G) K-14; (R) reading K-12. Repeatable five times. A-F only. Pre: consent.

EDCS 664 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 666 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 667 Literacy Assessment II (3) Practice in theory and methods of classroom-based and large-scale assessment. Analysis of the achievement of groups of learners and implementation of interventional instruction. Pre: memorization field experience required. Pre: 646 or consent.

EDCS 668 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 669 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 665 (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 666 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. (Two times a year)

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 EDEF 678 or EDEF 408, and 632 or EDEA 604 or EDEF 429 or EDEA 608 or consent.

EDCS 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: 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 curriculum units and lessons. Evaluation of print and multimedia resources to meet student and curricular needs. Required for Librarian HDOE licensure. A-F only. Pre: consent. (Cross-listed as ETEDC 686 and LINS 686)

EDCS 690 Practicum: Leadership in School Reading Improvement (3) Application of roles and responsibilities of the elementary reading specialist to a school context. Includes creating a professional development plan for literacy instruction, preferably in your own school. A-F only. Pre: 605 or consent.

EDCS 695 Plan B Master's Project (V) Independent study for students working on a Plan B master's project. A-F only.

EDCS 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable unlimited times. Pre: written consent.

EDCS 700 Thesis Research (V) Repeatable up to 56 credits.

EDCS 732 Qualitative Data Analysis (3) Advanced seminar in qualitative research methods with an emphasis upon qualitative data analysis, theory construction, data presentation and reporting. Pre: 632, a course in introduction to qualitative research methods; or consent.

EDCS 760 Research on Teaching and Teacher Education (3) 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 student or consent.

EDCS 761 Dissertation Research and Writing (3) Intended for doctoral students who are at the dissertation stage in their program. Supports students in developing their dissertation proposals and/or initial dissertation drafts. Repeatable one time. A-F only. Pre: consent. (Once a year)
### Dance (DNCE)

**College of Arts and Humanities**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNCE 121</td>
<td>Beginning Ballet Technique</td>
<td>3</td>
<td>Introduction to classical ballet technique. Repeatable three times.</td>
</tr>
<tr>
<td>DNCE 122</td>
<td>Continuing Ballet Technique</td>
<td>3</td>
<td>Continuation of beginning classical ballet technique. Repeatable three times.</td>
</tr>
<tr>
<td>DNCE 131</td>
<td>Beginning Modern Dance Technique</td>
<td>3</td>
<td>Introduction to modern dance technique. Repeatable three times. Pre: 121 or consent.</td>
</tr>
<tr>
<td>DNCE 132</td>
<td>Continuing Modern Dance Technique</td>
<td>3</td>
<td>Continuation of beginning modern dance technique. Repeatable three times. Pre: 131 or consent.</td>
</tr>
<tr>
<td>DNCE 140</td>
<td>Hip Hop Dance (1)</td>
<td>3</td>
<td>Introductory lecture/lab geared towards those with or without Hip Hop dance experience. Students will learn the fundamentals of various Hip Hop dance styles. Repeatable two times.</td>
</tr>
<tr>
<td>DNCE 150</td>
<td>Introduction to Dance (3)</td>
<td></td>
<td>Survey the development of major dance styles and their relationship to contemporary choreography.</td>
</tr>
<tr>
<td>DNCE 151</td>
<td>Music Theory for Dancers (3)</td>
<td></td>
<td>Elements of music and relationship to dance; emphasis on rhythmic analysis. (Alt. years)</td>
</tr>
<tr>
<td>DNCE 221</td>
<td>Beginning Ballet Technique</td>
<td>3</td>
<td>Low intermediate ballet technique. Repeatable three times. Pre: 122 or consent.</td>
</tr>
<tr>
<td>DNCE 222</td>
<td>Low Intermediate Ballet Technique</td>
<td>3</td>
<td>Low intermediate ballet technique. Repeatable two times. Pre: 221 or consent.</td>
</tr>
<tr>
<td>DNCE 231</td>
<td>Low Intermediate Modern Technique</td>
<td>3</td>
<td>Low intermediate modern dance technique. Repeatable two times. Pre: 231 or consent.</td>
</tr>
<tr>
<td>DNCE 232</td>
<td>Low Intermediate Modern Technique</td>
<td>3</td>
<td>Low intermediate modern dance technique. Repeatable three times. Pre: 131 or consent.</td>
</tr>
<tr>
<td>DNCE 245</td>
<td>Design Principles for Performance (3)</td>
<td></td>
<td>Introduction to general design principles as applied to theatre. Will introduce the language and tools of visual literacy and visual communications via individual projects and collaboration. Repeatable two times. (Cross-listed as THEA 245)</td>
</tr>
<tr>
<td>DNCE 250</td>
<td>Dance Production (3)</td>
<td></td>
<td>Survey of historical, theoretical, and practical aspects: work in scenery, lighting, costume, makeup, and theater management.</td>
</tr>
<tr>
<td>DNCE 255</td>
<td>Dance in World Cultures (3)</td>
<td></td>
<td>Multimedia overview of world dance forms, with emphasis on Asia and the Pacific, and related concepts. Pre: sophomore standing or consent.</td>
</tr>
<tr>
<td>DNCE 260</td>
<td>Movement Fundamentals (1)</td>
<td></td>
<td>Organized somatic systems as a framework for understanding movement and dance techniques. Required for majors. Repeatable two times.</td>
</tr>
<tr>
<td>DNCE 301</td>
<td>Asian Dance I (V)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent. Repeatable up to eight credits.</td>
</tr>
<tr>
<td>DNCE 302</td>
<td>Chinese Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 303</td>
<td>Japanese Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 304</td>
<td>Javanese Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 305</td>
<td>Korean Dance I (4)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 306</td>
<td>Okinawan Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 307</td>
<td>Philippine Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 311</td>
<td>Oceanic Dance I (1)</td>
<td>3</td>
<td>Performance and techniques at the introductory level. Pre: upper division standing or consent.</td>
</tr>
<tr>
<td>DNCE 321</td>
<td>Intermediate Ballet Technique</td>
<td>3</td>
<td>Intermediate ballet technique. Repeatable four times. Pre: 222 or consent.</td>
</tr>
<tr>
<td>DNCE 331</td>
<td>Intermediate Modern Technique</td>
<td>3</td>
<td>Intermediate modern dance technique. Repeatable four times. Pre: 232 or consent.</td>
</tr>
<tr>
<td>DNCE 343</td>
<td>Taiji (Tai Chi) for Actors I (3)</td>
<td>2</td>
<td>Basic Taijiquan (Tai Chi Ch’uan) movement training. Repeatable two times. Pre: sophomore standing or higher, or consent. (Cross-listed as THEA 334)</td>
</tr>
<tr>
<td>DNCE 353</td>
<td>Scenic I: Beginning Scenic Design (3)</td>
<td></td>
<td>Workshop introducing the basic principles and approaches of scenic design for theatre and dance, with emphasis on the creative process. Pre: a course in THEA or DNCE, production experience, or consent. (Consent required for production experience option) (Cross-listed as THEA 353)</td>
</tr>
<tr>
<td>DNCE 354</td>
<td>Introduction to Costume Construction (4)</td>
<td></td>
<td>Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as THEA 354)</td>
</tr>
<tr>
<td>DNCE 356</td>
<td>Costumes I: Beginning Costume Design (3)</td>
<td></td>
<td>Basic principles and approaches to costume design for theatre and dance. Visual communication methods, creative process, historical research, and organizational practices. Repeatable one time. Pre: 250, THEA 240, or consent. (Cross-listed as THEA 356)</td>
</tr>
<tr>
<td>DNCE 360</td>
<td>Dance Kinesiology (3)</td>
<td></td>
<td>Practical information for dance students on diet and nutrition, anatomy, training and conditioning, and injury prevention. Pre: 260 or consent.</td>
</tr>
<tr>
<td>DNCE 361</td>
<td>Labanotation (3)</td>
<td></td>
<td>Elementary theory of Labanotation with practical application in scoring and reconstructing dances. Pre: 151 or MUS 280, or consent. (Alt. years)</td>
</tr>
<tr>
<td>DNCE 362</td>
<td>Visual Media for Dance (3)</td>
<td></td>
<td>Introduction to theory of digital technology for dance with practical applications in documentation and performance. Pre: 361 or consent. (Alt. years)</td>
</tr>
<tr>
<td>DNCE 370</td>
<td>Dance Improvisation (3)</td>
<td></td>
<td>Improvisation in dance as creative experience, as source of new movement ideas, and as means of developing spontaneity in performance. Repeatable one time. Pre: 200 level or above.</td>
</tr>
<tr>
<td>DNCE 371</td>
<td>Dance Composition I (3)</td>
<td></td>
<td>Elementary techniques and theories for creating and crafting concert dances. Pre: 231 and 370, or consent.</td>
</tr>
</tbody>
</table>

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


DH 380. Clinical Dental Hygiene II (2) Continuation of 375. Pre: 375. (Spring only)

DH 380L. Clinical Dental Hygiene II Clinic (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 of patients. A-F only. Pre: 375. Co-requisite: 380, 381L, and 382L.

DH 381L. Clinical Dental Hygiene II Clinic (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 of patients. A-F only. Pre: 375. Co-requisite: 380, 380L, and 382L.

DH 382L. Clinical Dental Hygiene II Clinic (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 of patients. A-F only. Pre: 375. Co-requisite: 380, 380L, and 381L.

DH 389 Pain Control and Local Anesthesia in Dentistry (2) Basic concepts of pain control and local anesthesia in dentistry with appropriate emphasis on psychological preparation, pharmacological preparation, and safe and effective administration of anesthesia in the practice of dental hygiene. Pre: 231 and 250. Co-requisite: 240, 251, and 366. (Spring only) DB

DH 390 Periodontology I (2) Normal periodontium, etiology, pathogenesis, clinical manifestations and epidemiology of periodontal diseases, and mode of periodontal therapy. Repeatable one time. A-F only. Pre: 240. (Fall only) DB

DH 391 Periodontology II (2) Continuation of DH 390. Normal Periodontium, etiology, pathogenesis, clinical manifestations and epidemiology of periodontal diseases, and mode of periodontal therapy. Repeatable one time. A-F only. Pre: 390. (Spring only) DB

DH 473 Community Health (3) Introduction and application of the principles of health education and dental public health into practice in schools, community agencies, and private dental offices (inclusive of protective services, health education, and evaluation processes); epidemiology and biostatistics. A-F only. Pre: 361. (Fall only)


DH 475L Advanced Dental Hygiene I Clinic B (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: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 476L, 477L, and 478L. (Fall only)


DH 477L Advanced Dental Hygiene I Clinic C (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 476L, 477L, and 478L. (Fall only)

DH 478L Advanced Dental Hygiene I Clinic D (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 476L, 477L, and 478L. (Fall only)

DH 480L Advanced Clinical Dental Hygiene II Clinic (I) (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480L, 481L, 482L, 483L. (Spring only)

DH 480L Advanced Clinical Dental Hygiene II Clinic (I) (1) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480/480L, 481L, 483L. (Spring only)

DH 483L Advanced Clinical Dental Hygiene II Clinic I (1) (4-hr Clinic) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480/480L, 481L, 482L. (Spring only)

DH 499 Directed Reading, Field Work, or Research (V) Individualized program of directed reading, field work, or research for major under supervision in related areas of dentistry and dental hygiene. Pre: consent.

Developmental and Reproductive Biology (DBR)

School of Medicine

The minimum grade required for undergraduate prerequisites is A or D or better, and graduate prerequisites is a C (not C-) or better.

DRB 601 Fertilization and Early Development (2) Lecture on the basics of vertebrate and invertebrate fertilization and early embryonic development. Open to all graduate students. (Fall only)

DRB 613 Seminar in Developmental and Reproductive Biology I (1) Presentations of current research carried out by developmental and reproductive biology graduate program faculty.

DRB 614 Developmental and Reproductive Biology Scientific Investigations (3) Discussion of current research in developmental and reproductive biology.

DRB 650 Stem Cell Biology (3) Seminar designed to teach graduate students and advanced undergraduate students about current topics relating to stem cell biology, as well as the application of stem cells to modern medicine. Pre: BIOL 275 and PHYL 604, or consent. (Spring only)

DRB 666 Applied Development Reproductive Biology (3) Combined lecture-lab on current technologies and methods for mammalian reproduction and developmental biology. A-F only. Pre: 601 (or concurrent), 613/614 (or concurrent); or consent. (Spring only)

DRB 695 DRB Research Rotation (3) Introductory laboratory research experience under the supervision of faculty. Repeatable two times. A-F only.

DRB 699 Directed Research (V) Research experience in developmental and reproductive biology. Repeatable unlimited times.

DRB 700 Thesis Research (V) Repeatable unlimited times.

DRB 800 Dissertation Research (V) Repeatable unlimited times.

Disability and Diversity Studies (DIS)

College of Education

DIS 380 Disability and Diversity (3) Focuses on disability as a category of diversity and identity, as well as diversity within disability. Different strategies used to increase the freedom or liberty of people with disabilities are critically examined. A-F only.

DIS 382 Creating Accessible Futures (3) Focuses on creating accessible technology and instructional media, developing long-term resources, advancing accessible social interaction between students and instructors, and using case studies as examples of good practices. A-F only.

DIS 383 Disability History and Culture: From Homer to Hip Hop (3) How have people over many centuries, and from broad geographical perspectives perceived and treated individuals with disabilities? An overview of the history of the conditions in which people with disabilities lived. A-F only.
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. Pre: one DH or DL course, or consent. (Alt. years)
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 relationships, 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 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 361 Chinese Literature: Pre-Modern (3) Survey all major genres from the ninth into the 20th-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 (3) Survey of 20th-century Chinese literature in translation. Includes a variety of genres from the three major cultural centers 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) Survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. No knowledge of Chinese required. 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 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. Pre: consent.
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

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

EALL 375 Topics in Japanese Cultural Studies (3) Multi-disciplinary and historically located study of Japanese culture through the examination of literary and visual texts. Specific topics will depend upon the term. Repeatable one time with consent. Pre: one DH or DL course, or consent. (Alt. years)
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 Diaspora and Visual Culture (3) Examines films focusing on the social relationships and cultural practices of the 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 upon availability. Pre: 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 have 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 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.
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 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 contemporary phonetic representation 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) Traditions of 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 or (C); JPN 407 (alpha) for (J); KOR 402 for (K).
EALL 611 20th Century Literary and Cultural Studies: Modernity and Revolution (3) Critical scholarly analysis of Chinese, Korean, and Japanese cultural studies, broadly defined to include the People’s Republic of China, Taiwan, Hong Kong, and others. Reading knowledge of Chinese desirable but not required.
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, and the functioning of a competitive market system, using supply and demand models and the role of government in cases where the market system fails. Additional topics include the effects of international rate 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 Microeconomics (3) Develops 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 polices for improving government policies when market 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 play a different role in its international trade structure, industrial structure, labor market, savings patterns, government policies, etc.? Does it matter? Pre: 120 or 130, or consent. DS

ECON 320 Introduction to Tourism Economics (3) Examines tourism in 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 policies/subsidies, 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, or consent. (Cross-listed as TIM 320) DS

ECON 321 Introduction to Statistics (3) Basic elements: descriptive statistics, probability, inference, distributions, hypothesis testing, regression, and correlation analysis. DS

ECON 332 Economics of Global Climate Change (3) Nature and causes of global climate change and economic solutions. Topics include valuing climate change, market failure, emissions trading, local and regional environmental implications, societal adaptation, and international cooperation. A-F only. Pre: 120 or 130 or 131, or consent. (Once a year) DS

ECON 336 Energy Economics (3) Analysis of economic and policy aspects of energy use, and interactions of markets for various nonrenewable and renewable energy options. Evaluations of policies to develop alternative energy sources. Pre: 120 or 130 or 131. 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 341 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. (Cross-listed as HIST 340) DH

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) Trans-disciplinary introduction to sustainable development. Interactions between environment, economy, and public policy, especially in Hawai‘i. Topics include: curse of paradise, global warming, energy use, health, poverty, population, water resources, traffic congestion, biodiversity, pollution controls. Pre: 120 or 130 or 131, or consent. (Once a year) DS

ECON 355 Network Economics (3) Fundamental questions about the connections in the social, economic, and technological worlds. Topics include: matching markets and using social and social networks; and the political and economic consequences of the internet and other large networks. Pre: 120 or 130 or 131. DS

ECON 356 Games and Economic Behavior (3) Introduces students to the study of strategic behavior with applications in industries, 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 consequences of environmental degradation/economic solutions, with emphasis on relevant ethical issues and decision-making. Topics include air and water pollution, toxic waste, deforestation, soil erosion, biodiversity, global warming, and sustainable development. 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 roles 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 women’s studies course; or consent. (Cross-listed as WS 361) DS

ECON 362 Trade Policy and Globalization (3) How do governments and policies affect 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 Economics Co-op integrates academic studies with practical work experience. Repeatable two times. Pre: consent.

ECON 396 Contemporary Topics in Economics (3) Economic analysis of current events. Topics announced each semester. Repeatable unlimited times. Pre: 120 or 130 or DS

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 409 The Ocean Economy (3) Examination of society’s interaction with the ocean. Topics include: ocean recreation, shipping, boat building, ports, offshore energy production, aquaculture, fishing, coastal construction, and coral reef protection. Pre: 120 or 130, or consent. (Once a year) DS

ECON 412 Economic History of the United States (3) U.S. economy from colonial times: government policies, industries, financial markets, economic growth, economic crises. Pre: 120, 130, or 131; or consent. DS

ECON 414 Global Economic Crisis and Recovery (3) Causes and consequences of financial and economic crises: crisis origins and global transmission; macroeconomic and regulatory policy responses; recovery challenges. Pre: 120, 130, or 131; or consent. DS

ECON 415 Asian Economic Development (3) History and economic development. Resources, population, and income, saving, investment, 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 period, 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, econometrics. Pre: 300, 301; MATH 203, MATH 215, MATH 241, or MATH 251A. DS

ECON 425 Introduction to Econometrics (3)
Regression analysis, analysis of variance, hypothesis testing, problems in estimation of single equation models, simultaneous equation models, problems and methods of estimation. 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 analysis of resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution, and interpretation and presentation of results. Pre: 130 or NREM 220, and 321 or NREM 310; or consent. (Once a year) (Cross-listed as NREM 429 and TPSS 429) DS

ECON 430 Economics of Human Resources (3)
Economic analysis of labor market. Investment in human capital, education, health, migration, etc. 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 GPHS 432) DS

ECON 434 Health Economics (3)
Private and public demand for health, health insurance, and medical care; efficient production and utilization of services; models of hospital and physician behavior; optimal public policy. Pre: 301 or consent. DS

ECON 440 Monetary Theory and Policy (3)
Microfoundations and analytical framework of monetary and macroeconomic theory and policy. Topics include the causes and consequences of inflation, optimal monetary policy and international monetary systems, bank runs and monetary discipline, and national debt and taxation. Pre: 300 or 301 or consent. DS

ECON 442 Development Economics (3)
Characteristics of underdeveloped economies, theories of economic growth, strategies of economic development, and investment criteria. Pre: 300 or 301, or consent. DS

ECON 450 Public Economics (3)
Welfare economics, public expenditure and policy evaluation, public finance by debt and taxes. Pre: 301. DS

ECON 452 State and Local Finance (3)
Fiscal institutions, operations, and policy questions within state and local governments in U.S. grants 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 476 Law and Economics (3)

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: 300 or 301 or consent. DS

ECON 499 Advanced Directed Research (V)
Economics majors and minors conduct research, under faculty supervision, on a topic of their choice. Repeatable one time. A-F only. Pre: minimum GPA of 3.0 in economics and consent.

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

ECON 604 Microeconomics and Policy Analysis (3)
Theory of the consumer, firm, and market. Role of government and analysis of public policy. Applications to both industrialized and developing countries. Pre: consent. DS

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 Microeconomic Theory II (3)
Neoclassical theory of real and monetary equilibrium, economics of J. M. Keynes, standard IS/LM models and aggregate demand/supply analysis in the closed and open economy, theory of rational expectations.

ECON 608 Macroeconomic 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 III (3)
Models of economic growth and fluctuations; stochastic and dynamic macroeconomics; econometric testing of rational expectations models; theory of public debt; current topics in macroeconomic theory. Pre: 607 or consent.

ECON 610 Economic Development (3)

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 IV (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; difference and differential equations; matrix algebra; simultaneous equations; comparative statics; Kuhn-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 heteroscedasticity, 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 635 Disasters and Economic Policy (3)
Economic analysis of disasters. The economics of prevention and mitigation, as well as post-disaster economic consequences and policy, will be examined. Graduate students only.

ECON 636 Renewable Energy Economics and Policy (3)
Analysis of policies for the promotion 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 resources management, forestry and watershed conservation, and sustainable economic development. Pre: 604 or 606; 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 Foundations of Public Policy (3)
Principles of policy design and evaluation for environmental resources management, forestry and watershed conservation, and sustainable economic development. Pre: 604 or 606; or consent.

ECON 651 Public Economics (3)
Theoretical and empirical analysis of public-sector allocation. Adverse selection, moral hazard, networks, auctions, public choice and political mechanisms; tax and mandate incidence; economics of education and local public goods; social insurance programs. Pre: 606 or consent.

ECON 660 International Trade and Welfare (3)
Classical and new theories of international trade: why nations trade, gains from trade, patterns of trade, and trade policy effects under imperfect competition. Empirical trade and other special topics. Pre: 606 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, alterna-
in conducting individual practitioner research within the EdD. Includes the formulation of individual applied research project, developing a plan of action, selection of appropriate methods, implementation of plan and composition of practitioner research report. Repeatable three times. Restricted to students in the Doctoral Degree in Professional Educational Practice. A-F only.

EDUC 730 EdD Conference (1) Capstone for the Doctoral Degree in Professional Education Practice. Involves a conference presentation of research project results to an audience of faculty, fellow graduate students, and interested members of the public. Restricted to students in the Doctoral Degree in Professional Educational Practice. CR/NC only. Pre: other approval.

EDUC 740 Field Project (V) Practicum experience in an 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 up to six credits. CR/NC only. Pre: admission to PhD candidacy and consent.


Educational Administration (EDEA)

College of Education

EDEA 360 Dynamics of Student Leadership (3) Theoretical approaches and an experimental orientation toward leadership in student organizations via classroom 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 409 (Alpha) Topics in Emergent Paradigms (3) Exploration, analysis, and synthesis of advanced leadership concepts including emergent theories, issues, trends and empowering approaches. (B) Survey of emergent paradigms; (C) Asian Pacific American; (D) gender and leadership; (E) ethics and leadership; (F) issue 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 up to six credits. 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.

EDCA 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.

EDCA 602 Research in Education Administration (3) Develops basic concepts of research on educational administration: methodology, status of particular topics, communication, and application of findings to problems of school administration. (Meets PhD common core inquiry methods requirement)

EDCA 604 Qualitative Research Methods in Educational Organizations (3) Introduction to methods of qualitative research in educational administration. (Meets PhD common core requirement.)

EDCA 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)

EDCA 610 School-Community Relations (3) Application of principles, techniques, policies, organization of school-community information program.

EDCA 620 Education Finance (3) Educational revenues, apportionments, budgetary procedures, costs, business management, economics of education, measures of productivity.

EDCA 623 Administration in Kinesiology (3) Current problems, trends, and strategies in the administration of athletic training, physical education, recreation, sport and wellness programs in school and non-school settings. Repeatable one time. Pre: consent. (Cross-listed as KRS 623)

EDCA 629 Educational Statistics (3) Statistical inference including applications of parametric and nonparametric methods to educational problems.

EDCA 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.

EDCA 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.

EDCA 645 Principles of School Leadership (3) Examine the emergent theories, issues, practices, and problems relevant for educational leaders in school organizations. Integrates the aspects of management and administration within the context of leadership.

EDCA 666 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 666)

EDCA 650 Human Factors in Organization (3) Analysis of the nature of human factors, their application toward leadership in student organizations via classroom activities and practicum experiences with student organizations.

EDCA 655 Intercultural Interactions (3) Theory-based frameworks and training methods for cultural interaction and their applications to educational administration situations.

EDCA 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.

EDCA 660 Management/Leadership in Higher Education (3) Trends, research, and problems in college and university management. Pre: 657 or consent.

EDCA 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.

EDCA 662 Curriculum in Higher Education (3) Traditional and contemporary curriculum issues. Development of performance competencies in curriculum design and evaluation using systems and design theory as central paradigms. Pre: 657 or consent.

EDCA 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 Teacher Development and Evaluation (3)** The role of teacher evaluation in the development of educational programs and teaching communities and to support effective teaching.

**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 EDEF 675)

**EDEA 676 The Politics of Education (3)** Examination of the ways in which education can be viewed as political, arising from its connection to the larger political system including local, state, and federal governments. A-F only. Pre: 675, EDEF 675; or consent. (Cross-listed as EDEF 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 internship 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; the dynamics of individual, group, and organizational behavior; concept of lifelong learning vis-a-vis development of creative strategies that assist maturing, self-directed persons to develop their potentialities. (Cross-listed as EDEF 745 and NURS 745)

**EDEA 767 Seminar on the Educational System (3)** Examination of structure and dynamics of the educational system. Particular focus on how educational policy interacts with principles that explain education in Asian and Pacific nations. Students explore links between education and development. Emphasis is on cross-cultural perception of development. Pre: consent.

**EDEA 768 Social and Cultural Contexts of Education (3)** Focus on the interplay of class, race, gender and ethnicity in school and community settings. Social praxis, educational reform and policy are considered.

**EDEA 769 Introduction to Comparative/International Education (3)** Introduction to basic methods of comparative studies, focusing on schooling, but also treating broader educational issues.

**EDEA 771 Topics in Comparative Education (3)** Educational institutions, structures, processes, policies, and problems viewed within the context of political, social, and cultural milieus. Geographic region or theme focus. Repeatable three times. Pre: consent.

**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; (H) college student affairs administration; (I) higher education administration; (J) administrative theories; (K) administrative problems and issues. (K) is repeatable two times in different topics. EDEA majors only for (K). Pre: consent.

**Educational Foundations (EDEF)**

**College of Education**

Current TB clearance is a requisite for all students taking courses requiring practicum experiences. The minimum required grade for prerequisites for undergraduate-level courses is a grade of C or better. The minimum required grade for prerequisites for graduate-level courses is a grade of B or better.

**EDEF 310 Education in American Society (3)** Interrelated historical, philosophical, and socio-cultural contexts of education with an emphasis on contemporary problems and applications. Students enrolled in colleges other than the College of Education are asked to confer with the College of Education director of student services before enrolling in 310. A-F only. DS

**EDEF 360 Introduction to Multicultural Education (3)** Concepts and methods to develop sensitivity and awareness of cultural influences on behavior as these relate to the schooling process. (Cross-listed as ITE 360) DS

**EDEF 399 Directed Reading (V) Individual reading or research. Pre: senior majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in education, and consent of instructor and department chair.

**EDEF 408 Community and Culture (3)** Theoretical and practical approaches to understanding the constitution of community life. A focus on the social construction of normative values, social dynamics of organizations, and school-community relations.

**EDEF 445 Sociology of Education (3)** Introduction to sociological frameworks of analysis of the institutional, cultural and social dynamics of schooling, classroom management, school reform, social group and individual differences. DS

**EDEF 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 EDC 453 and WS 453) DS

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

**EDEF 610 Foundations of Educational Theory (3)** An in-depth review of social, philosophical, and historical views underlying various theories of education and their applications in teaching and learning. Pre: 660 or consent.

**EDEF 630 Cultural Diversity and Education (3)** Examines issues, theories, perspectives and practices in multicultural education and promotes awareness, encourages knowledgeable reflection and develops skills necessary for multicultural practitioners. A-F only. (Cross-listed as EDCS 630)

**EDEF 649 Field Studies in Educational Foundations (V) Field-based participant research projects, including analysis of problems and issues. Repeatable unlimited times.**

**EDEF 651 History of Education in America (3)** History of educational thought and practice from European colonialism to revolutionary nationalism to the present.

**EDEF 652 History of Education in Hawai'i (3)** From pre-contact, ancient Hawai‘i to the present. Social and intellectual influences on the development of national, local, and indigenous educational institutions; emphasis on multicultural as well as monocultural directions in Hawai‘i’s schools.

**EDEF 657 Introduction to Higher Education (3)** Selective examination of historical, social, and organizational aspects of higher education; history, philosophy, purposes, governance, administration, structures, financing, faculty and student selection, curricula, legal and social issues.

**EDEF 660 Philosophy of Education (3)** Readings of the original texts of major philosophers impacting American education. Considerations about the conditions of knowing and their extension in everyday practices in education.

**EDEF 667 (Alpha) Seminar in Educational Foundations: Historical, Philosophical, Social/Cultural and Comparative/International Focus on Topical Issues in Education (3) (B) general; (C) leadership and governance in education; (D) educational reform; (E) foundations of teaching; (F) curriculum; (G) globalization in education; (H) moral political education. Repeatable one time for (H). A-F only for (H). Pre: graduate standing and departmental approval.

**EDEF 669 Introduction to Comparative/International Education (3)** Introduction to basic methods of comparative studies, focusing on schooling, but also treating broader educational issues.

**EDEF 671 Topics in Comparative Education (3)** Educational institutions, structures, processes, policies, and problems viewed within the context of political, social, and cultural milieus. Geographic region or theme focus. Repeatable three times. Pre: consent.

**EDEF 675 Introduction to Educational Policy Studies (3)** Examines theories and models of educational policy and policy-making and the contribution of policy analysis to the policy-making and change processes. A-F only. Pre: consent. (Cross-listed as EDEF 675)

**EDEF 676 The Politics of Education (3)** Examination of the ways in which education can be viewed as political, arising from its connection to the larger political system including local, state, and federal governments. A-F only. Pre: 675, EDEF 675, or consent. (Cross-listed as EDEF 676)

**EDEF 678 Approaches to Educational Inquiry (3)** Overview of different methods in educational inquiry with an opportunity to explore through practice one or more methods (ex: case study, interview, narrative construction, practitioner inquiry. Preparation for MEd or PhD.

**EDEF 680 Seminar on Race, Law, and Education (3)** Introduction to educational law and the way it relates to issues of race and ethnicity. Particular focus on how the U.S. courts have dealt with the question of educational inequality in a multicultural/multilingual society. A-F only. Pre: graduate standing or consent.

**EDEF 683 Social and Cultural Contexts of Education (3)** Focuses on the interplay of class, race, gender and ethnicity in school and community settings. Social praxis, educational reform and policy are considered.

**EDEF 684 Education and World Order (3)** Focuses on the challenges educators face in identifying appropriate pedagogical frameworks and practices in global education that address the impact of globalization in our society today. A-F only. Pre: consent.

**EDEF 685 International Development Education (3)** Introduction to international development education in Asian and Pacific nations. Students explore links between education and development. Emphasis is on cross-cultural perception of development.

**EDEF 686 Environmental Education (3)** Focuses on the development of an ecological consciousness through a cultural and foundational approach to teaching and learning in schooling and everyday life.

**EDEF 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable unlimited times. Pre: consent of department chair.


**EDEF 720 Seminar on the Social and Cultural Foundations of Education (3)** Examination of social, political, and cultural issues affecting educational policy with special emphasis on methods of inquiry and theoretical constructs. Pre: consent.


**EDEF 766 Seminar in History of Education (3)** Aspects of the history of education. Application of historiography to educational problems and policy. Repeatable with different content. Pre: 651 or 652, or consent.

**EDEF 767 Seminar on the Educational System (3)** Examination of the structure and dynamics of educational system. Particular focus on how educational policy interacts with principles that explain educational system behavior. A-F only. Pre: 675 or EDEF 675, or consent. (Cross-listed as EDEF 767)
Educational Psychology (EDEP)

College of Education

EDEP 201 Introduction to Teaching as a Career (3) An experience-based introduction to teaching as a career. Repeatable one time. DS

EDEP 311 Psychological Foundations (3) Principles of learning and individual differences; relationships of these factors to classroom experience. DS

EDEP 327 Self-Regulated Learning (3) Theory and use of self-regulated learning strategies in academic contexts. DS

EDEP 399 Directed Reading (V) Individual reading or research. Pre: consent. DS

EDEP 408 Fundamentals of Research in Education (3) Introduction to the methodology of systematic study of problems in education: principles of research design, data processing, technical writing, and evaluation of research proposals and reports. DS

EDEP 411 Seminar in Contemporary Perspectives in Educational Psychology (3) In-depth analysis of contemporary issues in education from the theoretical and methodological perspectives of the faculty in educational psychology. Repeatable one time. DS

EDEP 416 Multivariate Methods (3) Introduction to basic concepts and issues in assessment and measurement, descriptive statistics, scales of measurement, norms, reliability, validity and development of formative and summative assessment procedures. DS

EDEP 429 Introductory Statistics (3) Use of descriptive statistics and inferential statistics; application of linear correlation and regression; introduction to an understanding of inferential statistics. DS

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

EDEP 601 Introduction to Quantitative Methods (3) Introduction to statistics in education and social sciences. Topics include probability distributions; sampling distributions; hypothesis testing using t-tests, correlation, simple regression, ANOVA; and applications in research. (Meets PhD common inquiry methods requirement or elective.) DS

EDEP 603 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 PSY 611) DS

EDEP 604 Applied Regression and Analysis of Variance (3) Introduction to linear statistical models as principle of data analysis. Topics include multiple regression models with continuous and categorical predictors, ANOVA with multiple factors, ANCOVA with repeated measures, and ANCOVA. Pre: 601 or PSY 610 or EDEP 599 with a grade of B+ or higher), or consent. (Cross-listed as PSY 612) DS

EDEP 605 Structural Equation Modeling (3) Theories and applications to test models with manifest and latent variables. Topics include path analysis, factor analysis, and latent variable analysis. Pre: 604, PSY 612, or consent. (Cross-listed as PSY 613) DS

EDEP 606 Multivariate Methods (3) Multivariate forms of multiple linear regression, analysis of variance and co-variance. Multiple discriminant analysis, canonical correlation, and principal-components analysis are discussed. (Cross-listed as PSY 614) DS

EDEP 608 Introduction to Educational Research (3) Fundamental design and evaluation procedures in educational research. Determining needs, defining objectives, research design, instrumentation, data collection, and evaluation. Course requires basic statistics. (Meets PhD common inquiry methods requirement or elective.) DS

EDEP 611 Introduction to Educational Psychology (3) Graduate level introduction to educational psychology theories, research, and topics. DS

EDEP 612 Multilevel Modeling for Cross-Sectional and Longitudinal Data (3) Theories and applications of multilevel model to analyze cross-sectional and longitudinal data in education and social sciences. Pre: 604 or PSY 612 (with a minimum grade of B or higher), or consent. (Cross-listed as PSY 619). DS

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) DS

EDEP 618 Categorical Data Analysis (3) Theories and methods for data analysis with categorical and discrete variables. Topics include contingency tables; logistic regression; log-linear models; and introduction to generalized linear models. (Cross-listed as PSY 618) DS

EDEP 626 Advanced Psychometrics (3) Theories and applications of modern psychometrics. Topics include unidimensional and multidimensional models of item response theory, detecting biased items, measurement invariance, scaling methods, and current issues in psychometrics. Pre: 616, PSY 616, or consent. (Cross-listed as PSY 617) DS

EDEP 631 Adolescence and Education (3) Discussion-based seminar; overview of educational psychology applied to teaching adolescents, including theory and research on human learning, adolescent development and its social context, and student assessment. DS

EDEP 657 Introduction to Program Evaluation (3) Introduction to concepts and issues related to program evaluation. Topics include formative and summative uses, planning and design approaches, and metaevaluation processes. A-F only. Pre: 608 (or equivalent). DS

EDEP 661 Development and Learning (3) Analysis and critique of (Piagetian) developmental stage theory and traditional behavioristic and cognitive learning theories; introduction to current models of learning and development. Pre: consent. DS

EDEP 662 Social Context of Learning (3) Research methods and theories relating social mediation and learning group structures to intellectual growth. DS

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. DS

EDEP 664 Instructional Psychology (3) Application of learning theory and cognitive skills training in instructional settings. DS

EDEP 665 Social Cognition and Competence (3) Systematic analysis of social reasoning abilities conjunctive with or prerequisite to effective social interaction in educational settings. DS

EDEP 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable ten times. Pre: consent. DS

EDEP 700 Thesis Research (V) Research for master’s thesis. Repeatable seven times. DS

EDEP 708 Educational Research Methods (3) Research techniques and thesis development. DS

EDEP 711 Practicum in Educational Psychology (V) Supervised practicum or program evaluation as each is reflected by professional activities of the members of the faculty. Repeatable six times. Pre: consent of supervisory professor. DS

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 vis-à-vis development of creative strategies that assist maturing, self-directed persons to develop their potentialities. (Cross-listed as EDEA 745 and NURS 745) DS

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. DS

EDEP 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times. DS

Educational Technology (ETEC)

College of Education

ETEC 112 Technology Resources for Learning (3) Virtual and hands-on analysis of technology resources and utilization in learning. DS

ETEC 416 Educational Media Technology (3) Introduction to educational technology theory and practice with an emphasis on meaningful integration of technology and media into a variety of face-to-face and online learning environments for diverse populations. Pre: upper division standing. DS

ETEC 415 Technology for Teachers (3) Introduction to the application of educational technology in teaching and learning using strategies in design, selection, development, integration, and evaluation. Interactive delivery via distance education technology. DS

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. DS

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. DS

ETEC 448 Links to Lifelong Learning (3) Focused exploration of the internet and its application to effective teaching/learning, including finding, evaluating, using, creating, and sharing information on the web; culminating project involving designing, creating, and publishing a website. Integration with copyright law and standards. Repeatable one time. Pre: upper division standing (junior) and consent. DS

ETEC 499 Directed Activity (V) Individual work, supervised by instructor. May consist of reading, research, and/or projects. Repeatable two times. Pre: consent. DS

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

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. DS

ETEC 502 PDET: Technology Skills for Educators (2) Exploring technology resources needed for integration into classroom instruction. Repeatable one time. CR/NC only. DS

ETEC 511 Professional Development Education Technology I (3) Specialized topics reflecting interests and needs of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent. DS

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. DS

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. DS

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. DS

Key to symbols & abbreviations: see the first page of this section.
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 analysis, 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. ETEC majors only or consent. A-F only.

ETEC 612 Introduction to e-Learning (3) Introduction to principles of e-learning and their application in formal and informal instructional settings. ETEC majors only or consent. A-F only.

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/illustrational/graphic and photographic material for print and computer-based media. ETEC majors only 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 626 Developing e-Learning Environments (3) Planning, design, and development of e-learning instruction for educational and training settings. Implementation of online course elements such as student interaction, course management, testing, and course delivery in e-learning management environments and open courseware. Repeatable one time. ETEC majors only or consent. A-F only. Pre: 673 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 administrative structure of schools. A-F only. ETEC majors only 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 647 Learning with Emerging Technologies (3) Exploration and evaluation of new tools and strategies for learning. (A) mobile learning; (B) OPEN software; (C) online communities; (D) virtual reality; (E) animation. Repeatable two times. ETEC majors only or consent. A-F only.

ETEC 652 Authoring E-learning Environments (3) Conceptualization of instructional design and its application to the development for e-learning environments: (B) instructional authoring; (C) management; (D) virtual reality; (E) animation. Repeatable two times. ETEC majors only or consent. A-F only.

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. ETEC majors only or consent. A-F only. (Once a year)

ETEC 686 Quantitative Research in Educational Technology (3) Application of methodological and statistical concepts in a projects-based classroom framework. Formative and summative evaluation, measurements, descriptive, and inferential statistics. ETEC majors only or consent.

ETEC 672 Distance Education Technology (3) Technical and instructional considerations for developing, delivering, managing, and evaluating distance education including voice, video, print, hypertext and data communications. 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. ETEC majors only or consent.

ETEC 674 Instructional Technology Management (3) Applying theory of management in instructional technology support services and delivery systems. (B) management; (C) systems; (D) networks. Pre: ETEC major or consent.

ETEC 676 Social and Ethical Issues in Education-Technology (3) Theoretical and 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 HDDO 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, under close supervision, plus regular class meetings in seminar format. Repeatable three times. ETEC majors only or consent. A-F only.

ETEC 689 ETEC Training and Evaluation Practicum (3) Practicum in educational technology training and evaluation in formal and informal settings, under close supervision, plus class meetings in hybrid format. Repeatable unlimited times. ETEC majors only or consent. A-F only. Pre: Inceptor consent.

ETEC 690 Seminar in Technology Leadership (3) Supervised preparation of technology to teaching/training experiences. Repeatable three times. ETEC majors only and consent. A-F only.

ETEC 692 Practicum in E-learning (3) Practicum in e-learning in academic or non-academic settings, under close supervision, plus regular class meet- ings. Repeatable three times. ETEC majors only or consent. A-F only.

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 705 Special Topics in Educational Technology (3) Issues of topical interest in educational technology. Concentrates on a topic of current interest, including the new technologies for learning and teaching, and innovative designs for design and delivery of instruction. Repeatable unlimited times. ETEC majors only. A-F only.

ETEC 750 (Alpha) Seminar in Educational Technology Issues (3) Study and discussion of significant topics and problems. (B) instructional development; (C) online communities; (D) theory; (E) research. Repeatable five times. Pre: consent.

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 PhD and masters students in education and social sciences considering combining qualitative and quantitative research. Covers philosophical, practical implications, and mixed methods dissertation/thesis proposal. Repeatable one time. (Cross-listed as EDCS 780 and DI 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)

Key to symbols & abbreviations: see the first page of this section.
Second semester freshman standing required. Repeatable unlimited times. Pre: consent.

EE 205 Object Oriented Programming (3)
Second-level programming for computer engineers. Object-oriented programming paradigm, definition and use of classes, fundamentals of object-oriented design in modern object-oriented languages such as C++. Common data structures, simple searching and sorting techniques. CEE, EE, ME, PREN majors only. A-F only. Pre: 160 or consent. (Once a year)

EE 211 Basic Circuit Analysis I (4) (3 Lec, 1-3 hr Lab) Linear passive circuits, time domain analysis, transient and steady-state responses, phasors, impedance and admittance; power and energy, frequency responses, resonance. Pre: MATH 243 (or concurrent) or MATH 252A (or concurrent), and PHYS 272 (or concurrent) or consent. DP

EE 213 Basic Circuit Analysis II (4) (3 Lec, 1-3 hr Lab) Laplace transforms and their application to circuits, Fourier transforms and their applications to circuits, frequency selective circuits, introduction to and design of active filters, convolution, and state space analysis of circuits. A-F only. Pre: 211, and MATH 244 (or concurrent) or MATH 253A (or concurrent); or consent. DP

EE 260 Introduction to Digital Design (4) (3 Lec, 1-3 hr Lab) Introduction to the design of digital systems with an emphasis on design methods and the implementation and use of fundamental digital components. Pre: 160 or consent.

EE 296 Sophomore Project (V) Sophomore level individual or team project under EE faculty direction and guidance. The project provides design experience and development skills. Repeatable unlimited times. Pre: sophomore standing or consent.

EE 315 Signal and Systems Analysis (3) Discrete-time and continuous time signals and systems, linear systems, convolution, Fourier series, Fourier transform, sampling. Pre: 213 and either MATH 244 or MATH 253A or concurrent. DP

EE 323 Microelectronic Circuits I (3) Semiconduc-
tor structures, operating principles and characteristics of diodes and amplifying devices. Their application as circuit elements in building basic digital, analog, and integrated circuit subsystems. Pre: 213. DP

EE 323L Microelectronic Circuits I Lab (1) (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) (1-3 hr Lab) Laboratory for 326, experiments on linear and analog electronics. Pre: 323L. Co-requisite: 326. DY

EE 327 Theory and Design of IC Devices (3) Band structure models and carrier transport physics review. The fabrication 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. DP

EE 328 Microwicircuit 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 Microwicircuit Fabrication Lab (1) (1-3 hr Lab) Hands-on laboratory where students make vari-
ous electronic and electromechanical micro-devices using IC technology. Devices are also tested and analyzed. Pre: 324 or consent. Co-requisite: 328. DY

EE 342 Probability and Statistics (3) Probability, statistics, random variables, distributions, densities, expectations, limit theorems, and applications to electrical engineering. Pre: 315 (or concurrent) and either MATH 244 or MATH 253A; or consent.

EE 343 Introduction to Communication Systems (3) Signal representation, Fourier analysis: amplitude and angle modulated systems; sampling theorems; analog and digital modulation systems; carrier modulation by digital signals. Pre: 342 (or concurrent) and 315.

EE 343L Communication Systems Lab (1) (1-3 hr Lab) Experiments illustrating the basic principles of communication systems. Pre: 315. Co-requisite: 343. DP

EE 344 Networking I (4) (3 Lec, 1-3 hr Lab) Covers 4 semesters from the Cisco Networking Academy plus supplementary material; hands-on experience with routers and switches; prepares students for the CCNA. Topics include TCP/IP, LANs, WANS, routing protocols, network security, PPP, ISDN, frame relay. A-F only. Pre: 160 or consent.

EE 351 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 MATLAB for analysis and simulation. Application to physical dynamic systems such as industrial robots. Pre: 315 or ME 375 or consent. DP

EE 351L Linear Feedback-Control Systems Lab (1) (1-3 hr Lab) Provides experience in applying theoretical tools to analyze linear systems. Extensive use is made of computer-aided analysis and design packages study system performance. Pre: 315. Co-requisite: 351.

EE 361 Digital Systems and Computer Design (3) Design methodology, processor design, control design, memory organization, system organization. Pre: 160 and 260, or consent.


EE 366 CMOS VLSI Design (4) (3 Lec, 1-3 hr Lab) Introduction to very large scale integrated (VLSI) systems and use of CAD tools and design languages. Lab includes hands-on use of CAD tools and experiments with field programmable logic devices. Pre: 260.

EE 367 Computer Data Structures and Algorithms (3) Introduction to programming algorithms with emphasis on advanced data structures, input-output routines, files, and interpreters. Pre: 205 (with a minimum grade of C-) and ICS 141.

EE 367L Computer Data Structures and Algorithms Lab (1) (1-3 hr Lab) Laboratory for 367. Pre: 367 (or concurrent).


EE 372 Engineering Electromagnetics II (3) Solution of Maxwell's equations under various boundary conditions. Introduction to radiation, guided waves, and principles of optics. Pre: 371 and PHYS 274 (or concurrent); or consent. DP

EE 372L Engineering Electromagnetics Lab (1) (1-3 hr Lab) Experiments illustrating the basic principles of electromagnetics and optics. Pre: 371 and PHYS 274 (or concurrent), or consent. Co-requisite: 372.

EE 396 Junior Project (V) Junior level individual or team project under EE faculty direction and guidance. The project provides design experience and develops practical skills. It may be a continuation of EE 296 or a new project. Repeatable unlimited times. Pre: 296 and junior standing or consent.

EE 406 Introduction to Computer and Network Security (3) Review basic network mechanisms, introduce basic cryptography concepts, and study algorithms and protocols used in computer and network security. Discuss practical security mechanisms. A-F only. (Once a year)

EE 415 Digital Signal Processing (4) (3 Lec, 1-3 hr Lab) Discrete-time signals and systems, sampling, Z-transform, transform, transform analysis of linear time-invariant systems, filter design, discrete Fourier transform, and computation of discrete Fourier transform. Repeatable one time. Pre: 315 and 342 (or concurrent), or consent.

EE 416 Introduction to Digital Image Processing (3) Digital image representation, intensity transformations, spatial filtering, filtering in the frequency domain, image restoration, color spaces and transformations, the fast wavelet transform, image compression. Pre: 315 (or equivalent) or consent.

EE 417 Introduction to Optimization (3) Application of linear, nonlinear and integer optimization models and algorithms to various engineering applications, signal processing, computer networking, financial engineering, manufacturing, production and distribution systems. CE, EE, ME, or CBA majors only. Pre: MATH 307 or consent.

EE 422 Electronic Instrumentation (3) Electronic circuits for interfacing with transducers, signal processing, and data acquisition. Amplifiers for measurement and control. Operational amplifiers in linear, nonlinear, and digital applications. Design project. Basic transducers. Pre: 326, 326L, and 371; or consent. DP

EE 422L Instrumentation Lab (1) (1-3 hr Lab) Laboratory for 422. Co-requisite: 422. DY


EE 425 Electronic Instrumentation II (3) Instrumentation systems and circuits for measurement, control, signal processing, transmission, and detection. Noise and interference. ADC/DAC, modulation demodulation, high-frequency and high-speed techniques, IC applications. Pre: 422 and 422L, or consent.

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: 326 and 326L, or consent. DP

EE 435 Electric Power Systems (3) Design/operation of "the grid." History of electric power systems, three-phase power, real and reactive power, transients, transmission, distribution, circuit analysis, protection, load flow, load frequency control, optimal power flow, and renewable energy integration. Pre: MATH 243 (or concurrent) or MATH 253A (or concurrent). (Fall only)

EE 438 Renewable Energy (3) Fundamentals of power generation. Wind and solar power systems. Photovoltaic materials and systems. Distributed generation and energy storage. ENG majors only. Junior standing or higher. A-F only. Pre: 213 or consent. (Spring only) 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: 342 and 343, or consent.

Key to symbols & abbreviations: see the first page of this section.
Key to symbols & abbreviations: see the first page of this section.
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 644 Computer Communication Networks (3) Fundamentals of computer communication networks including modeling, performance evaluation, routing, flow control, local area networks, distributed algorithms, and optimization algorithms. Pre: 342, MATH 471 or consent.

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, MÉ, ICS, MATH majors only. Pre: 342. 

EE 646 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, multiuser channels. Pre: 640.

EE 648 Error-Control Coding I (3) Linear block codes, soft and hard decision decoding, 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 649 Error-Control Coding II (3) Convolutional codes, Viterbi decoding, coded, Viterbi decoding, multistage decoding, concatenated coded modulation, probabilistic decoding, turbo codes, low density parity check codes and iterative decoding. Pre: 648.

EE 650 Linear System Theory (3) State space theory of linear systems, controllability, observability, stability, irreducible realizations. Pre: 652.


EE 668 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: 572 or consent.

EE 673 Advanced Microwave Engineering (3) Advanced RF and microwave circuit design for wireless applications. Pre: 473 or consent.

EE 675 Advanced Computational Techniques in Electromagnetics (3) Develop comprehensive understanding of computations techniques for solving engineering electromagnetic problems formulated in terms of integral or differential equations. Eigenvalue problems, radiation, and electromagnetic scattering problems will be discussed and computer programming is required. EE, BE, and CENG majors only. A-F only. Pre: 611 (with a minimum grade of B) or consent.


EE 682 Biomedical Microdevices (3) Design and fabrication of micro- and nanodevices for biomedical applications. Topics include micro- and nanoscale physics, microfluidic physics and microfluidic devices, and micro- and nanoscale fabrication techniques. ENG majors only. A-F only. Pre: 324 or consent. (Fall only)

EE 685 Biomedical Signal Processing and Analysis (3) Biomedical signals, digital filters and filter design, and analysis and classification of body signals, and time-frequency representations, nonlinear techniques, Lom’s algorithm and the Hilbert transform, modeling, Volterra series, Wiener series, Poisson-Wiener series, multichannel data, causality, CE, EE, MÉ, ICS majors only and any graduate student in JABSON who has a suitable technical background. Pre: 415 or consent. (Spring only)

EE 693 (Alpha) Special Topics in Electrical Engineering (3) Content will reflect special interests of visiting/permanent faculty. (B) artificial intelligence; (C) circuits; (D) communications; (E) computer hardware; (F) computer software; (H) control; (I) devices; (J) fields; (K) power. Repeatable unlimited times. Pre: Consent. 

EE 699 Directed Reading or Research (V) Repeatable unlimited times. CR/NC only. Pre: graduate standing and consent.


EE 790 Directed Instruction (V) Student assists in classroom instruction under direction and close supervision of faculty member. CR/NC only. Pre: Permission to PhD candidacy.


Engineering (ENGR) College of Engineering

Preference in registration is given to declared engineer majors. Please Schedule of Courses for confirmed offering 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 101 Introduction to Engineering (3) Topics include the engineering disciplines, the development of problem solving and technical communication skills, the design process and analysis methods using a team design project, and introduction to programming in Matlab for engineering applications. ENGR majors only. Freshman standing only.

ENGR 250 Personal Development for Effective Teams (3) Exploration and application of basic leadership theories and processes which foster personal and interpersonal excellence 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 field relations, networking, job skills, career assessment and direction. Repeatable one time. (Fall only)

ENGR 401 Engineering Management (3) Intro- duction 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. Pre: junior standing in engineering and consent.

English (ENG) College of Languages, Linguistics and Literature

ENG 100 Introduction to Literature: Creative Writing (3) Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; introduction to composing processes, strategies, and writing from sources. Students may not earn credit for both ENG 100 and 190. Pre: placement. Freshmen only. FW

ENG 190 Composition for Transfer Students to UH Mänoa (3) Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; introduction to composing processes, strategies, and writing from sources. Restricted to students with more than 24 credits. Students may not earn credit for both ENG 100 and 190. A-F only. Pre: placement. FW

ENG 200 and 209 are courses in intermediate expository writing.

ENG 200 Composition II (3) Further study of rhetorical, conceptual, and stylistic demands of writing; instruction develops the writing process and research skills covered in Composition I. Pre: FW.

ENG 209 Business Writing (3) Practice in infor- mative, analytical, persuasive writing. Pre: FW. Students may not earn credit for both ENG 209 and BUS 209.

ENG 270-273 courses fulfill the UH Mänoa General Education Diversification in Literatures (DL) requirement. Credit for these courses is 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 Literature: Literary History (3) Study of significant works of selected historical periods. A significant portion of class time is dedicated to writing instruction. Repeatable one time. Requires a minimum of 4,000 words of graded writing. Pre: FW. 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. Repeatable one time. Requires a minimum of 4,000 words of graded writing. Pre: FW. DL

ENG 272 Introduction to Literature: Culture and Literature (3) Study of significant works of selected cultures and cultural formations. A significant portion of class time is dedicated to writing instruction. Repeatable one time. Requires a minimum of 4,000 words of graded writing. Pre: FW. DL

ENG 273 Introduction to Literature: Creative Writing and Literature (3) Study of significant
works through analytical and creative writing. Repeatable one time. Pre: FW. No waiver. 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. Pre: 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. Pre: one ENG DL course or consent. DL

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. Pre: one ENG DL course or consent. DL

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 technologies. A-F only. Pre: FW and either 200 or one ENG DL course; or consent.

ENG 311 Autobiographical Writing (3) Writing clear, effective prose based on the writer's own experiences and ideas. Pre: one ENG DL course or consent. DA

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. Pre: one ENG DL course or consent. DA

ENG 320 Introduction to English Studies (3) Introduction to the purpose, practice, and potential of literary and rhetorical study of texts. Restricted to ENG and Secondary Education-English majors only. Prerequisite to 400-level work for ENG majors. Pre: one ENG DL course or consent. DL

Each semester, selected "large-enrollment" 300-level courses are designated as "starting-point" courses (e.g., 101). Prerequisites are waived for these particular courses. Please see the Newsletter for the designated courses. English majors may 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. Pre: 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. Pre: 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. Pre: 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. Pre: 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. Pre: 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 Commonwealth literatures from regions such as Africa, India, the Pacific, and the Caribbean. Pre: 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. Pre: one ENG DL course or consent. DL

ENG 330 Medieval British Literature (3) Basic concepts and representative texts for the study of British literature before 1500. Pre: one ENG DL course or consent. DL

ENG 331 Renaissance British Literature (3) Basic concepts and representative texts for the study of English prose and poetry from 1500 to 1660. Pre: one ENG DL course or consent. DL

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. Pre: one ENG DL course or consent. DL

ENG 333 Romantic British Literature (3) Basic concepts and representative texts for the study of British prose and poetry from 1780 to 1832. Pre: one ENG DL course or consent. DL

ENG 334 Victorian British Literature (3) Basic concepts and representative texts for the study of British prose and poetry from 1833 to 1900. Pre: one ENG DL course or consent. DL

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. Pre: 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 prose, poetry, and drama in American literature through the middle of the 19th century. Pre: 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 mid-19th to approximately 1950. Pre: one ENG DL course or consent. DL

ENG 338 American Literature Since Mid-20th Century (3) Basic concepts and representative texts for the study of American literature since approximately 1950. Pre: one ENG DL course or consent. DL

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

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

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

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

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

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

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

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

ENG 361 Poetry (3) Basic concepts and representative texts for the study of imagery, sound, language, form, and structure in poems. Pre: one ENG DL course or consent. DL

ENG 362 Drama (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. DL

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. DL

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, travelogues, science writing, and travel writing. Pre: one ENG DL course or consent. DL

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

ENG 366 Shakespeare and Film (3) Comparative analysis of selected plays by Shakespeare and films which appropriate, reteach, adapt, or offer variations on his texts. Pre: one ENG DL course or consent. DL

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 the social history of Hawai‘i. Pre: one ENG DL course or consent. (Cross-listed as ES 370) DL

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

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) DL

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

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

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) DL

ENG 376 Philippine Literature and Folklore in Translation (3) Philippine folk literature 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) DL

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

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 western, and women. Pre: one ENG DL course or consent. DL

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) DL

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

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. DL

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

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

ENG 394 Junior Honors Tutorial (3) Tutorials in literature. Consult the English department’s Honors director for particulars; offered spring semester. Repeatable one time. Pre: enrollment in Honors Program and one ENG DL course; or consent. DL

The specific content of 400-level Studies courses varies by semester. Students should obtain the English departmental course descriptions prior to enrolling. Descriptions are available on the department’s webpage (www.english.hawaii.edu) a week or so before registration begins. All Studies courses require a significant research component and are writing-intensive.

ENG 402 History of the English Language (3) Development of the English language from its origins to the present. Pre: two ENG DL courses or consent. DH

ENG 403 Modern English Grammar (3) Introduction to the structure of modern-day English for native speakers and others with advanced competency. Pre: two ENG DL courses or consent. DH

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 the present. Pre: two ENG DL courses or consent. DL

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.

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. DL

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. ENG

ENG 407 Writing for Electronic Media (3) Combined lecture/lab on writing and rhetoric in computer-mediated communication. May include online technical writing, courseware development, hypertext fiction. Pre: two ENG DL courses or consent.

ENG 408 Professional Editing (3) Discussion and practice in the 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.

ENG 409 Studies in Composition/Rhetoric/Language (3) Intensive study of selected topics, problems, theories, and/or writers in composition, rhetoric, and/or English language. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 410 Form and Theory of Poetry (3) Poetic theories and techniques for students interested in writing poetry. Pre: 313 or consent. DL

ENG 411 Poetry Workshop (3) Writing, evaluating poems. Repeatable one time. Pre: 410 or consent. DA

ENG 412 Nonfiction Writing (3) Workshop analysis of nonfiction as a literary form. Repeatable one time. Pre: 306 or 313; or consent. DA

ENG 413 Form and Theory of Fiction (3) Narrative techniques for students interested in writing fiction. Pre: 313 or consent. DL

ENG 414 Fiction Workshop (3) Writing, evaluating fiction. Repeatable one time. Pre: 413 or consent. DA

ENG 416 Studies in Creative Writing (3) Intensive study of selected texts, themes, writers, or modes of creative writing in a workshop setting. Repeatable one time. Pre: 313 and 410, 412, or 415; or consent. DA

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. DA

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

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.

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 1660-1830, 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 Single Author (3) Intensive study of the works and literary milieu of a single author considered significant by most scholars in English Studies. The English Department maintains a list of versions focusing on specific authors. Repeatable one time for a different author, with consent. 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 cultural texts such as art films. 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 problems in film, e.g., narrative form, film theory/criticism, or 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 selected texts and critical contexts such as biographies, autobiographies, oral histories, diaries, journals, letters, film, drama, and portraiture. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 466 Studies in Genre (3) Intensive study of selected texts and critical contexts such as 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 literary, 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 selected 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 ENG 300-level 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 up to six credits. A-F only. Pre: two ENG DL courses or consent. ENG 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent. ENG 550 Supervised Teaching Practicum (1) Supervised participation in instruction or tutoring. CR/NC only. Repeatable two times. Pre: graduate standing and consent. ENG 560 HWP Summer Writing Institute (V) Repeatable one time. ENG 561 HWP Summer Institute WAC (V) Practicum in the current best approaches to teaching writing across the curriculum. Participants write, read published theory and research in composition, and demonstrate effective writing lessons. Repeatable one time. Graduate standing or consent is required for all courses numbered 600 and above for which no specific prerequisite is listed. ENG 601 Old English (3) Structure of the language, relation to present English; reading of selected prose and poetry. ENG 605 Theory and Practice of Teaching Composition (3) Major contemporary theorists and classroom practices that evolve from their theories; observation and applications. ENG 610 Elements of Creative Writing (3) Intensive discussion of the craft and technique of creative writing through readings in poetry, fiction, creative nonfiction, (B) poetry; (C) fiction; (D) nonfiction. Repeatable one time. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent. ENG 625 (Alpha) Theory and Methods (3) Required course in the MA student’s area of concentration. (B) theories and methods of literary study; (C) introduction to composition and rhetoric; (D) foundations of creative writing; (E) theories in cultural studies. Repeatable in different alphas. Pre: graduate standing. (Spring only) ENG 627 (Alpha) Literary Theory and Criticism (3) (B) classical period through 18th century; (C) Romantic and post-Romantic. ENG 664 Biography (3) Study of one or more authors, English or American literature. Repeatable one time. A-F only. Pre: graduate standing or consent. ENG 691 MA Final Project (V) Individual reading and research towards preparation of MA project. 3 credit hours required. CR/NC only. Repeatable one time. Pre: 625 and consent. ENG 699 Directed Reading (V) Individual reading or research. Repeatable with consent of Graduate Director. Pre: graduate standing and consent. ENG 700 Thesis Research (V) Repeatable unlimited times. Pre: graduate standing and consent. ENG 705 Seminar in Composition Studies (3) Intensive study of selected issues in composition studies. Repeatable one time. Pre: 625C or consent. ENG 709 Seminar in Rhetoric (3) Intensive study of selected topics in the history of rhetoric, rhetorical theory, or rhetorical criticism; topic to be announced. Repeatable one time. Pre: 625C or consent. ENG 713 Seminar in Creative Writing (3) Advanced study in creative writing focused on thesis and dissertation projects. Repeatable one time. Pre: 613 or consent. ENG 716 (Alpha) Seminar in Techniques in Contemporary Literature (3) The study, from the point of view of the creative writer, of works written within the last 25 years. (B) techniques in fiction; (C) techniques in poetry; (D) techniques in creative nonfiction. Repeatable one time. Pre: 613 (or concurrent) 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 authors or a period. (C) re-reading Chaucer; (N) 14th century poetry; (P) extended Victorian lyric; (Q) modern British fiction; (R) early 17th century poetry; (S) dominant Victorians: the 1840s; (T) Victorian and English literature; (U) literature and social change; (X) literature and history; (Y) studies in satire. 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 literature and naturalism; (F) African American literature and theory; (G) American transcendentalism; (H) 19th century American novel; (J) contemporary American poetry; (N) poetry by 20th century American women; (P) women writers and multiculturalism; (Q) Asian American literature and theory; (R) relocating American literature; (S) early American literature; (T) H. Melville and T. Morrison. Repeatable one time for different topics. ENG 740 (Alpha) Seminar in Major Author (3) Study of one or more authors, English or American. (C) George Eliot; (D) Emily Dickinson; (M) Milton; (S) Chaucer and his backgrounds; (T) Austen; (U) Yeats and his circle; (X) Beowulf; (Y) Faulkner’s narrative; (Z) Virginia Woolf. Repeatable one time. A-F only. Pre: graduate standing or consent. ENG 745 Seminar in Shakespeare (3) Intensive study of Shakespeare. ENG 760 (Alpha) Seminar in Literary Genres (3) Study of one or more authors, English or American. (K) reinventing the author; (L) laughter and the comic arts; (M) modernism; (N) colonial/postcolonial; (P) postmodernism and postcolonialism; (U) 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 as a Second Language (ESL) College of Languages, Linguistics and Literature ESL 100 Composition I for Second Language Writers (3) Extensive practice in writing expository essays; linguistic devices that make an essay effective. (Fulfills composition requirement for nonnative speakers of English only.) FW English Language Institute (ELI) College of Languages, Linguistics and Literature Initial placement in ELI courses is by examination only. A grade of CR (credit) is prerequisite to promotion or exemption. Normal course sequence is 70, 80, 72, 82, 73, 83 or ELI 100. ELI 670 Immediate Academic Listening and Speaking (0) Introduction to the academic English-language listening/speaking demands required at the university. Instruction and practice of effective note-taking skills, listening strategies, delivery of presentations, and participation in academic discussions. Designed as a bridge to ELI 080. ELI 072 Immediate Academic Reading (0) Instruction to the academic English-language reading demands required at the university. Instruction and practice of effective means to understand text patterns, increase reading speed, accuracy and comprehension, and develop vocabulary. Designed as a bridge to ELI 082. ELI 073 Immediate Academic Writing (0) Extensive practice in expository writing. Analysis and use of rhetorical devices. Individual conferences and tutoring as required. ELI 080 Advanced Academic Listening and Speaking (0) Further development of the academic English-language listening/speaking skills and strate-
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 375 Issues of Diversity in Higher Education (3) Examines issues of diversity within higher education. Examines different dimensions of diversity including ethnicity, gender, national origin, age, and sexual orientation. Will feature guest lecturers and local case studies. Junior class standing or higher. Pre: one social science course or consent. (Spring only) 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: community, ethnic, labor, student, etc. Theories of social movements and social change. Pre: one social sciences course core DS.

ES 390 Gender and Race in U.S. Society (3) Historical and sociocultural 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-relationship. Pre: ES 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; or consent. (Cross-listed as SOC 418 and WS 418) DS

ES 420 American Ethnic and Race Relations (3) Surveys ethnic and race relations in the U.S. Focus on historical conflicts and critical issues such as racism, immigration, affirmative action, changing economic structures, and the role of government. Pre: 101 or consent DS.

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 DS 440)

ES 455 (Alpha) Topics in Comparative Ethnic Conflict (3) Causes and dynamics of ethnic conflicts with attention to problem resolution; (B) Middle East; (C) Hawaiian sovereignty in Pacific context. Pre: 320 or 392, or consent for (C). DS

ES 456 Racism and Ethnicity in Hawai’i (3) The historical and contemporary social processes involved in inter-ethnic relations in Hawai’i. Pre: SOC 300 or one ES 300 level course, or consent. (Cross-listed as SOC 456) DS

ES 460 Ethnic Conflict (3) Today, ethnic conflicts account for a majority of wars. Theory and multiple case studies will be used to trace the causes and consequences of ethnic conflict. How can it be managed or settled? Junior standing or higher. Pre: one social science course or consent. (Fall only)

Key to symbols & abbreviations: see the first page of this section.
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: SOCS 300 or one 300 level ES course, or consent. (Cross-listed as SOCS 492) DS

ES 493 Oral History: Theory and Practice (3)
Literature and methodology; project design. Students develop and execute an oral history project. Junior standing or consent. (Cross-listed as ANTH 493) DH

ES 495 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

ES 496 Special Topics in Ethnic Studies (3)
Selected themes in ethnic studies exploring current issues and new topics; taught by regular and visiting faculty. Repeatable two times. Pre: one 300-level social science course.

Family Medicine and Community Health (FMCH)

School of Medicine
FMCH 531 7-Week Family Medicine Clerkship (10)
Ambulatory-based clerkship in Hawai‘i. Students learn history taking, physical exam skills, and management of family medicine patients. Emphasis on behavioral care, caring for the underserved, sports medicine, preventive care, common acute/chronic ambulatory problems. Pre: third year standing.

FMCH 532 Family Medicine and Community Health Longitudinal Clerkship (10)
5.5-month ambulatory clerkship. 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, and common acute/chronic ambulatory problems. Repeatable one time. Co-requisite: third-year standing and concurrent registration in 532 courses.

FMCH 545 (Alpha) Electives in Family Medicine and Community Health (V)
Fourth-year elective in which medical students may do study of selected topics within the field of family medicine and community health: (B) primary care preceptorship; (C) topics in community health; (D) sub-internship in family medicine; (E) extramural elective in family medicine and community health-miscellaneous; (F) sports medicine; (G) longitudinal underserved care preceptorship. (6) MED majors only for (G). CR/NC only. Pre: 531 or 532. (Spring only for (G))

FMCH 599 Directed Reading/Research (V)
Repeatable unlimited times. Pre: consent.

Family Resources (FAMR)

College of Tropical Agriculture and Human Resources
FAMR 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. Pre: 231 or consent.

FAMR 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

FAMR 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

FAMR 333 Adolescence and Early Adulthood (3)
Problems, concepts, and research related to development from early adolescence through early adulthood. Examination of biological, cognitive, social, and cultural factors affecting the individual. Pre: 230 or consent. DS

FAMR 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

FAMR 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 SOCS 100; or consent. DS

FAMR 341 Parenting (3)
Parenting theories, methods, skills, issues, and resources; parent-child relations in various cultural contexts. Pre: 340 or consent. DS

FAMR 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 FDM 200, or consent. DS

FAMR 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

FAMR 360 Family Resource Management (3)
Concepts, principles, and practices in managing family and household resources. Pre: 230 or consent.

FAMR 361 Family Financial Planning (3)
Analytical approach to family financial planning from the perspective of changing family demands over the life cycle. Pre: 360 or consent.

FAMR 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.

FAMR 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 FDM 200, or consent. Co-requisite: 380L. DS

FAMR 380L Research Methodology Lab (1)
3-hr Lab Text design, computer use, data analysis. Co-requisite: 380. DS

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/or 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 current issues with 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 implementation of community programs surveyed and analyzed. Pre: 352. DS

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 communities 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 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 (4)
Integration and application of academic knowledge and critical skills in supervised work at an approved internship site and through analytical writing assignments and class discussions. Instructor consent required. Repeatable one time. Pre: 230, 340, 360, 380 and 380L.

FAMR 495 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. FAMR majors only. Pre: 230, 340, 360, 380, 380L; 492 or consent.

FAMR 499 Directed Reading and Research (V)
Independent reading and research on a topic, done under supervision of a faculty member; outcomes contracted in writing with faculty member at beginning of semester. Repeatable two times or up to nine credits. Pre: consent.

Fashion Design and Merchandising (FDM)

College of Tropical Agriculture and Human Resources
The minimum required grade for prerequisites is a grade of D or better.

FDM 101 Introduction to the Fashion Industry (3)
Introduction to the fields of apparel design and merchandising including theories of fashion change, apparel industry operations, current industry issues, literature of the field, professional competencies, careers in apparel and related businesses. A-F only.

FDM 200 Culture, Gender, and Appearance (3)
Social construction of gender within culture and its visual expression through appearance. Analysis of role, identity, conformity, and deviance in human appearance. Open to nonmajors. (Cross-listed as WS 200) DS

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

FDM 210 Western World Fashion History (3)
Historic study of dress as related to customs and cultures in the Western world, in sociohistorical and contemporary contexts. Emphasis on 19th and 20th centuries. Pre: 101.

FDM 215 Block Pattern Designing (3)
(2 Lec, 1 3-hr Lab) Principles of pattern making for women’s apparel through manipulation of pattern blocks. Pre: 205.

FDM 216 Fashion Illustration (3)
(2 Lec, 1 3-hr Lab) Principles and techniques of sketching the fashion figure including garment details and fabric drape. Development of a personal style of illustration. Introduction to use of computers for illustration. Pre: 101. DA
FDM 221 Textiles I (3) Introduction to fibers, fabric structure, and finishes related to selection and care. Interrelationship between textile characteristics, properties, and end uses. Open to non-majors. A-F only. DP

FDM 301 Fashion Forecasting/Marketing (3) Principles and practices in fashion trend forecasting and their role in apparel company marketing strategies. Analysis of aesthetics as it related to apparel and marketing. Adapting fashion trend forecasts to apparel lines. Restricted to FDM majors. Pre: 101, 210, 216, and 221.

FDM 315 Draping (3) Principles of pattern making through draping muslin models on standard garment forms. Pre: 205 and 215.

FDM 316 Advanced Pattern Design (3) Further study of flat pattern methods and industrial practices for fashion design majors. Use of CAD. Repeatable two times. Pre: 221 and 315.

FDM 321 Textiles Quality Assurance (3) Chemical nature and structure of fibers and fabrics, their properties and finishes. FDM majors only. A-F only. Pre: 221 or consent. Co-requisite: 321L. (Spring only) DP

FDM 321L Textiles Quality Assurance Laboratory (1) Examination of textile properties through standardized textiles testing laboratory equipment. FDM majors only. A-F only. Pre: 221 or consent. Co-requisite: 321L. (Spring only) DP

FDM 330 Advanced Apparel Construction (3) Principles of advanced techniques for garment construction with emphasis on new, difficult-to-handle fabrics. Repeatable one time. Pre: 205 or consent.

FDM 338 2D/3D Computer Aided Design (3) Exploration of CAD applications from the design to the pattern-making process. Use of Adobe Illustrator and Photoshop for fashion illustration. Use of OptiTex PDS pattern design software featuring 2D and 3D CAD. Repeatable one time. Pre: 215.

FDM 340 Computerized Pattern Grading (3) Gerber Technology (GT) AccuMark System Management. The system is designed to use CAD for specific apparel industry applications in grading patterns into different sizes and making production markers. Pre: 338. Computer skills are helpful.

FDM 350 Embellishments (3) Emphasis on design of accessories as applied to couture using a variety of techniques and raw materials. Processes and problems experienced and critiqued in a group environment. Repeatable two times. Pre: 205, DA

FDM 371 Retail Buying and Merchandising (3) Theories and procedures in selecting, buying and selling apparel and accessories in annual apparel trade shows. Includes design, production, merchandising organizations, analysis of consumer demand, brick-and-click opportunities and challenges, development of an image, operation location, store and floor layout. FDM majors only. Pre: 101, 216, and 221.

FDM 375 Merchandise Planning and Control (3) Theories, problems, and procedures of financial and assortment planning and control of merchandise inventories. FDM majors and merchandising minors only.

FDM 411 Product Lifecycle Management (3) Application of principles of apparel production management, including evaluation of small retail bid engineering (detail construction for ordering), story boards and color tables, production measurements, costing, and PLM computer applications. A-F only. (Once a year)

FDM 416 Costumes/Cultures of East Asia (3) Development of traditional dress as visual manifestation of culture. Ethnic and national dress of Afghanistan, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Saudi Arabia. Pre: 200, 221, two FG courses; or consent.

FDM 418 Costumes of South and Southeast Asia (3) 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.

FDM 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. Repeatable one time. Pre: 210, 221, 316, 330. Enrollment in 419 or 420 is required to show designs in annual fashion show, but doesn’t guarantee acceptance. (Fall only)

FDM 420 Apparel Design Studio II (V) Development of niche market. Problem solving in the design process. Includes sketching, draping, blocking, muslin proofs, complete garments, and portfolio. Repeatable one time. Pre: 419. Enrollment in 419 or 420 is required to show designs in annual fashion show, but doesn’t guarantee acceptance. (Spring only)

FDM 430 Fashion Show Production (3) Application of principles and procedures related to the promotion of fashion apparel. Preparation and presentation of fashion information through shows, displays, media, and written communications. Repeatable one time. Pre: 101. (Spring only)

FDM 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 business plans. Junior standing or higher. FDM majors only; open to non-majors with instructor’s consent. Pre: 375 or consent.

FDM 460 Costume Collections Management (3) Investigation of collections and techniques needed for handling textile and apparel artifacts in museums and other collections. Active involvement in documenting, researching, interpreting, and exhibiting costumes and textiles. Repeatable one time. FDM majors only, A-F only. Pre: 210, 416, or 418.

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

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

FDM 492 Internship (4) Examination of issues and opportunities associated with careers in fashion and related businesses and industries. Topics include interpersonal skills development, job search and interview strategies, and ethical issues in the workplace. FDM majors only. A-F only. Junior standing or higher. Pre: consent.

FDM 495 Capstone Portfolio (3) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. Pre: 492 and senior standing.

FDM 496 Field Study in the Fashion Industry (V) Study tours to various centers of the world to examine historical and modern apparel and textiles. Merchandising and design methods and operations examined. Repeatable up to 12 credits. Pre: consent.

FDM 499 Directed Reading and Research (V) Repeatable up to 15 credits. Pre: consent.

Filipino (FIL)

College of Languages, Linguistics and Literature

FIL 101 Beginning Filipino (4) Listening, speaking, reading, and writing. Introduces basic concepts and phrases. Meets four hours weekly. Meets one hour out-of-class field experience (Co-curricular cultural activities) weekly. Pre: 102 or consent. HSL

FIL 102 Beginning Filipino (4) Continuation of 101. Pre: 101 or consent. HSL

FIL 201 Intermediate Filipino (4) Continuation of 102. Meets four hours weekly, includes one hour out-of-class field experience (Co-curricular cultural activities) weekly. Pre: 102 or consent. HSL

FIL 202 Intermediate Filipino (4) Continuation of 201. Pre: 201 or consent. 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 interested in teaching Filipino immigrant students or teach Filipino as a second language. Meets five hours a week; daily lab work. Pre: 102. HSL

FIL 225 Filipino for Education (4) Continuation of 202 or 224. HSL

FIL 301 Third-Level Filipino I (3) Conversation, advanced reading and composition on traditional culture and indigenous knowledge. Meets three hours weekly. Pre: 202 or 225, or consent.

FIL 302 Third-Level Filipino II (3) Conversation, advanced reading, and composition on contemporary issues. Meets three hours weekly. Pre: 202 or 225, or consent.

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. Pre: 202 or consent. HSL

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 I (3) Advanced reading in traditional literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent.

FIL 402 Fourth-Level Filipino II (3) Advanced reading in current literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent.

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. 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. DH

Finance (FIN)

Shidler College of Business

FIN 301 Personal Finance (3) Focuses on principles and techniques for handling personal financial decisions, including: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, saving and investments, and retirement planning.

FIN 303 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 or consent.

FIN 321 International Business Finance (3) Financial management of foreign and international business operations: the regulatory environment of international finance, financing international transactions, international capital markets, taxation, financial decision-making in the firm. Pre: BUS 314 or consent.

FIN 331 International Banking (3) Commercial, investment, and merchant banking. Includes theory and practical applications. Topics include international lending, Euro-markets, global gap management, Forex activities, and global risk management. Pre: BUS 314 or consent.

FIN 341 Financial Aspects of New Ventures (3) Examination of underlying business models for new ventures, how to determine corresponding financial requirements, and approaches to resource acquisition. Students explore a range of financing sources and related issues of 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 415 Security Analysis and Portfolio Management (3) Security analysis and portfolio management from standpoint of the professional analyst and institutional investor. Recent advances in security valuation models, portfolio selection, and techniques for appraising portfolio performance. A-F only. Pre: 311 or consent.

FIN 430 Bank Financial Management (3) Analysis of financial institution management within the domestic economy and regulatory environment. Topics include 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. Course includes case histories, case studies, and discussions, BUS majors only. A-F only. Pre: BUS 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 311 and two of the following courses: 490E, 490F, ACC 401, 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. (B) equity research and corporate valuation methods; (C) Japanese financial management; (D) financial analysis; (E) retirement and employee benefit planning; (F) finance estate planning, A-F only. Pre: BUS 629 or consent. (Fall only for (F))

FIN 625 International Monetary Systems and Global 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 planning. Pre: BUS 629 or consent.

FIN 635 (Alpha) Advanced Topics in Finance (3) Major current financial issues and problems. (C) Japanese financial management; (D) portfolio management theory; (F) stocks, bonds, and modern instruments. Pre: BUS 629 or consent.

FIN 637 International Financial Management (3) Financial decision-making in an international setting, foreign direct investment; corporate financial, 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 arena. 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, assessing value to the entrepreneur and the investor(s), financial aspects of strategic planning, analyzing the tradeoffs between alternative financing choices and flexibility and control, harvesting the investment. Pre: BUS 629 or consent.

FIN 645 Advanced Capital Markets (3) Regulatory structure over capital market institutions, market development issues, market microstructure issues, and corporate governance in the 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 654 Financial Derivatives (3) Will familiarize the students with the mathematical foundation and the application of Futures, Swaps, and Options. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 655 Financial Forecasting (3) Focus on financial forecasting and financial econometrics as volatility and correlation modeling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 656 Insurance and Risk Management (3) Introduces students to topics in the actuarial science and latest developments in risk management. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 657 Interest Rate/Credit Models (3) Addresses specific properties of interest rate modelling as mean reversion as well as latest developments in credit risk modelling. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 658 Financial Modelling (3) Addresses advanced techniques in financial modelling and related fields. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 659 Mortgage/Weather Derivatives (3) Covers the real estate market, mortgage backed securities (MBSs) and real estate derivatives. Focuses on modelling weather, climate change, and weather derivatives. A-F only. Pre: graduate standing in Financial Engineering program, or consent. (Once a year)

FIN 660 Seminar in Finance (3) In-depth analysis of selected current 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 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: 701 and 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 finance to prepare PhD students for scholarly research work. A-F only. Pre: 701 and 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)

FSHN 101 Success Skills Development in Human Nutrition, Food and Animal Sciences (1) Combined lecture/discussion intended to provide majors in ANSC and FSHN with opportunities to learn about skills, competencies, and university resources necessary to succeed in college. FSHN and ANSC
FSHN 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. GFB

FSHN 181 The Chemical Nature of Food (3) Lectures, discussions, and demonstrations on how food components contribute to the functional, sensory, and safety characteristics of foods, and what changes occur in foods due to processing, preservation, and storage. Co-require: 181L.

FSHN 181L Food Preparation Lab (1) (3 hr Lab) Experiments in foods emphasizing ingredient function and standard preparation methods for food groups. Co-require: 181. DY

FSHN 185 The Science of Human Nutrition (3) Integration of natural science concepts basic to the study of human nutrition. Emphasis on nutrient requirements of healthy individuals, food sources, functions of nutrients. DB

FSHN 244 Comparative Nutrition (3) Digestive systems and nutrient functions, interrelationships and metabolism of food components 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. (Cross-listed as ANSC 244) DB

FSHN 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.

FSHN 312 Quantity Foods and Institutional Purchasing (4) (3 Lec, 1.5 hr Lab) Quantity food and beverage operations, menu development and costing, dietary menu claims, purchasing procedures, inventory control, procurement, transportation, legislation. Institutional food service sanitation, Hazard Analysis Critical Control Point and National Restaurant Association Certification. Pre: 181 and 181L, TIM 315 or consent. (Cross-listed as TIM 319)

FSHN 322 Marketing Nutrition and Food (3) Fundamental marketing principles applied to nutrition and food concepts such as the psychology of food purchasing decisions and consumer behavior. Field trips and group projects included. Open to non-majors. Pre: 181/181L, 185, 312, or consent.

FSHN 350 Humans, Food, and Animals: Ethics, Issues, and Nutrition (3) Ethical issues and other controversies related to human and animal needs; their impact on resource sustainability and quality of life are explored from scientific perspectives. Pre: 181 or 185 or ANSC 200 or ANSC 350. (Cross-listed as ANSC 350)

FSHN 370 Lifespan Nutrition (V) 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 161/161L, B or better in 185; or consent. Co-require: PHYL 142/142L, or consent. DB

FSHN 381 Experimental Foods (4) (3 Lec, 1 hr Lab) Experimental approach to study food preparation problems. Applying basic food science research design to conduct experiments, interpret results, and write reports. Subject matter used to practice critical thinking and problem solving skills. Pre: 181, 181L, CHEM 272 or similar organic chemistry course, the equivalent of two years of high school algebra; or consent. DB

FSHN 389 Nutritional Assessment (3) (2 Lec, 2 1.5 hr Lab) Addresses concepts and uses of nutrition assessment tools at individual and community levels.

Students will be introduced to national surveys and new, more sophisticated body composition measurement repetitively. One-F only. Pre: 185, 370 (or concurrent), or consent.

FSHN 403 Microbiology of Foods (3) Microorganisms encountered in foods; types of food spoilage; microbial methods of food preservation. Pre: MICR 130 and MICR 140L, or consent. DB

FSHN 411 Food Engineering (3) (2 Lec, 1 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 243, PHYS 151 or PHYS 170; or consent. (Cross-listed as BE 411) DP

FSHN 420 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 BI 350; or consent. (Cross-listed as BE 420) DP, DY

FSHN 430L Food Chemistry Lab (1) (3-hr Lab) Application of chemical methods in the study of food constituents—proteins, lipids, carbohydrates, pigments, enzymes, etc. Pre: 430 (or concurrent). DY

FSHN 440 Food Safety (3) Discussion of potential microbiological, parasitic, chemical, and microbial food hazards; food laws and standards; and related aspects of consumer protection. Pre: 181, BIOL 171, and CHEM 272; or consent. DB

FSHN 445 Food Quality Control (3) Fundamental principles of quality control in the food industry; measurement of safety, quality, and legal and regulatory standards and integration of the individual test procedures into grades and standards of quality, sampling, and reporting results.

FSHN 451 Community Nutrition (3) (2 Lec, 1 hr Lab) Concepts and methods of nutrition program planning and implementation of nutritional problems of local, national, and international communities. Pre: 370 and either FAMR 380 or NREM 310; or consent.

FSHN 452 Concepts in Nutrition Education (3) (2 Lec, 1 hr Discussion) Methods, materials, and principles used in nutrition education of community, clinical, and school populations. Strategies used to educate groups or individuals. Pre: 451 and consent.

FSHN 460 Food Processing Operations (3) (2 Lec, 1.5 hr-lab discussion) Principles and applications of food dehydration, thermal processing, low temperature preservation, chemical and physical preservation, irradiation, packaging, manufacturing, plant sanitation, water and waste management. Pre: 450, 453, PHYS 151/151L, or consent.

FSHN 467 Medical Nutrition Therapy I (V) Development of diet and nutrition counseling and laboratory assessment skills measuring nutritional status. Understanding pathophysiology of disease processes, medical terminology and nutritional intervention, utilizing case studies. Pre: 486 or consent. DB

FSHN 468 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

FSHN 469 Nutrition Counseling Skills (2) Theory and practice in nutritional counseling. Combined lecture and discussion on nutrition/dietary counseling, Knowledge and theories. Application through lab experiences including role playing, case presentations, and performing actual counseling sessions. A-F only. Pre: 467 (or concurrent) or consent.

FSHN 475 Applied Human Nutrition (3) Application of basic nutrition principles: includes sources and functions of essential nutrients and food patterns compatible with nutrient needs, health, disease prevention, and sustainability. Intended for undergraduate and graduate students. Pre: CHEM 151 (or higher) or BIOL 241 (or higher); PHYL 141, BIOL 171; or consent. DB

FSHN 476 Cultural Aspects of Food Habits (3) Study of eating from behavioral perspectives. Implications for health practices and nutrition and health education. Pre: two classes from ANTH 151 or higher or SOC 100 or higher or PSY 100 or higher.

FSHN 477 Food Analysis (2) Principles of sample preparation and chemical and physical analysis of food components using current methodology. Pre: 450 and CHEM 162 or higher; and BIOL 402 or MBBE 402 or PEPS 402. DB

FSHN 477L Food Analysis Lab (2) (3 hr Lab) Application of different chemical and physical methods for the identification and quantification of food components. Pre: consent. 477. DY

FSHN 480 Nutrition in Exercise and Sport (3) Effects of physiologic demands of exercise on nutrition. Emphasis on physiologic and biochemical basis for nutrition recommendations to enhance exercise participation and optimize athletic performance. Pre: 185 or consent. (Cross-listed as KRS 480) DB

FSHN 485 Nutritional Biochemistry I (3) Metabolism and biochemical functions 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. Repeatable one time. Pre: PHYL 142/142L or PHYS 302/302L; BIOL 341 or higher or MBBE 375 or MBBE 402. DB

FSHN 486 Nutritional Biochemistry II (3) Metabolism and biochemical functions of vitamins, minerals, and dietary fiber, including chemical structure, utilization, and cellular/molecular functions in human nutrition; relation to establishing nutrient requirements and to mechanisms of chronic disease. Repeatable one time. Pre: 485 or consent. DB

FSHN 488 Obesity, Science, and Issues (2) In-depth study of obesity, including research, etiology, treatment, and prevention. Pre: 480 and 486.

FSHN 491 Topics in Food Science and Human Nutrition (V) Study and discussion of significant topics problems, or laboratory experiments. Repeatable unlimited times. Pre: instructor approval.

FSHN 492 Field Experience (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)

FSHN 494 Food Science Capstone (3) Field practicum designed to integrate knowledge from previous FSHN courses to develop novel and innovative food products. Students deal with shellfish, marketing, packaging, labeling, sensory evaluation, and quality assurance. Repeatable one time. FSHN majors only. A-F only. Pre: 381 and 460, or consent.

FSHN 499 Directed Reading and Research (V) Repeatable unlimited times.

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

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

FSHN 607 Advanced Food Science I (3) Advanced topics in chemical and physical characteristics of foods as well as their role in human nutrition. Repeatable one time. A-F only. Pre: graduate student status with undergraduate courses in organic chemistry, microbiology, additional biological sci-
ence, physics, and biochemistry. Basic knowledge of food science is expected; or consent. (Cross-listed as MBBE 607)

FSHN 608 Advanced Food Science II (3) Advances in sensory quality and evaluation, deterioration of foods and food safety, as well as food processing technology. Pre: A-F only. Pre: graduate student status with undergraduate courses in organic chemistry, microbiology, additional biological sciences, physics, and biochemistry. Basic knowledge of nutrition to the extent of consent. (Cross-listed as ANSC 608)

FSHN 609 Advanced Food Safety (3) Real and perceived food hazards, their ethical issues and implications, advanced emerging topics in food safety, and controls, including laws and regulations of food safety issues and public perception of food safety will be discussed. Pre: A-F only. Pre: graduate student status with undergraduate courses in biochemistry, microbiology, food processing, physics and organic chemistry. Basic food science knowledge is required; or consent.

FSHN 633 International Nutrition (3) Analysis of major nutrition problems in developing countries. Comparative review of the design, implementation, and evaluation of programs to intervene in the development of malnutrition. Pre: 185 or consent.

FSHN 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: consent. (Cross-listed as ANSC 650 and MBBE 650)

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

FSHN 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. (Cross-listed as ANSC 657 and TPSS 657)

FSHN 668 Advanced Topics in Clinical Nutrition (2) Advanced topics in nutrition assessment, diagnosis, and interventions of patients with specialized clinical conditions. Students will further their knowledge in clinical research methods through case study presentations and evidence-based review. Repeatable one time. Pre: 389 and 467; or instructor consent.

FSHN 681 Seminar in Food and Nutritional Sciences (1) Student presentation of literature reviews and research. Repeatable five times. Pre: consent.

FSHN 682 Topics in Nutritional Sciences (1) Advanced topics in nutritional sciences, from basic to applied research, including current issues in nutrition and critical analysis of current research literature. Repeatable four times. Pre: consent.

FSHN 683 Global Nutrition (3) In-depth lecture, discussion, and student presentations on selected topics relating to nutrition to the etiology and prevention of chronic diseases at the cellular and molecular level. Repeatable one time. Pre: 485 and 486; statistics; or consent.

FSHN 687 Advanced Lab Techniques (3) (1 Lec, 2-3 hr Lab) Advanced laboratory techniques used in food science and human nutrition research. Pre: 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. Pre: 685 and PH 665, 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. Pre: graduate standing in nutritional sciences.

FSHN 699 Directed Reading and Research (V) Repeatable unlimited times.

FSHN 700 Thesis Research (V) Repeatable unlimited times.

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. Pre: 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. Pre: 485 and 486 (or equivalent), statistics, physiology; or consent.

FSHN 785 Diet and Cancer Seminar (1) Presentation/discussion of current 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. Pre: 685 and 689, or consent.

FSHN 800 Dissertation Research (V) Research for doctoral dissertation in nutrition. Repeatable unlimited times. Graduate standing only. Satisfactory only. Pre: candidacy for PhD in Nutrition.

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 writing. Pre: 101 or consent. HSL
FR 110 Immersion French Elementary (6) Content of 101-102 covered in one semester. Three two-hour sessions per week. HSL
FR 201 Intermediate French (3) Reading, conversation, laboratory, oral composition. Pre: 110 or consent. HSL
FR 202 Intermediate French (3) Continuation of 201. Pre: 201. HSL
FR 210 Immersion French-Intermediate (6) Content of 201-202 covered in one semester. Three two-hour sessions per week. Pre: 110 or consent. HSL
FR 258 Intermediate French Abroad (3) Intensive course of full-time formal instruction on the second-year level in French language and culture in a French-speaking country. Pre: 110 or consent. HSL
FR 259 Intermediate French Abroad (3) Continuation of 258. HSL
FR 301 French Phonetics (3) Analysis of phonological system; method of teaching pronunciation; understanding various types of spontaneous speech. Drills in pronunciation, intonation, stress, and rhythm. Pre: 202 or 259 or consent. DH
FR 302 Reading in French (3) Development of language skills through reading of cultural and literary texts. Pre: 202 or 210 or 259 or consent.
FR 306 Structure of French (3) Structure of contemporary French as analyzed by descriptive linguists. Pre: 202 or 210 or 259 or consent. DH
FR 308 Business French (3) Reading and writing commercial materials. Pre: 202 or 210 or 259 or consent.
FR 311 Conversation (3) Systematic practice for control of spoken French. Further development of vocabulary for accurate, mature expression. Pre: 202 or 210 or 259 or consent.
FR 312 Composition (3) Emphasis on strengthening facility with language through further training in syntax, structure, and composition writing. Pre: 202 or 210 or 259 or consent.
FR 331 Survey of French Literature (3) Major authors and movements. Pre: 311 (or concurrent) and 312; only 311 may be concurrent. DL
FR 332 Survey of French Literature (3) Continuation of 331. Pre: 311 (or concurrent) and 312; only 311 may be concurrent. DL
FR 358 Third-Level French Abroad (3) Intensive formal instruction at the third-year level in French language skills: reading, writing, grammar, or conversation in a French-speaking country. Pre: 202 or 210 or 259 or consent.
FR 359 Third-Level French Abroad (3) Continuation of 358.
FR 360 Intensive Third-Level French Abroad (3) Intensive formal instruction at the third-year level in French language skills: reading, writing, grammar, or conversation in a French-speaking country. Pre: 202 or 210 or 259 or consent.
FR 361 Contemporary French Civilization (3) Survey of culture and institutions of modern France. Pre: 202 or 210 or 259 or consent. DH
FR 364 Survey of French Civilization (3) A historical survey of the development of French culture. The course is interdisciplinary and focuses on the relations between politics, literature, science, and the arts. Pre: 202 or 210 or 259 or consent. DH
FR 391 (Alpha) Topics in French Literature (3) (B) French film; (C) the Fantastic; (D) Francophone literature. Repeatable two times with consent. Pre: 311 or 312, or consent. DL
FR 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times. A-F only. Pre: 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. Pre: 311 and 312, or 306, or 358, or 360; or consent.
FR 406 French-English Translation (3) Practice in techniques based on contrastive linguistics. Translation of texts from various fields from French into English and the reverse. Pre: 306 or 309, and 312; or consent.
FR 408 Masterpieces of Medieval Literature (3) Samplings from epic, novel, verse and prose, tale, lyric poetry, chronicle, theater, didactic literature. Elementary readings in original text in editions giving modern French translation. Pre: 331 or consent. DL
FR 409 Advanced Language Study: French (3) Advanced course in spoken and written French with intensive review of alternative grammatical structures and shades of meaning in modern language. Graduates who have not taken prerequisites may request consent. Pre: 306 or 405 (or equivalent); or consent.
FR 410 Masterpieces of 16th-Century Literature (3) Samplings from all major writers of the period. Reading in original text in editions giving modern French equivalents for difficult words. Pre: 331 or consent. DL
FR 411 Masterpieces of 17th-Century Literature (3) Principal works of major dramatists: Corneille, Moliere, Racine. Principal movements and major

Key to symbols & abbreviations: see the first page of this section.
authors of non-dramatic prose and poetry. Pre: 331 or consent. DL
FR 413 Masterpieces of 18th-Century Literature (3) Pre: 332 or consent. DL
FR 423 20th Century French Prose and Poetry (3) Study of representative prose and poetry of the major trends of 20th century France: modernism, surrealism, existentialism, postmodernism and multi-culturalism. Pre: 332 or consent. DL
FR 458 Fourth-Level French Abroad (3) Intensive course of full-time formal instruction on the fourth-year level in French linguistics, civilization, culture, and literature in a French-speaking country. Pre: 359 or 360 or equivalent.
FR 459 Fourth-Level French Abroad (3) Continuation of 458.
FR 460 Intensive Fourth-Level French Abroad (V) Intensive course of formal instruction on the fourth-year level in French language, culture and literature in a French-speaking country. For semester programs only. Pre: 360 or equivalent.
FR 491 (Alpha) Seminar in French Literature (3) (B) French literature by period; (C) Francophone literature; (D) French film; (E) topic in French literature. Repeatable one time for different alphas. Pre: 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. Pre: consent.
FR 506 French for Reading Proficiency (3) Reading of scholarly and technical French for graduate students; open to undergraduates with consent of department chair. Not applicable to undergraduate language requirement. Repeatable two times with consent. CR/NC only.
FR 620 Masterpieces of the 17th Century (3) Dramatic or prose works of the classical period.
FR 651 Philosophic Currents in 18th Century (3) Philosophic movements and their impact on the social, political, and literary life of the period and the modern era.
FR 661 Advanced French English Translation: Practice and Theory (3) Advanced practice in translation into French and from French to English in various fields (literature, business, medicine, other), with reflection on choices. Readings in translation theory.
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) Repeatable unlimited times. Pre: consent of department chair.
FR 735 Seminar in French Literature (3) Study of authors or a period. Repeatable two times with consent. Pre: consent of instructor and French graduate advisor.

Geography (GEOG)

College of Social Sciences

Sophomore standing or higher 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. Pre: GEOG 101L The Natural Environment Lab (1) A survey of field and laboratory methods commonly used by physical geographers. Pre: 101 (or concurrent). 

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 in urban geography; application to current problems of developed and underdeveloped worlds. FGB

GEOG 300 Introduction to Climatology (3) Elements and controls of climate. World patterns of insolation, temperature, evaporation, precipitation, atmospheric circulation. Climatic classifications. Pre: 101 or MET 101 or MET 200, or consent. DP

GEOG 302 Global Environmental Issues (3) Use and abuse of natural resources and humanity’s progress toward developing a sustainable relationship with its supporting environment. A-F only. (Once a year)


GEOG 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 310 Introduction to Planning (3) Perspectives on planning; planning tools and methods; specific Hawaii’s planning—research problems from a multidisciplinary approach. Pre: junior standing or consent. (Cross-listed as PLAN 310) DS

GEOG 320 Economic Geography (3) Examines how factors of production like land, labor and capital; economic activities like consumption, trade, production, and investments; and institutions like state, markets, and corporations affect economic space. A-F only. Pre: 102 or 151. (Fall only) DS

GEOG 322 Globalization and Environment (3) Debates on globalization and development, population and resources; root causes of environmental degradation; impacts of globalization on environmental and environmental change; social approaches to managing environmental change. Pre: 102, 151, 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, impacts of 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. Agricultural resources and industries. Mineral resources, energy and metal industries. Manufacturing industries in development. The network of world trade, regional associations, and international economic aid. 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 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 synthesis. 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. National economies; 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 Hawai‘i (3) Regional, physical, cultural geography. Detailed study of people and resources. DS

GEOG 370 Aerial Photo and Image Interpretation (3) (2 Lec, 1-3 hr Lab) Introduction to the measurement, interpretation, analysis, and use of aerial photographs and digital imagery. Pre: 104, or consent. DS

GEOG 375 Introduction to Cartography and Air Photo (3) (2 Lec, 1-3 hr Lab) Principles of cartography: compilation and measurement 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. DS

GEOG 380 Statistical Methods in Geography (3) Quantitative statistical methods will be explored for

Key to symbols & abbreviations: see the first page of this section.
Courses 423

GEOG 410 Human Role in Environmental Change (3) Human impacts through time on vegetation, animals, landscapes, soils, climate, and atmosphere. Special reference to Asian/Pacific region. Implications of long-term environmental change for human inhabitation. Pr: one of 101, BIOL 101, BIOL 123 and either 326 or BIOL 310; or consent. (Cross-listed as BIOL 410) DB

GEOG 411 Past Global Change and the Human Era (3) Study of past environments to understand present and future global change. Focus on terrestrial and oceanic processes. Pr: junior standing or higher, consent. DB

GEOG 412 Environmental Impact Assessment (3) Introduction to analytical methods for identifying, measuring, and quantifying the impacts of changes or interventions in human-environmental systems, and other geographic systems. Pr: junior standing or higher, consent. (Alt. years)

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 Hawai‘i and the Pacific. Pr: 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 or higher. (Spring only) (Cross-listed as PLAN 414)

GEOG 415 Nature-Based Tourism Management (3) Principles of nature-based tourism, including a survey of impacts, objectives, planning, and management approaches. Junior standing or higher. Pr: 324/ TIM 324 or TIM 101. (Cross-listed as TIM 415) 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. Pr: 102 or 151 or 330, consent. (Cross-listed as PLAN 421) DS

GEOG 422 Agriculture, Food and Society (3) Examines historical and contemporary development of the global agro-food systems. The impacts of technological and economic change to food security, environment and development. Open to nonmajors. Pr: junior standing or higher, consent. DS

GEOG 423 Human Dimensions of the Coastal Ocean (3) The coastal ocean as an ecosystem of global significance, influenced by natural and human processes. Application of science and social values to environmental problems of oceans. Open to nonmajors and graduate students. Pr: junior standing or higher, consent. (Once a year)

GEOG 424 Regional Analysis (3) Spatial dynamics and environments of urban and rural development. Concepts of regions, process of regional development, patterns of spatial interaction, and theoretical bases for development strategies; emphasis on Hawai‘i. Pr: junior standing or higher, consent. DS

GEOG 425 The Geography of Film (3) Landscapes of film. How movies work by conveying a sense of space and a sense of place. Genres and landscapes. Pr: junior standing or higher, consent. DH

GEOG 426 Environment, Resources and Society (3) Human interactions with the environment. How market, property institution, and technological change affect the environment. Epistemological basis of environmental policies. Debates on controversial environmental issues. Pr: 102, 151, or consent. DS

GEOG 435 Political Geography of Oceans (3) The ocean(s): evolution and change problems of economic development, resources, seapower, shipping, trade. Pr: junior standing or higher, consent. DS

GEOG 436 Geography of Peace and War (3) Geographical factors underlying conflict in the world. Pr: sophomore standing or higher, 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 socioeconomic development in China. Emphasis given to resource management and environmental quality, which are important factors in sustainable development. Pr: 102 or 151, consent. DS

GEOG 468 (Alpha) Topics in Geography (3) Selected topics in geography not offered in the regular geography curriculum. Pr: 101 or 151, 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. Pr: 370 and consent.

GEOG 472 Field Mapping (3) Techniques for field measurement and recording of cultural and physical data. Field sketching, Brunton surveying, plane table mapping, oblique photo compilation, topographic mapping, and reproducible data. Pr: junior standing or higher, 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. Pr: consent.

GEOG 489 Applied Geographical Information Systems (3) (2 Lec, 1 2-hr Lab) Application of GIS technologies to various problems or issues in social, natural, and environmental sciences. Research project, lab. Pr: 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. Pr: senior GEOG major and consent.

GEOG 492 Practicum in Geography (V) Internship in applied geography under professional and faculty supervision. Field placement integrated with academic study. Repeatable up to six credit hours maximum. Pr: senior major and consent.

GEOG 493 Capstone Undergraduate Seminar (3) Current and historical geographic literature provides a background for local and global issues. Through discussion, written reviews, and case study research, the geographic perspective in modern life will be explored. Pr: senior GEOG major.

GEOG 600 Seminar in Climatology (3) Methods of determining energy budget and water balance; applications in agriculture, hydrology, climatic classifications. Theory of climatic change. Bibliography. Pr: 300 or 401 or 402 or 405 or MET 303 or MET 305 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. Framework and methodology for problem structuring; overview of techniques. Pr: graduate standing or advanced undergraduate standing with consent.

GEOG 620 Theories and Policies of Development (4) Will critically examine what constitutes progress, advancement, or betterment in this highly uneven world, where inter-regional, inter-class, inter-group, and inter-gender differences in development are expanding. Graduate standing only. A-F only. (Fall only)

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.

Key to symbols & abbreviations: see the first page of this section.
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 approaches to sustainability, impacts, concepts, definitions, and methodology. (B) renewable; (C) nonrenewable. Pre: consent.

**GEOG 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. Pre: **PLAN 600** or consent. (Cross-listed as **PLAN 630**) **DS**

**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**) **DS**

**GEOG 638 Asian Development and Urbanization (3)** Theories of globalization and sustainability in development, inequality and sustainable development; development and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development. Pre: (ASAN 600 or **PLAN 630**) with a grade of B or above. (Cross-listed as **ASAN 638** and **PLAN 658**) **DS**

**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 **ASAN 639**) **DS**

**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 **ASU 652**) **DS**

**GEOG 654 Seminar in Geography of Southeast Asia (3)** Repeatable with consent of instructor. Pre: consent.

**GEOG 665 Seminar in Geography of the Pacific (3)** Investigation of geographic problems of Melanesia, Micronesia, Polynesia. Repeatable with consent of instructor. Pre: consent.

**GEOG 680 Geospatial Analysis of Natural Resource Data (3)** 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 mapping of soil data. Pre: consent. Also will be included. A-F only. Pre: **ZOOI 651**; or consent. (Cross-listed as **TPSS 680**) **DS**

**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 695 Concepts and Theories in Geography (3)** Concepts, theory, models. Geographic approaches to spatial and environmental problems. Required of entering graduate students unless waived by department. Pre: consent.

**GEOG 696 Research Design/Methods in Geography (3)** Elements of research design, practical field experience, exposure to research and methodologies, broad exposure to heritage and ethos of the discipline. Pre: 695.

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

**GEOG 700 Thesis Research (V)** Repeatable unlimited times.

**GEOG 703 Geomorphology (3)** Current understanding of geomorphological concepts, processes, and the dynamic relationship between human, landscape modification and system response. Pre: consent.

**GEOG 710 (Alpha) Special Topics (V)** Study and discussion of significant topics, problems. (B) regional and locational analysis; (C) geography, environment, and culture; (D) Multi-objective decision analysis. Repeatable two times. Pre: 455.

**GEOG 720 Critical Resource Geography (3)** Graduate seminar to provide geographers students a roadmap through the important literature and research on political economic theories of population, natural, and critical resources. Graduate standing only. A-F only. (Fall only)

**GEOG 728 Seminar: Resource Management in Asia-Pacific (3)** Examination of resource management problems in Asia and the Pacific. Problems of resource use—agriculture, forestry, energy, minerals, ocean, air quality. Pre: consent.

**GEOG 735 Seminar: Political Geography (3)** Topics vary; may include borders, boundaries, geopolitics, homelands, identity politics, nations and nationalism, social categorization, the sovereign state system, territoriality. Repeatable one time. Pre: graduate standing or consent. (Once a year)

**GEOG 750 Research Seminar: Biogeography (3)**

**GEOG 752 Research Seminar: Resource Management (3)**

**GEOG 757 Research Seminar: Cultural Geography (3)**

**GEOG 758 Research Seminar: Conservation (3)**

**GEOG 761 Research Seminar: Cartography (3)**

**GEOG 762 Research Seminar: Remote Sensing (3)**

**GEOG 763 Research Seminar: Agricultural Geography (3)**

**GEOG 764 Research Seminar: Social Geography (3)**

**GEOG 766 Society and Space (3)** Advanced seminar on social production space. Topics include spatial metaphor in social theory; western spatiality and the dynamic relationship between human, landscape, and nation. Pre: graduate standing or consent.

**GEOG 800 Dissertation Research (V)** Repeatable unlimited times.

**Geology and Geophysics (GG)**

School of Ocean and Earth Science and Technology

**GG 101 Dynamic Earth (3)** The natural physical environment: the landscape; rocks and minerals, rivers and oceans; volcanism, earthquakes, other processes inside the Earth; effects of human use of the Earth and its resources. Pre: consent. Field trip. **DP**

**GG 101L Dynamic Earth Laboratory (1)** (1 3-hr Lab) Hands-on study of minerals, rocks, and topographic maps. Examine volcanism, hydrology, coastal processes and hazards, geologic time and earthquakes. Field trips to investigate landslides, beaches and Oahu geology. A-F only. **DY**

**GG 102 Introduction to Global Change (3)** Prepares students to become rational consumers, able to weigh media messages regarding our Earth, and to act appropriately. Topics include global change, fossil fuel, greenhouse gases, global ice, extents, human nutrition and industrial agriculture. A-F only. **DY**

**GG 103 Geology of the Hawaiian Islands (3)** Hawaiian geology and geologic processes: origin of Hawaiian islands, volcanism, rocks and minerals, landforms, stream and coastal processes, landslides, earthquakes and tsunamis, groundwater, geologic and environmental hazards. Field trip. **DP**

**GG 104 Volcanoes in the Sea (3)** Lecture with field trips covering the manner in which geological conditions, resources, and events have affected past and present circumpacific societies. Credit not given for both 103 and 104. **DP**

**GG 105 Voyage through the Solar System (3)** An illustrated voyage through the Solar System based on recent scientific results. The class highlights the origin, evolution, and current knowledge of the eight planets, their moons, asteroids, comets, and one star, the Sun. Field trip. (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. A-F only. **DP**

**GG 130 Geological Hazards (3)** Introductory covering the causes of, and effects from, earthquakes, tsunami, volcanic eruptions, landslides, rockfalls, and other natural geographic 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 recent scientific results; problem solving and critical thinking to geology. Laboratory and field trips required. **DP DY**

**GG 199 Introduction to Directed Research (V)** Lower division reading and research in any area of **GG** under the direction of a faculty member. Repeatable four times or up to six credits. CR/NC only. **GG**

**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 101 and 101L, or 103 and 101L; or consent. 101L may be taken concurrently. Consent required for all non-majors. **DP 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. **GG** major or consent. 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 162**/162L or **CHEM 171**/171L); or consent. **DP 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, kinematic and mechanical aspects of crustal and (b) continuum mechanics in geology. Develops skills in three-dimensional thinking through geologic maps, cross sections, various projections, excerpts, and vector analyses. Pre: 200, 250, **MATH 241** or **MATH 251A**, and (**PHYS 151** or **PHYS 170**); or consent. **DP**

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

GG 305 Geological Field Methods (3) Methods used in geological investigations in the field. Eight hours of fieldwork in the 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 that form sedimentary rocks, properties of sedimentary rocks and interpretation of these properties as 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 and computer applications. 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.) DP

GG 325 Geophysical Methods (3) Theory and applications of chemical principles and chemical analysis to Earth, ocean and environmental sciences; chemistry of hydrophosphorus-geochemical system, origin/ differentiation of Earth/Solar system, volcanic processes, natural radioactivity, organic/sedimentary chemistry. Pre: 200, 250, MATH 241 or MATH 251A, CHEM 162 (or concurrent); or consent. (Fall only) DP

GG 395 Undergraduate Internship (V) Experiential approach to earth science; students serve as interns for a field, geological, or laboratory laboratory; responsibilities include supervised field work. Open to undergraduate SOEST majors. Repeatable one time. CR/NC only. Pre: junior/senior standing and 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 study of 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 Geoscience and the Layman (2 Lec, 1 3-hr Lab) The role of geoscience in 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 oral communication assignments. Pre: 170 (or 101 and 101L, or 103, and 101L) and 200.

GG 413 Geological Data Analysis I (3) Exploratory data analysis, error propagation, probability theory and statistics, curve fitting, regression, sequence and spectral analysis, multivariate analysis, and analysis of directional data. Pre: 250 and MATH 242 (or concurrent) or consent.

GG 420 Coastal Geology (3) Recent records and physical processes of global and local environmental change; dating techniques; late Pleistocene and Holocene climate change, sea-level movements, and ice volume. Repeatable one time. Pre: 309 or consent. 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 of Earth’s A-F only. Pre: 200 or MET 310, OCN 310, OEST 310; or consent. DP

GG 423 Marine Geology (3) Sediments, structure, 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 application of geochemistry to contaminant/pollutant distribution in the hydrosphere-geochemical system. Topics include aqueous geochemistry, thermodynamics, kinetics, organic and isotopic chemistry of environmental contaminants. Pre: 325 or consent. (Fall only) 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. Pre: 200 or consent. (Alt. years) (Cross-listed as OCN 444) DP

GG 450 Geophysical Methods (4) Combined lecture/lab covering basic geophysical theories, exploration, and interpretation. Seismic reflection and refraction, gravity, and electromagnetic properties. Constraints on models of Earth’s surface and compositional structure and composition. Pre: 250, 303, MATH 241, MATH 242, and PHYS 272; or consent. DP DY

GG 451 Earthquakes (3) Earthquake seismology. Elastie properties of rocks, earthquake waves, causes, detection, location, and prediction of earthquakes; tsunami generation and other effects of earthquakes. Pre: 304 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. Pre: MATH 242 or MATH 252A, or consent. DP

GG 460 Geological Remote Sensing (4) (3 Lec, 1 3-hr Lab) Combined lecture/lab on the concepts behind, geologic uses for, and techniques of satellite and airborne remote sensing. Lab work will consist of computer image processing. Field trips. Open to non-majors of Earth’s A-F only. Pre: consent. (Spring only) DP

GG 461 Geospatial Information (3) Combined lecture/lab covering the collection, analysis and use of geospatially registered field data. Pre: 200 (or equivalent). (Alt. years)

GG 466 Planetary Geology (3) Comparative geology of the terrestrial planets (Mars, Mercury, Venus, and Earth); impact cratering, volcanism, tectonism, geomorphology, weathering; manned and unmanned space exploration. Pre: 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. Pre: consent.

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

GG 593 Earth and Planetary Sciences Workshops (2 Lec, 1 3-hr Lab) Essentials of geophysics: formation of Solar System and Earth and planetary sciences. Repeatable for credit. Pre: 304 or consent. (Alt. years) DP

GG 600 Explosive Volcanism (3) Explosive volcanic eruptions: from causes to consequences. Review of current physical volcanology including ascent and fragmentation of magma, transport and deposition processes in pyroclastic eruptions, volcanic crisis management and volcanic eruption scenarios. Seven-day field trips. A-F only. Pre: 300 or consent.

GG 602 Theoretical Petrology (3) Derivation of phase diagrams from basic thermodynamic principles. Equilibria of natural silicate systems. Crystal chemistry, kinetics, diffusion, etc. Applied to igneous and metamorphic petrology. Pre: 302, 325, and CHEM 351 (or concurrent); 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. Pre: 302 or consent. (Alt. years)

GG 604 Disaster Management: Understanding the Nature of Hazards (3) Combined lecture/discussion in disaster management focusing on the scientific understanding of hazards and the skills of catastrophe response. Pre: consent of instructor. DP

GG 605 Submarine Volcanoes (3) Seminar exploring different aspects of submarine volcanism, its explosive and explosive volcanic, hydrothermal activity, and volcano-hosted ecosystems. Repeatable one time. A-F only. Pre: 300 or consent. (Alt. years: fall)

GG 607 Isotopes and Trace Elements (3) Principles of radiogenic and stable isotope, and trace element geochemistry as applied to petrology and tectonics, mantle dynamics, plate tectonics, and terrestrial evolution. Pre: 302 and 325. (Alt. years)

GG 609 Graduate Teaching Geology (V) For GG graduate students who lead, under faculty supervision, a scheduled class in Geology and Geophysics. The instructor will define the student’s responsibilities when offering GG 609, and these responsibilities must be met for a passing grade. As the consent to take the class must also be granted by the department chair, the chair will also review the responsibilities required by the instructor. GG graduate students only. CR/NC only. Pre: consent of instructor and department chair.

GG 610 Graduate Seminar (1) Seminar in which students present a 15- to 20-minute talk on their research or a related topic. Once a week 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, tectonics, seismology, dynamics, origins of continents, glaciers, energy resources, environmental geology, and natural hazards. Saturday field trips. (Spring only)
GG 614 Advanced Field Study (V) Shipboard and land-based projects. Repeatable eight times. Pre: consent.

GG 616 How to Write a Scientific Paper (3) Designed for students who have collected data and want to know how to publish their work in a scientific journal. Covers the essential parts of paper preparation and submission. GG students only. A-F only. Pre: consent. (Alt. years: fall)

GG 621 Electron Microprobe Analysis (2) Combined lecture-lab on the principles of geochemical analysis by electron microprobe and X-ray fluorescence. Hands-on experience with the electron microprobe. Required to operate the HEU electron microprobe. Pre: 301 or consent.

GG 625 Seminar in Marine Geology and Geophysics (V) Current research topics. Repeatable eight times. Pre: GEOL 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 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-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; or consent. (Cross-listed as OCN 638)

GG 639 Stable Isotope Biogeochemistry (3) Stable isotope geochemistry applied to questions of biogeochemical cycling in the oceans, sediment diagenesis, palaeoclimatology, environmental geochemistry and ecology. Pre: 325 or consent. (Alt. years)

GG 640 Coastal Geomorphology (3) Geomorphology at the land-ocean interface: coastal hydrology, subterranean estuaries and coastal mixing and their importance in governing the distribution of selected radionuclides, trace metals and nutrients. Combined lecture-lab with field trips and group projects. Pre: CHEM 162, and MATH 241 or MATH 251A; or consent. (Alt. years)

GG 641 Origin of Sedimentary Rocks (3) (2, Lee, 1 3-hr Lab) Sources of deposition and subsequent diagenesis of modern and ancient sediments and continental sedimentation. Geology of siliciclastic, carbonate and orthochemical rocks. Sedimentology, sedimentary petrology and geochemistry. Repeatable one time. Pre: consent. (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. Pre: 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. Pre: CHEM 171, or CHEM 161 and CHEM 162; PHYS 152; and MATH 242 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, seismograph equipment, tectonics, inversion source theory, and waveform modeling. Pre: 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. Pre: consent. (Alt. years)

GG 652 Gravity, Magnetics, Heat Flow (3) Uses of selected potential field and electromagnetic methods in tectonics or in exploration. Processing and interpretation techniques; modeling and inversion. Pre: 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) Pre: consent. (Alt. years)

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 (nebular chemistry, planetary accretion, impact cratering, volcanism, tectonism, geomorphology, weathering). Pre: graduate students 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. Pre: (Alt. years)

GG 669 Cosmochemistry (3) Formation and evolution of planets as astrophysical objects, geologic bodies, and abodes of life. Repeatable one time. From studies of the Solar System, star formation, meteors, exoplanets; theory of formation and dynamics; atmospheres, oceans, habitability, biosignatures. Pre: CHEM 325 or CHEM 351 (or equivalent); or consent. (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. Pre: consent.

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 Paleoclimatology (3) Study of the palaeoclimatic 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, physics, and structural geology. Tensors; stress, strain, flow; conservation of mass, momentum, and energy; rheology; geophysical fluid dynamics. Pre: PHYS 400, MATH 402, or consent.

GG 691 Geological Data Analysis II (3) Time- and frequency analysis, filtering, factor and cluster analysis, interpolation, quantitative map analysis, and introduction to wavelets and fractals. Pre: 413 or consent.

GG 695 Geophysical Inverse Theory (3) Linear and nonlinear techniques for parameter estimation and forecasting, including least squares and MCMC. Models: 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) Repeatable unlimited times. Pre: consent.

GG 700 Thesis Research (V) Repeatable unlimited times.

GG 701 Physics of the Earth’s Interior (3) Interpretation of geophysical and laboratory data to understand elastic and anelastic properties, composition, phase relationships, temperature distribution in the Earth. Pre: consent. (Alt. years)

GG 703 Fractures and Faults (3) Lecture on elasticity theory, fracture mechanics and boundary element modeling, with application to faults and fractures in the Earth. 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) Repeatable unlimited times.
GER 110 Intensive Elementary German (6) Combined content of 101 and 102 covered in one intensive course. (Summer only) HSL

GER 201 Intermediate German (3) Conversation, grammar, reading and writing. Pre: 102. HSL

GER 202 Intermediate German (3) Conversation, grammar, reading and writing. Pre: 201. HSL

GER 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. HSL


GER 303 Reading and Writing (3) Further development of reading and writing skills through the study of modern short stories by major German language authors. Pre: 202. DL

GER 304 Business German (3) Advanced German conversation, reading, and writing with a special emphasis on the vocabulary and cultural context of the German business world. Pre: 202 or consent.

GER 305 Contemporary Topics in Media (3) Development of listening and speaking, reading and writing skills through analysis and discussion of media: newspaper articles, radio, and television programs and online sources. Pre: 202 or consent.

GER 306 Conversation and Composition (3) Intensive practice in listening, speaking, reading, and writing with selected grammar review. Pre: 202 or consent.

GER 307 German for Reading I (3) Development of reading skills through the study of short scholarly, technical, and literary texts. Pre: 202 or consent.

GER 308 German for Reading II (3) Further development of reading skills through the study of short scholarly, technical, and literary texts. Pre: 202 or consent.

GER 312 Introduction to German Literature 1750-1914: (3) Reading and discussion of representative works of German literature from 1750 to 1914. Pre: 303 or consent. DL

GER 313 Introduction to German Literature 1914-Present (3) Reading and discussion of representative works of German literature from 1914 to present. Pre: 303 or consent. DL

GER 320 History of German Cinema (3) Study of German film history, film analysis, film theory, and film study. Lecture/discussion. A-F only. Pre: 303 or 306. DH

GER 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.

GER 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

GER 362 Modern German Culture (3) Modern culture in post-World War II Germany, Austria, and Switzerland. Pre: 202 or consent. DH

GER 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.

GER 409 Enlightenment—Sturm und Drang (3) Lecturing and discussion of early Germans of the Enlightenment. Pre: 306 or consent. DL

GER 410 Classicism (3) Classical writings of Goethe and Schiller; some reference to other writers. Pre: 306 or consent. DL

GER 411 Romanticism (3) Novels, Tieck, E. T. A. Hoffmann, Eichendorff, etc. Pre: 306 or consent. DL

GER 412 Poetic Realism (3) Masterworks by Bühner, Raabe, Storm, Keller, Meyer, Hebbel, and others. Pre: 306 or consent. DL

GER 415 Contemporary German Literary Activity (3) Handke, Becker, Weiss, Bernhard, Walser, Böll, Grass. Pre: 306 or consent. DL

GER 416 German Literature, Culture and Film: 1989 to Present (3) Study of German literature, culture and film, 1989 to present. Credit cannot be earned for both 416 and LLEA 416. Pre: 303 or 306 or consent. DH

GER 428 Survey of German Lyric Poetry (3) Individual interpretation complements lectures on theoretical and historical background. Pre: 306 or consent. DH

GER 460 Intensive Fourth-Level German Abroad (V) Intensive course of formal instruction on the fourth-level in German language and culture in a German-speaking country. Pre: 360 or equivalent.

Global Health Protection and Security (GHPS) formerly Population Studies (HST) Interdisciplinary Programs

GHPS 101 Introduction to Population Studies (3) Introduces the study of population (demography), human fertility, mortality, and migration. Focus on the U.S., Hawai‘i, and the Asia-Pacific region.

GHPS 301 Populations of Hawai‘i (3) Demographic characteristics of Hawai‘i’s populations: origins, distribution, growth, and behaviors. Open to nonmajors. A-F only. Pre: an introductory social science course (ECON 120, 130, 131; GEOG 151; POLS 110; or SOC 100) or consent. DS

GHPS 302 Population in the Pacific Islands (3) Survey of the characteristics of human populations of the Pacific Islands region. Working of population forces from early settlement to the demographic transitions of the present day. Pre: consent. DS

GHPS 401 Forced Migration (3) Global view of refugee and other forced migration; emphasis on humanitarian assistance. Pre: junior standing and consent. DS

GHPS 412 Analysis in Population and Society (3) Global and U.S. patterns of population growth; composition and distribution, elementary demographic techniques; development issues and population policy. Pre: SOC 300 or consent. (Cross-listed as SOC 412) DS

GHPS 432 Economics of Population (3) Determinants and consequences of growth and structure of human populations. Relationships between economic factors and fertility, population growth and economic growth. Pre: ECON 301 (or concurrent). (Cross-listed as ECON 432) DS

GHPS 651 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 PH 651 and SOC 651)

GHPS 652 Interdisciplinary Seminar (1) Topics such as contemporary issues in global health and population studies, international health programs, demographic methods, global economy and health, human right and humanitarian assistance, social justice, global environmental changes and health. Pre: consent. (Cross-listed as PH 652)

GHPS 659 Methods of Demographic Analysis (3) Statistical evaluation and analysis of population data; data sources; population growth; composition; standardization of rates; mortality and the life table; nuptiality and fertility; distribution, migration, urbanization; projections and stable population theory. (Cross-listed as PH 659 and SOC 659)

GHPS 677 Global Health Management (3) Provides theories, knowledge and skills required to improve executive capacity in managing people and projects in an ethical and cultural context, and organizational capacity in performance, design, strategic planning, and change management. PH majors only. A-F only. (Cross-listed as PH 677)

GHPS 690 Global Health Challenges (3) Addresses critical, contemporary, and transnational issues best addressed by cooperative international action. Health issues are examined in the context of intersecting effects of limited resources, socioeconomics, politics, and environmental change. A-F only. (Once a year) (Cross-listed as PH 690)

GHPS 699 Directed Reading and Research (V) Repeatable unlimited times. Pre: consent of program director or instructor.

GHPS 719 Comparative Family and Gender (3) Discusses the major perspectives on family and gender relations and examines related empirical research. Emphasis is on the cross-cultural comparisons across the U.S. and Asia in the context of globalizing economies and cultures. A-F only. (Alt. years) (Cross-listed as SOC 719)

Greek (GRK)

College of Languages, Linguistics and Literature

A grade of C- or better in the prerequisite courses is required for continuation.

GRK 101 Elementary Greek (3) Grammar and vocabulary, with reading of simple Greek. HSL

GRK 102 Elementary Greek (3) Continuation of 101. Pre: 101. HSL

GRK 201 Intermediate Greek (3) Development of reading and translation skills. Emphasis on prose. Pre: 102 or equivalent. HSL

GRK 202 Intermediate Greek (3) Continuation of 201: emphasis on poetry. Pre: 201. HSL

GRK 303 Greek Historians (3) Selections from Herodotus, Xenophon, and others. Pre: 201 and 202, or consent. DL

GRK 304 Greek Epic (3) Selections from Homer, Hesiod, and others. Pre: 201 and 202, or consent. DL

GRK 325 Greek Philosophy (3) Selections from Plato, Aristotle, and others. Pre: 201 and 202, or consent. DL

GRK 332 Greek Drama (3) Selections from Aeschylus, Sophocles, and Euripides. Pre: 201 and 202, or consent. DL

GRK 333 Greek Lyric (3) Selections from Sappho, Alcaeus, and others. Pre: 201 and 202, or consent. DL

GRK 490 Seminar in Greek Studies (3) Study of an author or phase in Greek studies. Repeatable unlimited times with consent. Pre: any two 300-level GRK courses, or consent.

Hawaiian (HAW)

School of Hawaiian Knowledge

A grade of C or better in the prerequisite courses is required for continuation. Requirement is different for HAW majors, so please see Kawaihuelani’s Academic Program section for details.

HAW 100 Language in Hawai‘i: A Microcosm of Global Language Issues (3) Survival kit for life in Hawai‘i: Introduction to Hawaiian and language related issues enhancing communicative experience in Hawai‘i. Examination of social, cultural, political, and linguistic cross-cultural interaction locally and globally. Taught in English/Hawai‘i Creole English. FGB

HAW 101 Hawaiian Language A (4) Listening, speaking, reading, writing. Meets five hours weekly; daily lab work. HSL

HAW 102 Hawaiian Language B (Continuation of 101) Pre: 101 or exam or consent. HSL

HAW 105 Intensive Elementary Hawaiian (8) Content of 101 and 202 covered in one semester. Meets two hours daily, Monday–Friday, plus lab work. HSL

Key to symbols & abbreviations: see the first page of this section.
HAW 200 I Ka 'Olelo Nā Ke Ola (4) Accelerated lecture/lab to bridge fluent speakers mainly from Kula Kaiapuni into Kawihuelani's system of Hawaiian that reflects a Hawaiian worldview, including HAW 101-201 content, grammar, writing, and spelling conventions. Students matriculate into HAW 202. Pre: instructor consent required. (Spring only) HSL

HAW 201 Intermediate Hawaiian (4) Continuation of 102. Meets five hours weekly; reading of traditional texts; daily lab work. Pre: 102 or exam or consent. HSL

HAW 202 Intermediate Hawaiian (4) Continuation of 201. Pre: 201 or exam, or consent. HSL

HAW 206 Intensive Intermediate Hawaiian (8) Content of 201 and 202 covered in one semester. Meets two hours daily, plus lab work. Pre: 102 or 105, or exam or consent. 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

HAW 284 Papa Mele I (Mēle in the Hawaiian Language Classroom) (3) The incorporation of mele and the performance thereof for the enhancement of second language acquisition in Hawaiian. Pre: 102.

HAW 301 Third-Level Hawaiian (3) Continuation of 202. Conducted in Hawaiian. Advanced conversation and research. Pre: 202 or exam or consent. HSL

HAW 302 Third-Level Hawaiian (3) Continuation of 301. Pre: 301 or exam, or consent. DH

HAW 321 Hawaiian Conversation (3) Systematic practice on various topics for control of spoken Hawaiian. Repeatable up to six credit hours. Pre: 202 or consent.


HAW 332 Listening Comprehension and Transcription (3) Development of listening comprehension through transcription and discussion of tape recordings. Pre: 202.

HAW 345 Ulu ka Hōi (3) Lecture 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. DH

HAW 373 Ka Mo'omehу Hawai'i (3) A survey course on the study of traditional Hawaiian culture including origins, the socioeconomic system, land tenure, religion, values, and the arts. The course will be taught in Hawaiian. Pre: 302 (or concurrent) or consent. DH

HAW 383 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 stories on live radio. Repeatable one time. Pre: 302 or 384 (or concurrent with consent), or consent. DH

HAW 384 Ka Haku Mele (3) Composers and Their Compositions. Provides a venue which will allow students to analyze, dissect and discuss mele (song, poetry and chant). Students matriculate into 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. DH

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. HSL

HAW 402 Fourth-Level Hawaiian (3) Continuation of 401. Pre: 401 or exam, or consent. DH

HAW 425 Mo'olelo Hawai'i (3) Survey of the major works by Hawaiian scholars writing about the history and culture of Hawai'i including David Malo, Kamakau, Kelapino, and John Papa Fiti. Pre: 302. DH

HAW 426 Ka'ao Hawai'i (3) Survey of the core literature written by Hawaiian scholars, including both historical and mythological epics and tales. Pre: 302. DL

HAW 427 I Le'a ka Hula I ka Ho'opapa 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'ole Politiika 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'iike Honua (3) Study of Hawaiian land tenue practices through readings and discussions of audiotapes, written primary sources, maps, wind names, rain names, 'ōlelo no'eau (wise sayings), and mele (poetry). Readings are drawn from 19th and 20th century Hawaiian newspapers and other primary sources. Pre: 302 (or concurrent) or consent.

HAW 430 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'a Ke Hauhua (3) An experiential approach to Hawaiian law, 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 Na Politiika ma ka Nūhau 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) or consent. DH

HAW 454 History of the Hawaiian Language (3) Development from proto-Polynesian. Phonology, morphology, and grammar; history of research. Pre: 302 (or concurrent) and 452, or consent. DH

HAW 462 (Alpha) Ha'uki: Sports Education Through the Medium of Hawaiian (2) Provide Hawaiian language students with linguistic tools necessary to provide sports education in Hawaiian immersion schools and for basic intergenerational use of Hawaiian in the linguistic domain of sports. (B) basketball; (C) volleyball; (D) football; (E) baseball. Repeatable for other topics.

HAW 463 Language for the Classroom (3) Examination of language needs in various classroom settings and introduction to new vocabulary in school content areas. Pre: 302, 452, and consent.

HAW 465 Kuleana Kula Kaiapuni (3) Examination of the political struggles of the Kula Kaiapuni (Hawaiian Immersion Program) past and present. Special attention given to federal and state governments, Department of Education, and internal political struggles. Pre: 401 (or concurrent with consent).

HAW 470 Ho'omolaHALa'awina Kaiapuni (Hawaiian Immersion Program)--past and present. Special attention given to federal and state governments, Department of Education, and internal political struggles. Pre: 401 (or concurrent with consent).

HAW 481 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 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 Kahu Hanakeaka (Hawaiian Medium Stage Production) (3) From design to performance, students mount an original production based on traditional motifs. Repeatable one time. Pre: 402 (or concurrent), or consent.

HAW 488 'Olelo No'eau (3) Survey and analysis of traditional proverbs and their kaona or symbolic meanings. A-F only. Pre: 402 or consent. DH

HAW 490 Ka Makau-'Olelo A'o Kula Kaiapuni Hawai'i (1) Assess the linguistic competence of prospective Hawaiian language immersion teachers to assure that all teachers entering the state DOE Hawaiian Immersion Program meet the requirements of the program with respect to Hawaiian language proficiency. 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 Kākau Mo'olelo (3) Analyzes various genres of written Hawaiian literature. HAW majors only. Pre: graduate standing and 402, or consent.

HAW 602 Kākā'olelo Oratory (3) A survey of oral performance styles to build increased oral skills. Pre: graduate standing and 601, or consent.

HAW 604 Haku Palapala Noi Lāeo-'Writing a Hawaiian Master's Proposal (3) Seminar to select and develop students’ research topic, proposal, and organizational plan for Plan A or B completion. A-F only. Pre: 601 or consent. (Once a year)

HAW 605 Ka Hana No'i (Research Methods) (3) Research methodology course utilizing active research in the major repositories of Hawaiian language materials and Hawaiian-related knowledge. A-F only. Pre: graduate standing and acceptance in the Hawaiian MA program, or consent. HSL

HAW 612 Nā Mana'ole Politiika Hawai'i (Hawaiian Political Thought) (3) Study of Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: 402, 428, and POLS 303; or consent. (Cross-listed as POLS 612)

HAW 615 Kuana'ike (3) The examination of Hawaiian ways of speaking, 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 Mo'olelo Hawai'i (3) Intensive study, research, and analysis of Hawaiian history. Repeatable two times with consent of advisor. Pre: 402 or consent.

HAW 638 (Alpha) Nā Mea Kakau/Nā Haku Mo'olelo (3) Intensive study of an individual author, his/her works and nuances of his/her works. (E) J. H. Kanepu'u; (I) S. M. Kamakau. Pre: 601 or consent. (Once a year)

HAW 643 Ke A'o 'Olelo Hou 'Ana (Teaching Hawaiian As a Second Language) (3) Survey of existing texts and teaching resources; analysis of student clientele and needs; review of pedagogical approaches for heritage and non-heritage learners; syllabus and materials development; practicum. Pre: 401 and 442 or consent.

HAW 652 Plina 'Olelo (3) In-depth examination and research into the grammar of Hawaiian including discussion of theories of language and incorporation of meta-language. Pre: 452 or consent. (Once a year)
HAW 654 ‘Olelo Ni’ihau (3) Intensive, advanced study and analysis of traditional Hawaiian Ni’ihau dialect through face-to-face conversations with Ni’ihau native speakers, listening to audio recordings and watching video recordings of Ni’ihau native speakers. Pre: 402 (with a minimum grade of B-) or consent.

HAW 684 Nōi’i Mele (3) Intensive study focusing on original compositions of Hawaiian poetry and song. Pre: 402 and 484, or consent.

HAW 695 Papahana Lāeo’o (V) Research for Plan B project/non-thesis. May include but not limited to internships with cultural practitioners. 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 advisor.


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.

HWST 220 Introduction to Hawaiian Visual Culture Studio (3) Introduction to a variety of material (fiber, bone, wood, and stone) and skills in the media used in the Hawaiian culture. Research and explore basic techniques within the media with emphasis on cultivation, preparation, uses and conservation. Repeatable one time. A-F only. Pre: 107(C) or consent.

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 (3) Research and express personal relationship to specific Hawaiian paradigms through visual culture and language. Students will further their definitions, analysis skills, research, and understandings through painting and drawing media. Repeatable one time. A-F only. Pre: 107 or 107C, 222; or consent. (Once a year)

HWST 320 Advanced Art Media (3) Examine and explore advanced techniques within the media and the customary and contemporary uses of a variety of material and skills used in traditional Hawaiian everyday life. Repeatable six times. A-F only. Pre: 107C or 220, or consent.

HWST 322 Advanced Hawaiian Fiber Arts Studio- Hana No’eau Ma’awe (3) Examine the customary and contemporary use of fiber materials and the skills used in Hawaiian culture. Research and explore advanced techniques within the media used in tradition. Repeatable one time. Pre: 107 or 107C, 222; or consent. (Once a year)

HWST 324 Advanced Hawaiian Painting and Drawing Studio (3) Advanced research and expression of personal relationship to specific Hawaiian paradigms through visual culture and language. Students will further their definitions, analysis skills, research, and understandings through painting and drawing media. Repeatable one time. A-F only. Pre: 107 or 107C, 224; or consent. (Once a year)

HWST 325 Advanced Hawaiian Printmaking Studio (3) Advanced Native Hawaiian perspective in imagery in print and the material, technical, and conceptual aspects of hand printed imagery. Lecture-lab with studio work time. Repeatable one time. A-F only. Pre: 107 or 107C, 225; or consent. (Once a year)

HWST 340 Native Hawaiian Traditions in Literature (3) Discusses theoretical frameworks, main features, and cultural contexts of Hawaiian literature. Pre: 107, 270, and HAW 202; or consent.

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: HAW 202.

HWST 342 Chiefs of Post-Contact Hawai‘i (3) Survey of Hawaiian chiefs from 1778 to the present, including genealogies, and political 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, conservation, ultimate 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: 351.

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

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 accounts of mythical heroes, heiau, fishponds, wind, rain names, and their metaphorical value in Hawaiian culture. Pre: 107, 270, or GEOL 101; and HAW 202.

HWST 365 Pana Paemoku o Kalalau: 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 U.S., and the contemporary politics that surround the region today. A-F only. Pre: 107 or consent.

HWST 372 Oli Makawalu: Makawalu Methodology in Hawaiian Protocol Chants (3) Introduces the use of Makawalu Methodology to analyze kaona in Hawaiian protocol chant by looking at the oral production of such chants. A-F only. Pre: 270 (or concurrent) and HAW 201 (or concurrent), or consent.

HWST 385 L‘aua Lapa‘au II: Advanced Medicinal Herbs (3) (3 Lec, 1 Lab) Advanced study and preparation of Hawaiian medicinal herb combinations. Pre: 107 and 285; or consent.

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) analyzing some common myths 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 or 107C, one course in 220 level (222, 224, 225), one course in 320 level (322, 324, 325); or consent. (Once a year)

HWST 440 Māhele 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) Investigating “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 ‘Āina Mauliola: Hawaiian Ecosystems (3 Lec, 1 Lab) Advanced study and comprehensive analysis of institutions like Bishop Estate/Ceded Lands (1848 to Present) with emphasis on field trips. Pre: 342. (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 lectures. 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, 458 or BOT 458 (or co-requisite), 459 or BOT 459; or consent. (Spring only) (Cross-listed as BOT 460)

HWST 461 Indigenous Economies (3) Students will map out indigenous economies by articulating cultural similarity and diversity between academic experience and professional experiences. A-F only. Pre: 107 or consent.

HWST 467 Mālama ʻĀina Field Methods Course (6) Intensive field methods program to research Mālama ʻĀina strategies. Introduces students to a variety of field techniques in doing land research and integrating written and historical documents. Travel cost covered by student. Junior standing or higher. Pre: 307 and 457 or consent. (Summer only)

HWST 470 ʻIke Akua Papakī Makawai: Ancestral Understanding of Elements (3) Uses Dr. Paulani Kanaka‘ole Kana‘i‘o‘aha Makawai methodology to analyze akua as elements and as a paradigm for understanding ancestral knowledge. Senior standing or higher. Pre: 270, 372 (or concurrent), and HAW 301 (or concurrent).

HWST 478 Mele Au Hou: Music and Native Identity (3) Presents Hawaiian music as it has been an avenue for native social, cultural and political expression in traditional and contemporary society. A-F only. Pre: 107 or 343 or 390; or consent.


HWST 487 Hawaiian Aquatic Medicine (4) Identification, extraction and preparation of complexes of aquatic herbs to be used in 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: Hāi‘ole lo Ku‘e (3) Senior seminar in short, extemporaneous speeches in persuasive, passionate and dynamic styles of Native Hawaiian orators. A-F only. 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 concentration 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 Kānāwai: Western Law and Hawai‘i (3) The rise of Western law in Hawai‘i, its contribution to nation building and colonization. Pre: 342 or 343 or 390; or consent. DH

HWST 496 Kānāwai 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 sociopolitical factors that influence law and law enforcement. A-F only. Pre: 390 or consent.

HWST 499 Directed Reading/Research (V) Individual reading/research. Pre: 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 available in various archives in Honolulu. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 603 Review of Hawaiian Literature (3) Seminar in review of Hawaiian literature to understand the significance of secondary sources in Hawaiian subjects. This makes up 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. Courses will be team-taught by HWST faculty. Repeatable one time. A-F only.

HWST 620 ʻIke Pono-Visual/Cultural Interpretations (3) Graduate seminar and visual studio that examines (from a Kanaka Maoli viewpoint) colonial imaging; collecting and site of contestation; resistance and resistance; and re-righting. A-F only. Pre: 107C, and one course from 220-225, and one course from 320-325; or consent. (Fall only)

HWST 621 ʻIke 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 Moʻoʻolelo ʻŌiwi: 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). (Once a year)

HWST 670 Kumu Kahiki: Comparative Hawa‘iian and Tibetan Cosmogonies (3) Seminar comparing Gods/myths from Ancient Tahiti by Teurua 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 Kahiki: 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. A-F only. HWST majors only. Pre: 603 (or concurrent) or consent. (Once a year)

HWST 675 Huaka‘i Huli Heiitu Hawai‘i‘inui‘iakea: Study Abroad on Polynesian Temples (6) Comparative study of Hawaiian/Polynesian temple design taught over a 2-week period in Tanna, Vanuatu, and Polynesia. Travel costs to be paid by student. Pre: 670 (with a minimum grade of B) and HAW 302 (with a minimum grade of B) or consent. (Summer only)

HWST 690 Kûkulu 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 Kûkulu 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 696 Directed Reading 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 six credits; Repeatable unlimited times for (F). Pre: 700 for (F).

Health Sciences and Social Welfare (HSSW)

College of Health Sciences and Social Welfare

HSSW 477 Southeast Asian Cultures in Health/Social Welfare (3) The study of cultures and their implications in the health and social welfare context 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.

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. Pre 101 or consent. HSI

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. HSL

HNDI 202 Intermediate Hindi (4) Continuation of 201. Pre: 201 or consent. HSI

HNDI 301 Third-Level Hindi: Culture (3) Continuation of 202. Advanced listening, reading, writing, conversation skills, language structure, and culture integrated in a variety of communicative and creative activities based on selected cultural themes. Pre: 202 or consent.

HNDI 302 Third-Level Hindi: Film (3) Continuation of 202. Advanced listening, reading, writing, conversation skills, language structure, and culture integrated in a variety of communicative and creative activities based on selected Hindi-Urdu films. Pre: 202 or consent.

History (HIST)

College of Arts and Humanities

HIST 151 World History to 1500 (3) Historical narratives and global perspectives on human societies
and cross-cultural interactions from prehistory to 1500; includes ways to think about the past and ways to use primary sources. FGB

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 155 Issues in World History (3) In examining aspects of the histories of Africa, Asia, the Americas, Europe and Oceania, this course highlights the myriad ways in which global contact has transformed our world and narratives of the past. FGC

HIST 156 World History of Human Disease (3) Examines how disease has affected humans in terms of society, culture, politics, religion, and economics. Explores the impact of a broad range of time periods, from pre-history to the present/future. FGC

HIST 161A World Cultures in Perspective (3) Development of civilizations from prehistoric origins to 1500. Offered as discussion and/or problems course. Alternative for 151 and 152; students in Honors program only. 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; students in Honors program only. FGB

HIST 230 Early Civilization (3) Political evolution and major economic, social, and cultural development of European states before 1500, including classical and medieval era. A-F only. (Alt. years) DH

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. DH

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. Major civilizations of Asia from 1500 to the present; East Asia, Southeast Asia, South Asia. (Cross-listed as ASAN 242) DH

HIST 245 Atlantic History: Colonies to Revolutions (3) Comparative and historical survey of colonization and revolutions in the Atlantic World from 1500 to 1800. 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 chiefdoms to Hawaiian Kingdom to American territorial state. DH

HIST 288 Survey of Pacific Islands History (3) Survey of Pacific Islands from pre-colonial to modern times; early settlement, contact, colonization, contemporary problems. DH

HIST 290 History of the Philippines (3) Traces developments in Philippine history and society from precolonial 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

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

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 321 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 (urassenke): 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 Premodern Korea (3) Survey of political, economic, social, and cultural developments from earliest times to 1400. DH

HIST 328 History of Modern 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 C.E. Emphasis on historical and geographical 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 Reformation. (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. (Cross-listed as ECON 341) 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 151; or consent. (Alt. years) (Cross-listed as ECON 342) DH

HIST 343 Reacting to the Past (3) Exploration of moments of crisis and the clash of ideas in their historical context through the use of simulation games. Junior standing or higher. A-F only. 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 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

HIST 346 Modern France (3) Political, social, economic, and intellectual developments from Revolution 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 produced the British Empire and modern Britain. DH

HIST 349 British Empire (3) Origins and expansion of the British empire between the seventeenth and twentieth centuries. Includes imperial policies affecting Britain, Australia, India, Ireland, and Southern Africa. Open to nonmajors. DH

HIST 350 Iberia in Asia and the Pacific (3) Comparative exploration of the Iberian empires—Spain and Portugal—and their political, economic, and cultural interactions with the diverse 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/discussion exploring the history of France’s relationship with imperialism from the Renaissance to the present. Pre: upper division standing or consent. (Once a year) DH

HIST 354 Introduction to Islamic History (3) Muhammad, the Arab conquests, the Caliphate; fundamentals of Islam; classical Islamic civilization; development of Islam into modern times with emphasis on the Middle East. 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. Recommended: 354A. 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 non-majors. 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 125, LLEE 124, LLEE 227, LLEE 228, or any course in WS, GRK, or LATN; or departmental approval. (Once a year) DH
HIST 371 U.S. Foreign Relations to 1898 (3) Survey 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 wars 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: imperialism 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 history of the Caribbean region from 1500 to the present. A-F only. Pre: sophomore standing or higher, or consent. DH
HIST 391 History of Warfare to 1850 (3) Classical and guerrilla warfare, revolution, and military systems and institutions. DH
HIST 392 History of Warfare Since 1850 (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) Evolution of scientific thought and its cultural context. Antiquity to 1700. DH
HIST 395 History of Science since 1700 (3) Continuation 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. DH
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 monsoon. Topics include trade, travel, 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 attention 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. (Cross-listed as ASAN 406) DH
HIST 407 Modern Malaysia (3) History of Malay peninsula and northern Malayan 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 colonial period to present. Open to non-majors. DH
HIST 421 China in World History (3) Interpretive survey of Chinese ideas and values 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 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 development since institutional consolidation of Meiji state (1880). Pre: upper division standing or consent. DH
HIST 425 Women in East Asian History (3) Survey of the changing political, social, economic, and cultural positions of women in China, Japan, and Korea from ancient times to the present. Pre: one course in Japanese history or consent. DH
HIST 431 Ancient Near East: Pyramids and Writing Tablets (3) Civilizations of the Sumerians, Babylonians, Assyrians, ancient Egyptians, Hititites, 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–Israel Wars, revolutions in the Arab countries, the Turkish experiment with secularism, the Islamic revolution, Afghanistan, the Gulf War. Recommended: 354 or 355. DH
HIST 433 Medieval Cultures (3) Topical study of cultural and cross-cultural issues in the medieval period (c. 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. Re- peatable one time. DH
HIST 434 History of Christianity to 1500 (3) Historical analysis of the main traditions of Christi- 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 humanity and the natural world from early modern era to the 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 investigation of European beliefs in the superiority of primitive societies. Topics include how primordial ideas shaped historical views of Asians, Africans, Amer- indians, Arabs, and Africans, and their role in European and American colonial periods, the revolution, Japanese occupation, and post-war republic. (Cross-listed as AMST 345) DH
HIST 440 20th-Century Europe (3) Contempo- rary 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, establish- ment, 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 non-majors. DH
HIST 445 French Revolution and Napoleon (3) Causes, course, and conduct of the Revolutionary and Napoleonic periods, their impact upon Europe;
HIST 659 The Seas in Southeast Asian History
Seminar on the seas in Southeast Asian history.
(Alt. years)

HIST 660 Seminar: Vietnamese History
Reading and research seminar on Vietnamese history. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 661 (Alpha) Seminar in Chinese History
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
Readings on the current literature, and development of Islamic cultures and civilizations throughout the world down to modern times. Repeatable one time. Pre: graduate standing or consent. Recommended: 354.

HIST 663 Seminar in South Asian History
Graduate-level reading and research seminar on topics in Indian and South Asian history. Repeatable one time.

HIST 665 (Alpha) Seminar in Japanese History
Problems, principal sources of bibliographic information. (B) traditional period c.1600; (C) early modern 1600–1868; (D) 1868 to present; (E) 20th-century diplomatic. Repeatable one time per alpha.

HIST 667 (Alpha) Seminar in Korean History
Reading major interpretive works, and research in selected topics. (B) reading; (C) research. Repeatable one time per alpha. Pre: graduate standing or consent.

HIST 677 Seminar in History of Hawai‘i
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 678 Hawaiian Historical Research: Documents and Methods
Research and writings emphasizing the interpretation of Hawaiian and English language primary sources. Development of source materials, approaches, and methods in Hawaiian history. A-F only. Graduate standing only. Pre: HAW 301 with a B or better, or instructor consent.

HIST 699 Directed Research (V)
Individual research topics. (1) American; (2) Pacific; (3) Japanese; (4) European; (5) English; (6) Chinese; (7) Russian; (8) Hawaiian; (9) South Asian; (10) Southeast Asian; (11) Korean. Restricted to plan A (thesis) students. Maximum 2 credit hours. Repeatable one time. Pre: consent.

HIST 700 Thesis Research (V)
Repeatable unlimited times.

HIST 702 Institutional History of Korea
Major political, economic, and social institutions. Repeatable one time. Pre: graduate standing or consent. (Alt. years: spring)

HIST 713 Chinese Historical Literature

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 context. Enrollment limited to current Teaching Assistants in the World History Program. Repeatable seven times. A-F only. Pre: History graduate Teach- ing Assistants assigned to 151-152.

HIST 800 Dissertation Research (V)
Repeatable unlimited times. Pre: consent.
Courses 435

Honors degree. Repeatable one time for each major. A-F only. Pre: 495 or consent.

HON 499 Directed Reading/Research (V) Directed reading and/or research. Repeatable 3 times or up to 12 credits.

Selected Studies students also have the option of taking A-section courses from the following list when they are offered by departments:

- AMST 150A America and the World FGB
- AMST 202A Diversity in American Life DH
- AMST 220A Introduction to Indigenous Studies DH
- ANT 151A Emerging Humanity FGA
- ANT 152A Culture and Humanity FGB
- ART 101A Introduction to Visual Arts DA
- ARY 175A Survey of Global Art I FGA
- ART 176A Survey of Global Art II FGB
- ASAN 241A Civilizations of Asia DH
- ASAN 242A Civilizations of Asia DH
- ASAN 312A Contemporary Asian Civilizations DS
- ASTR 110A Survey of Astronomy DP
- ASTR 120A Astronomical Origins DP
- BOT 101A General Botany DB
- BOT 105A Ethnobotany FGC
- CHEM 181A Honors General Chemistry DP
- COMG 151A Personal and Public Speech DA
- COMG 251A Principles of Effective Public Speaking DA
- ECON 130A Principles of Microeconomics DS
- ECON 131A Principles of Macroeconomics DS
- ECON 300A Intermediate Economics: Microeconomics Analysis DS
- ECON 301A Intermediate Economics: Price Theory DS
- ECON 317A the Japanese Economy DS
- ECON 362A Trade Policy and Globalization DS
- ENG 100A Composition I FW
- ENG 270A Introduction to Literature: Literary History DL
- ENG 271A Introduction to Literature: Genre DL
- ENG 272A Introduction to Literature: Culture and Literature DL
- ENG 273A Introduction to Literature: Creative Writing and Literature DL
- GEOG 151A Geography and Contemporary Society FGC
- GG 101A Introduction to Geology DP
- HIST 107A Hawai’i: Center of the Pacific DH
- HIST 161A World Cultures in Perspective FGA
- HIST 162A World Cultures in Perspective FGB
- ICS 101A Tools for the Info Age
- ICS 111A Introduction to Computer Science
- ICS 211A Introduction to Computer Science II
- MATH 251A Accelerated Calculus I FS
- MATH 252A Accelerated Calculus II
- MATH 253A Accelerated Calculus III
- MICR 140A Microbiology Laboratory DY
- MUS 107A Music in World Cultures FGC
- PHIL 100A Introduction to Philosophy: Survey of Problems DH
- PHIL 101A Introduction to Philosophy: Morals and Society DH
- PHIL 102A Introduction to Philosophy: Asian Traditions DH
- PHIL 110A Introduction to Deductive Logic FS
- PHYS 170A General Physics I DP
- PHYS 272A General Physics II DP
- POLS 110A Introduction to Political Science DS
- POLS 335A Political Philosophy and Theory DS
- PSY 371A Abnormal Psychology DS
- REL 150A Introduction to the World’s Major Religions FGC
- REL 151A Religion and the Meaning of Existence DH
- REL 210A Understanding Christianity DH
- SOC 100A Introduction to Sociology DS
- SOCS 150A Street Science: Evaluating and Applying Evidence in Daily Life
- SOC 300A Principles of Sociology Inquiry DS
- SPAN 201A Intermediate Spanish HSL
- SPAN 202A Intermediate Spanish HSL
- TIM 102A Food and World Cultures FGB

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 455 The Staffing Process (3) Contemporary practices and trends in personnel planning for a competent work force; legal constraints, recruitment and selection, differential placement, training, career programming. Pre: 351.

HRM 463 Negotiation and Workplace Dispute Resolution (3) Theory and practice in negotiating; guidelines 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. Pre: 361 or consent. (Spring only)


HRM 467 Labor Management Relations (3) Review and analysis of basic factors that distinguish employment relationships; examination of the development of recent legislation and programs at federal, state, and municipal levels. Specific consideration is given to current problems on the mainland and Hawai’i. Pre: consent.

HRM 468 Training and Development (3) Analysis of the current concepts and practices in the design, delivery, and assessment of training. A-F only.

HRM 469 Seminar in HRM (3) In-depth analysis of selected current practices and trends in HRM.

HRM 671 Human Resource Management (3) Analysis and critical evaluation of basic issues, policies, and trends in personnel administration.

HRM 672 Training and Development (3) Covers issues in design, delivery, and assessment of training-theoretical background of training and development process, types of training process, cross cultural and other types of diversity training and development of training modules.

HRM 673 Advanced Organizational Behavior (3) Organizational development (OD) and major concepts in organizational behavior. MHRM majors only. A-F only. (Alt years: fall)

HRM 674 Finance for Human Resource Management (3) Intends to give HR professionals a basic overview of the vocabulary and concepts of financial decision-making. Topics include: understanding financial information, budgeting, the finance of retirement and employee benefit and business valuation. MHRM majors only. A-F only. (Alt years: spring)

HRM 675 Compensation (3) Survey of compensation methods and procedures including job evaluation, incentive systems, salary administration, fringe benefits, appropriate legislation, policies and strategy issues of compensation systems.

HRM 676 The Staffing Process (3) Recruiting and selection to optimize organizations including job design, job analysis, recruitment and selection methods, such as types of interviews and assessment centers, within legislative environment.

HRM 677 Negotiations and Labor Relations (3) Theory and practice of negotiation. Exploration of appropriate strategies, tactics, and communication techniques. Study of dyadic multi-party, cross-cultural, and assisted negotiations. MHRM majors only. A-F only. (Alt years: summer)

HRM 678 International Human Resources (3) Exploring global trends in human resources with focus on the Asia Pacific region.

HRM 679 Human Resource Management Topics (3) In-depth analysis of selected current practices and trends in human resources. Repeatable four times with change in topics. MHRM majors only. A-F only.

HRM 680 Human Resource Management Capstone (3) The final course in the MHRM curriculum. It provides students opportunity to integrate and apply previous course content to their professional organization offering a value-added opportunity to enhance organizational performance. MHRM majors only. A-F only. (Alt years: summer)

Ilokano (ILO)

College of Language, Linguistics and Literature

ILO 101 Beginning Ilokano (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets four hours weekly. HSL

Key to symbols & abbreviations: see the first page of this section.
IP 102 Beginning Ilokano (4) Continuation of 101. Pre: 101 or consent. HSL.

IP 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.

IP 201 Intermediate Ilokano (4) Continuation of 102. Meets four hours weekly; three of four hours devoted to drill and practice. Pre: 102 or consent. HSL.

IP 202 Intermediate Ilokano (4) Continuation of 201. Pre: 201 or consent. HSL.

IP 301 Third-Level Ilokano (3) Continuation of 302. Conversation, advanced reading, composition. Meets three times weekly. Pre: 202 or exam, or consent.

IP 302 Third-Level Ilokano (3) Continuation of 301. Pre: 301 or exam, or consent.

IP 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. Pre: 202 or consent.

IP 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. Pre: 301 or consent.


IP 402 Fourth-Level Ilokano (3) Continuation of 401. Pre: 401 or exam, or consent.

IP 424 Introduction to Ilokano for Interpreters (3) Techniques for interpreting Ilokano into English and vice versa. A-F only. Pre: 302 or consent.

IP 425 Ilokano Interpretation Field Practicum (3) Provide extensive practical training in consecu- tive, simultaneous, sight and telephonic interpreting. It requires observation and study of interpretation strategies and techniques in relevant situations. Pre: 301 or consent.

IP 451 Structure of Ilokano (3) Introduction to phonology, morphology, and syntax. Pre: 202 or consent. DH.

IP 486 Ilokano for the Mass Media (3) Ilokano as the medium for print journalism, for radio show programming, and for television production. Pre: 302 or consent. (Fall only)

Indo-Pacific Languages (IP)

College of Languages, Linguistics and Literature
In addition to the languages normally offered by the department, other languages commanded by individual faculty members may be offered if demands and staff permits, e.g., classical Arabic, Aisilu, Avestan, Balinese, Javanese, Malay-Dutch, Old Persian, and Sudanese. Interested students should consult the department chair. Language concentrations in certain other degree programs, e.g., through the Interdisciplinary Studies Program, may be arranged. Inquire at the department office.

IP 101 Directed Elementary Language Study (4) Directed study of a South Asian, Southeast Asian, or Pacific language not regularly listed by the department. Pre: consent.

IP 102 Directed Elementary Language Study (4) Continuation of 101.

IP 199 Introductory Language Study (V) Introductory study of a South Asian, Southeast Asian, or Pacific language. Contact hours and credits determined by student interests and faculty resources. Repeatable up to eight credit hours. Pre: consent.


IP 261 Topics in Indo-Pacific Literature/Culture (V) Study of a literature or culture of the Indo-Pacific area through readings in various fields in English. Repeatable up to 12 credit hours. Pre: consent.

IP 273 (Alpha) Introduction to Indo-Pacific Language and Culture (3) Introduction in English to language(s) and culture(s) of Indo-Pacific country or region. (B) Indian; (C) Southeast Asian; (D) Polynesian; (E) Philippines. Pre: 101 and 102 courses in relevant language or consent. DH.

IP 299 Intermediate Language Study (V) Intermediate study of a South Asian, Southeast Asian, or Pacific language. Contact hours and credits determined by student interests and faculty resources. Repeatable up to eight credit hours. Pre: at least six credit hours of elementary study in the same language.

IP 301 Directed Third-Level Language Study (3) Continuation of 202. Pre: consent.

IP 302 Directed Third-Level Language Study (3) Continuation of 301. Pre: 301 or exam, or consent.

IP 360 Filipino Food, Music, and Rituals: Art and Culture Studies (3) Study and analysis of the art and culture of Filipino food, music, and ritual—history, forms, social development, influences, and impact. Sophomore standing or consent. DS.

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

IP 362 Philippine Drama: History, Art, Culture (3) Historical survey from precolonial to contemporary periods. Studies forms, conventions, and literature within the social, political, and cultural context of the times as reflected in the history of Philippine drama. Explores plays in the diaspora. A-F only. Pre: ILO 101 or consent. (Fall only) DL.

IP 363 Philippine Contemporary Literature in English (3) Critical survey of 20th-century Philippine literature written in English; cultural values. Pre: one ENG DL course or consent. (Cross-listed as ENG 375) DL.

IP 364 Philippine Popular Culture (3) Appreciation, re-examination, and analysis of Philippine popular culture produced in the Philippines and in the diaspora; an examination of such forms using critical hermeneutic frameworks. A-F only. Pre: sophomore standing or consent. DH.

IP 365 South Asian Literature in Translation (3) Survey of traditional and modern literatures of South Asia; literature written originally in English. DL.

IP 366 South Asian Literature in Translation (3) Survey of traditional and modern literatures of South Asia; a vernacular literature to be determined by faculty resources and student interest. DL.

IP 368 Introduction to South/Southeast Asian Film, History, Theory and Appreciation (3) Study and analysis of South/Southeast Asian films—history, forms, development, themes, the filmmaker and the audience. An exploration of South/Southeast Asian cinema in a comparative context. Pre: ENG 270-272 or consent. DH.

IP 369E Study Abroad: Vietnam (3) Pre: one of ENG 270-272, or consent. DH.

IP 373 Vedic Hindu Mythology (3) Study of major Hindu myths of the Vedic Sanskrit literature written in the perspective of ancient Indian civilization. Literary sources will be tapped for understanding creation, cosmogony and celestial, atmospheric and terrestrial divinities. A-F only. Pre: ANTH 200, ASAN 202, HIST 151, LLEA 122, or PHIL 102 or consent. (Fall only) DL.

IP 374 Classical Hindu Mythology (3) Study of major myths of Epic Sanskrit literature, primarily with focus of the Ramayana and Mahabharata. Literary sources will be tapped for appreciating myths and epics, especially with reference to dharma, karma, ways of life. Pre: ANTH 200, ASAN 202, HIST 151, LLEA 122, or PHIL 102 or consent. (Spring only) DL.

IP 377 Critical Discourses in IPLL Studies: Philippines (3) Revaluation and analysis of critical discourses in Philippine languages and literatures and an examination of alternative perspectives to the prevailing studies on Philippine culture; an appreciation of emerging knowledge on the Philippines. Pre: sophomore standing or higher, or consent.

IP 389 Theories in Ilokano Studies (3) Examines the various theories employed in the study of Ilokano society, language, and culture from a variety of historical periods. A-F only. Junior standing or higher, or consent. (Alt. years: spring)

IP 395 Polynesian Folklore in Translation (3) Traditional Polynesian genres (legends, myths, folktales, fables, proverbs, songs, riddles, jokes) examined in translation and culturally and structurally interpreted. Pre: one of ENG 270-272. DL.

IP 396 Philippine Literature and Folklore in Translation (3) Philippine folk literature translated into English: epic, myths, legends, and other folklore. Classic works of vernacular writers. Pre: one ENG DL course or consent. (Cross-listed as ENG 376) DL.

IP 399 Third-Level Language Study (V) Third-level study of a South Asian, Southeast Asian, or Pacific language. Contact hours and credits determined by student interests and faculty resources. Repeatable up to six credits. Pre: at least 6 credits of intermediate study of the same language.

IP 401 Directed Fourth-Level Language Study (3) Continuation of 302. Pre: consent.

IP 402 Directed Fourth-Level Language Study (3) Continuation of 401.

IP 411 Ilokano Literature in Translation (3) Overview of Ilokano literature from the early writings to the major works of contemporary writers. A-F only. Pre: ILO 201 or consent. DL.

IP 427 (Alpha) Topics in Samoan Literature (3) (B) Writings of Albert Wendt; (C) Samoan women writers. Pre: SAM 227 or one of ENG 270-272; or consent for (B). Pre: SAM 227 or one of ENG 270-273 or WS 245; or consent for (C). DL.

IP 431 Rizal's Literary Works in Translation (3) Interpretation and analysis of Rizal's novels Noli and Fili as they relate to the social, political, and historical context of the Spanish regime in the Philippines. Pre: one DL course, or consent. DL.

IP 432 The Writings of Carlos Bulosan (3) Intensive study of the major works of Carlos Bulosan; his literary and cultural milieu with particular concentration on aesthetics and the issues of diaporic experiences (e.g., immigration, assimilation, nation, etc.) and transnationalism. Pre: 361 or 396 or 431 or any ENG DL. DL.

IP 465 (Alpha) Hawaiian and Indo-Pacific Teaching Practicum (3) An experienced-based introduction to various approaches in language teaching methodologies and techniques. Students’ skills in teaching the Hawaiian or an Indo-Pacific language are developed through supervised teaching, class planning and evaluation. (B) Southeast Asian languages. Repeatable one time. CR/NC only. Pre: 402-level of the language practicum or consent; (B) CAM 402 or IND 402 or THAI 402 (or concurrent) and the consent of instructor or equivalent language skills.

IP 470 Folklore (3) Theory and method of comparative and analytical folklore study, with special applications to Pacific traditions. Pre: ANTH 200.

IP 499 Directed Studies (V) Study of a Pacific, South Asian, or Southeast Asian language through vernacular readings in various academic fields. Repeatable. Pre: third-level language and consent.

IP 699 Directed Research (V) Repeatable unlimited times. Pre: consent.
Indonesian (IND)

College of Languages, Linguistics and Literature

IND 101 Elementary Indonesian (4) Emphasis on the development of communicative competence in both oral and written language. HSL

IND 102 Elementary Indonesian (4) Continuation of 101. Pre: 101. HSL

IND 103 Beginning Indonesian I (3) Introduction into the Malay-Indonesian language for the purpose of communication, travel, further study, and enjoyment. (Fall only) HSL

IND 104 Beginning Indonesian II (3) Introduction into the Malay-Indonesian language for the purpose of communication, travel, further study, and enjoyment. (Spring only) Pre: 103. HSL

IND 202 Intermediate Indonesian (4) Continuation of 201. Pre: 201. HSL

IND 203 Intermediate Indonesian I (3) Intermediate Indonesian language study for the purpose of communication, travel, further study, and enjoyment. Pre: 202 or equivalent. HSL

IND 204 Intermediate Indonesian II (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) HSL

IND 301 Third-Level Indonesian (3) Continuation of 202. Conducted in Indonesian. Meets three 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) Online course consists of modular, thematic, proficiency-based units exploring colloquial and formal Indonesian with a strong emphasis on listening and writing comprehension. Not open to students who have taken IND 301. Pre: 302, 304, or consent. (Spring only)

IND 307 Third Level Indonesian Conversation (2) Topic-based course aimed to enhance student’s listening and speaking skills in the Indonesian language. Not open to students who have taken IND 301. Pre: 202, 204, or consent. Co-require: 305. (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 IND 301. Pre: 301 or 307, or consent. Co-require: 306. (Spring only)

IND 401 Fourth-Level Indonesian (3) Continuation of 302. Conducted in Indonesian. Meets three hours a week. Readings in various materials; speaking and listening comprehension. Pre: 302, 306, or consent. (Fall only)

IND 404 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. Pre: 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. Pre: 302, 306, or consent. Co-require: 405. (Fall only)

IND 452 Structure of Indonesian (3) Introduction to grammar; some sociolinguistic background. Pre: 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. Pre: 202 and 452, or consent. DH

IND 461 Modern Indonesian Literature (3) Selected readings, 1900 to present. Discussion and composition. Pre: 402 or consent. DL

Information and Computer Sciences (ICS)

College of Natural Sciences

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; (T) 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. Pre: 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 sociopolitical dimensions of Information and Communication Technology (ICT), and the information professions. A-F only. Pre: 211. (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. Pre: grade of ‘B’ or higher in 111 or consent. 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. Pre: 211 or consent.

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. Pre: 211 (or concurrent), or consent.

ICS 241 Discrete Mathematics for Computer Science II (3) Program correctness, recurrence relations and their solutions, divide and conquer relations, relations and their properties, graph theory, trees and their applications, Boolean algebra, introduction to formal languages and automata theory. Pre: 141 or consent. 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 weeks 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 ordering, sorting, searching, and graph theory problems. Pre: 202 or consent. FS

ICS 321 Data Storage and Retrieval (3) Data storage devices, timing and capacity, programming for files, hashed and indexed files, introduction to relational database systems. Pre: 211 or consent.

ICS 331 Logic Design and Microprocessors (4) (1) 3-hr Lab Basic machine architecture, microprocessors, bus organization, circuit elements, logic circuit analyses, software design, and microcomputer system design. Pre: 212 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. Pre: 211.

ICS 351 Network Design and Management (3) Overview of the internet and its capabilities; introduction to HTTP, TCP/IP, ethernet, and wireless 802.11; routers, switches, and NAT; network and wireless security; practical experience in designing and implementing networks. Pre: 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. Pre: 241 and (212 or 215), or consent.

ICS 390 Computing Ethics for Lab Assistants (3) A lecture/discussion/interactivity on ethical issues and instructional techniques for students assisting a laboratory section of ICS 101. The class uses multiple significant writing and oral presentation activities to help students learn core content. Pre: 101(A) and consent.

ICS 414 Software Engineering II (3) Continuation of 314. Project management, quality, and productivity control, testing and validation, team management. Team-oriented software-implementation project. Pre: 314.

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. Pre: 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. Pre: two ICS 300-level courses with grade of B or better, 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 and data security. Pre: 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. Pre: 321 or consent.

ICS 423 Computer Security (3) Legal, ethical and technology issues in computer access, confidentiality, authentication, privacy and intellectual property. Pre: both 311 and 321, or consent.

ICS 424 Application Frameworks (3) Experience producing applications with at least two different applications frameworks. A-F only. Pre: 212, 311, and 313; or consent.

ICS 425 Computer Security and Ethics (3) Theoretical results, security policy, encryption, key management, digital signatures, certificates, password security, payment systems, computer crime, professional ethics. Effects of the computer revolution on society: A-F only. Pre: at least two ICS 300-level courses or consent. (Once a year)

ICS 426 Computer System Security (3) Information flow, confidentiality, information assurance, malicious programs, vulnerability analysis, network security, writing secure programs. A-F only; Pre: 351 or 451, or consent. (Once a year)


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: 212 or consent. (Once a year)


ICS 441 Theory of Computation (3) Grammars, sequential machines, equivalence, minimalization, analysis and synthesis, regular expressions, computability and unsolvability, Gödel's theorem, Turing machines. Pre: 311 or consent.

ICS 442 Analytical Models and Methods (3) Applications of mathematical methods in computer science with emphasis on discrete mathematics, numerical computation, 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, software design, paradigms of robotics software design, introduction to machine learning, introduction to computer vision, and robot-to-human interaction. A-F only. Pre: two ICS 300-level courses or consent. Recommended: 312 and 313. (Once a year; spring)

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 462 Artificial Intelligence for Games (3) Techniques to stimulate intelligence in video games: movement, pathfinding with A*, search, decision/behavior trees, state machines, machine learning, tactics. Extend games with your own AI implementations; experience “shoehorning” and “hacks” for the base AI algorithm/implementation. Pre: 212 and (314 or 361) and (PHYS 151 or PHYS 170). (Alt. years)

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: two ICS 300-level courses or consent.

ICS 465 Introduction to Hypermedia (3) Basic issues of interactive access to information in various formats on computer. Accessible 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 intelligent mobile devices, such as cell phones and PDAs. A-F or Audit. Pre: 314 or consent. (Spring only)

ICS 469 Cognitive Science (3) Introduces basic concepts, central problems, and methods from cognitive science. Identifies contributions from disciplines such as cognitive psychology, linguistics, computer science, linguistic intelligence, philosophy, and neurosciences. Pre: two ICS 300-level courses or consent.

ICS 471 Probability, Statistics, and Queuing (3) A hands-on introduction to probability, statistical inference, regression, Markov chains, queueing theory. Use of an interactive statistical graphics environment such as R. Pre: 241 and 311, or consent.

ICS 475 Introduction to Bioinformatics Sequences and Genomes Analysis (3) Introduction to bioinformatics to computer sciences students by focusing on how computer sciences techniques can be used for the storage, analysis, prediction and simulation of biological sequences (DNA, RNA and proteins). A-F only. Pre: one ICS 300-level course 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 data visualization applications. Pre: 475 or consent. (Once a year)

ICS 481 Introduction to Computer Graphics (3) Fundamentals of computer graphics including hardware, representation, manipulation, and display of two- and threedimensional 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 applications. 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. Pre: at least two 300-level ICS classes or consent.

ICS 499 Computer Project (V) Individual or small-group projects in system design or application under faculty supervision. Pre: consent.

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

ICS 606 Intelligent Autonomous Agents (3) Theory, methods and practical applications of autonomous agent systems, including common applications of both software and hardware (robotic) agents. In-depth practical experience with autonomous agents through programming assignments and projects. Pre: 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.

ICS 612 Theory of Operating Systems (3) Advanced study in operating systems theory and design with emphasis on case studies and distributed systems.

ICS 613 Advanced Software Engineering (3) Fundamental software engineering procedures, including planning, estimation, design, testing, process definition and improvement, and software quality assurance. Measurement techniques are used to support empirically-driven software process improvement throughout the course. Pre: 414 or consent.

ICS 614 Medical Informatics 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 communication 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, searching); gain 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 algorithms: modeling, 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: 511 or consent.

ICS 624 Advanced Data Management (3) Exploration of information retrieval and object-relational tools and methods for the management of distributed multimedia database systems. Pre: 321 or 421 or LIS 670, or consent.

ICS 632 Principles of High Performance Computing (3) Principles of high performance computing for single-processor and parallel architectures. Detailed coverage of parallel architectures and exposure to shared-memory, distributed-memory, and hybrid parallelism. Hands-on experience with message-passing and multi-threaded programming. A-F only. Pre: graduate standing in computer science or closely related field, or consent. (Once a year)

ICS 635 Machine Learning (3) Introduction to key theoretical concepts of machine learning. Practical experience with algorithms from 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 information systems. Emphasizes concepts and methodologies from human factors, psychology, and software engineering relating to human performance.
Pre: 464 or consent.
ICS 665 User Interfaces and Hypermedia (3) Advanced topics in the 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 669 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 at 667 or LIS 677; or consent.
ICS 696 Social Computing (3) Participative analysis of online communities and user-generated content collections. Theoretical and practical aspects of online interaction, identity, trust, and virtual social capital. A-F only. (Once a year)
ICS 674 Evolutionary Computation I: Survey of Methods (3) Evolutionary computation surveys in the field to prepare students for research. Topics include diverse engineering applications, theory, and concepts including search spaces, representation, objective functions, variation operators, selection, and population based search. Pre: 211 (B or better) and 241 (C or better) and admitted to a graduate program or capable of graduate level work in computer sciences or, consent. (One 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 on the basis of a readable, comprehensive 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 Biotechnology. Collaborative open-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 imitation transmission. Pre: graduate standing or consent. (Alt. years)
ICS 690 Seminar in ICS (1) Series of talks on advanced research topics. Repeatable unlimited times. CR/NC only.
ICS 691 Topics in Software (3) Reflects special interests of faculty in theoretical computer science. Repeatable in different topics. Pre: consent.
ICS 699 Directed Research/Research (V) Repeatable unlimited times. Pre: graduate standing and consent.
ICS 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable eight times. Pre: candidacy for PhD in computer science.

Information Technology Management (ITM)
Shidler College of Business

ITM 115 Using Computers and Applications (3) Using Windows computers, browsers, Microsoft Office (or equivalent) and other applications. A-F only.

ITM 321 Project Management (3) Project management application and techniques such as planning methods;PERT/CPM forecasting; risk analysis; application in information technology projects and other areas. Pre: BUS 310 and 311.

ITM 322 Supply Chain Processes (3) Improving organization productivity with an emphasis on analyzing supply chain processes and principles in terms of scheduling, inventory, quality control techniques, through most current practices. Pre: BUS 310 and 311.

ITM 352 Programming Application Systems (3) Introduction to applications programming. Fundamentals, essential logic, file handling, report writing. Emphasis on systems 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 352 and BUS 311.

ITM 354 Database Systems (3) Introduction to database management and data structures, including database planning and design, normalization, relational and network data models, and physical organization and implementation. Pre: 353.

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 for MIS majors. 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) systems economics; (C) advanced topics in programming; (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 member(s).


ITM 433 Advanced Security (3) Designed around the plan-protect-respond cycle. Security threats, cryptographic security, access control, identity management, firewalls, intrusion detection systems, host hardening, and application security. 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 on contextual knowledge, methodologies from 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, case 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 retaken for credit. Repeatable three times. A-F only. Pre: CIS 703 (or concurrent) or consent.

ITM 706 International IT Organizational Research Methods (3) Overview and 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. A-F only. Co-requisite: 317.

ITE 313 Principles and Methods of Reading Instruction (V) First of two methods courses focusing on theories and research-based practices related to reading instruction in elementary classrooms. Emphasis on writing instruction. A-F only.

ITE 314 Principles and Methods of Writing Instruction (V) Second of two methods courses
focusing on theories and research-based practices related to writing instruction in elementary classrooms. Emphasis on writing instruction. A-F only.

ITE 315 Field Training – Blended ECE (4) Students spend 15 hours per week in settings appropriate to concurrently enrolled classes; supervision provided by participating teacher and college supervisor. Repeatable two times. A-F only. Pre: 415 and SPED 304 (with a minimum grade of B-), or consent. Cross-listed as SPED 315

ITE 316 Field Experience (2) Supervised field experience in schools. Minimum of 2 full days per week in classrooms, plus mandatory seminar scheduled by UH-MC field supervisor. Taken in conjunction with professional education courses. Repeatable three times. CR/NC only.

ITE 317 Children’s Literature (2) Acquaintance with wide range of children’s books; criteria for evaluation of literature; using literature in the classroom. DL

ITE 321 Social Studies and Science in Early Childhood Education (3) Assessment, instructional methods, and materials for teaching social studies and science to children in preschool through grade 3. Emphasis on developmentally appropriate practices and lesson planning for social studies and science. A-F only. Pre: 417, and 315 (or concurrent) or SPED 315 (or concurrent). (Alt. years: spring

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. 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 or up to 3 credits.

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. 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. 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.

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. 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. A-F only.

ITE 346 Methods of Instruction, Industrial/Agricultural Education (3) Techniques of individual and group instruction in laboratory and related classes, evaluation of various methods.

ITE 347 Management of Industrial/Agricultural Facilities (3) Organization of instruction; handling supplies; maintaining equipment and tools; purchasing materials; keeping records; 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, benchmarks, 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 (3) Contemporary, sensitive, 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; (S) dual preparation in elementary and special education. CR/NC only. Pre: completion of all other program requirements, passing Praxis II exam(s).

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; (S) dual preparation in elementary and special education. CR/NC only. Repeatable nine times; three times for (B), (C), and (S). CR/NC only.

ITE 392 (Alpha) Student Teaching Modified (6) Modified student teaching for individuals who have had prior teaching experience or had to re-potent 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 Individual Work (3) Individual work supervised by instructor. May consist of reading, research, observation/participation, teaching, and/or projects. Repeatable up to 12 credits. Pre: consent of instructor.

ITE 401 Engaging the Adolescent Learner (3) Examines how reading, writing, speaking, listening, viewing, technology, etc. are tools for learning content and engaging diverse adolescents across all disciplines. Includes a disciplinary literacies framework influencing curriculum planning, classroom culture, and assessment. A-F only.

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., dimensions of elementary and/or secondary schooling, 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, procedures, curricula, evaluation in secondary subject school 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 teaching experience in school. Student teachers will receive training and evaluation for oral communication, organization, and planning skills. Subject field: (B) business and marketing; (D) language arts; (F) industrial arts; (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.

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 416 Early Childhood: Foundations and Curriculum (3) Continuation of 415: focuses on the design, implementation, evaluation of meaningful, challenging integrated curriculum that promotes comprehensive development and learning outcomes for diverse young children (pk-3). Pre: 415 or consent. (Cross-listed as EDCS 416)


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.

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.

ITE 425 Family and Community Centered Services (3) Advanced principles and methods: clinical grounds. Pre: FAMR 331 or consent.

ITE 440 Courses

ITE 440 (Alpha) Teaching in the Subject Field (3) Purposes, procedures, curricula, evaluation in secondary subject school 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.

ITE 440 (Alpha) Teaching in the Subject Field (3) Purposes, procedures, curricula, evaluation in secondary subject school 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.

ITE 440 (Alpha) Teaching in the Subject Field (3) Purposes, procedures, curricula, evaluation in secondary subject school 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.
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. Pr: 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 Hawaii.

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 EDCC 440)


ITE 444 Education of Exceptional Children in Regular Classroom (3) Practices that facilitate teaching special needs students in regular classrooms. Techniques for meeting academic needs, managing behavior, motivating students, increasing peer interactions, communication between special and regular education. 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 concepts related to microcomputer use in education. Pre: ETED 442 or consent. (Cross-listed as EDCS 480)

ITE 499 Directed Activity (V) Individual work supervised by instructor. May consist of reading, research, teaching, and/or projects. Pr: consent of division director.

ITE 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. CR/NC only. Pr: master’s Plan B or C candidate and consent.

ITE 550 Newspaper in the Classroom (2) Examination of trends, issues, school practices, and program in multicultural education and its related area of study—bilingual-bicultural education. (Cross-listed as EDCC 440)

ITE 582 (Alpha) Practicum in Curriculum Development: Natural Science (2) For in-service teachers to upgrade subject matter and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pr: teaching experience.

ITE 583 (Alpha) Practicum in Curriculum Development: Natural Science (3) For in-service teachers to upgrade subject matter and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pr: teaching experience.


ITE 604 Field Experience and Seminar II (V) Team collaboration on responding to identified school need; supervised experience in mini-teaching. Repeatable up to 12 credits. A-F only. Pr: 601 and 602. Co-requisite: 603.

ITE 610 Pre-internship Practicum (V) Supervised experience in instructional planning and practice teaching. CR/NC only. Pr: 603 and 604. Co-requisite: 611.


ITE 612 Teaching Internship (V) Full-time supervised teaching experience. CR/NC only. Pr: 610 and 611. Co-requisite: 613.


ITE 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable 5 times. A-F only. Pr: written consent.

Insurance (INS)

Shilder College of Business

INS 300 Principles of Insurance (3) Risk management and insurance as applied to business and personal financial decision-making. Introduction to basic risk management concepts and techniques. Analyze various types of insurance: including life, property, casualty, liability, health, disability, and long-term care.

INS 411 Property and Casualty Insurance (3) Treatment of risk of financial loss of personal and business property and resulting loss of income occasioned by fire and allied perils. Forms of insurance used by individual business executives and firms including crime, transportation, liability, and worker compensation. Pr: 300.

INS 431 Life Insurance (3) Treatment of the risk of premature death through use of various life insurance policies. Policy forms, calculation of premiums, reserves, non-forfeiture values, underwriting, regulation of policy provisions, related coverage. Pr: 300.

Interdisciplinary Studies (IS)

Office of Undergraduate Education

IS 099 Mānoa International Exchange (V) Designed for students accepted for participation in an international exchange program while enrolled at UH Mānoa. Repeatable unlimited times, credit for 12 credits only. CR/NC only. Pr: admittance to an international exchange program.

IS 100 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 careers. Proposal writing, project implementation, and report preparation guidelines. Orientation to the Marine Option Program. (Cross-listed as BIOL 104)

IS 250 Personal Development for Effective Teams (3) Exploration and application of basic leadership theories and processes which foster personal and interpersonal development via cognitive experiential classroom methods and mentoring relationships with experienced peer leaders. (Cross-listed as ENGR 250)

IS 291 Community Service Practicum (V) Supervised fieldwork in community agency, arranged by student. Repeatable one time. Pr: written proposal approved by Honors director and appropriate faculty advisor.

IS 300 Field Study (V) Pre-arranged systematic field investigation of selected topics. Pr: written proposal approved by Honors director and appropriate faculty member. Repeatable up to 16 credits.

IS 311 Independent Study Tutorial (V) Independent study tutorial. A-F only.

IS 321 Native Americans and Native Hawaiians (3) Comparative-contrastive examination of similarities and differences between Native Americans and Native Hawaiians as the only indigenous peoples of the U.S. with special attention to 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. Pr: HIST 152 and an introductory course in cultural anthropology, political science or sociology; or consent. (Alt. years) DS

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

IS 330 Information Technology and Culture (3) Investigation of the impact of information technologies on contemporary culture from a variety of perspectives. A-F only. Pre: upper division or consent.

IS 331 Science and Culture (3) Cultural studies of science from historical, philosophical, sociological and literary perspectives. Examination of intersections of science, race, gender and environment. A-F only. Pre: upper division or consent.

IS 340 Human Values and the Environment (3) Examination of nature-culture dynamic over a range of contexts—literary ecology, systems ecology, political ecology, eco-feminism, environmental ethics—in order to articulate new possibilities for interdisciplinary understanding of the human place in nature. A-F only. Pr: any ENGL DL or PHIL GEOG course, or consent. (Once a year)

IS 347 Pidgin and Creole Languages (3) Nature, history, structure, and geographic distribution of pidgins and creoles. Pr: LING 102 or consent. (Once a year) (Cross-listed as LING 347)

IS 361 People, the Ocean and the Environment (3) People’s impact on quality of coastal and ocean environments, especially Hawaiian; scientific, legal, socioeconomic aspects. Ocean pollution, ocean technology. Pr: 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. Pr: participation in London Semester Program.

IS 399 Directed Reading and Research (V) Directed reading and research. Repeatable two times.

IS 400 Ocean Internships and Research (V) Students carry out marine-related internships, practica,
research projects or field experience on- or off-campus with faculty guidance. Repeatable one time. A-F only. Pre: 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)

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 letters, humanist, political philosopher, anthropologist and linguist, and founded the University of Berlin. Review of the two polymaths’ impact on modern science in the Americas, the Pacific and Asia. A-F only. Pre: upper-division or consent. DH

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 report, and documentary report are required. Pre: upper-division standing, courses in appropriate discipline, and consent.

IS 499 Directed Reading and Research (V) Directed reading and research. Repeatable one time.

IS 610 Field Study in Gerontology (V) Individually designed field experience for advanced certificate in gerontology. Courses may be 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 Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (3) Combined lecture-discussion on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

IS 651 Laboratory A in Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (2) Combined lecture-laboratory on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

IS 652 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. Continuation of 650 and 651L. 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. (Fall only)

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International Cultural Studies (CUL)

College of Social Sciences

CUL 609 Faculty Seminar Series (1) Seminar consists of a series of presentations by faculty on topics of interest during the current year. 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 their significance for identity formation, intercultural relations, and global flows of images, people and capital. Approaches to the study of media and popular culture are taken up in terms of their relevance for contemporary issues, especially in Hawai‘i and the Asia/Pacific U.S. region. Repeatable one time. A-F only. (Fall only)

CUL 750 International Cultural Studies: Research Project (3) Directed reading and research culminating in a project that engages issues in international cultural studies. Types of projects include scholarly essays, community-based projects, performances or exhibitions. Written statement of purpose and self-evaluation required. A-F only. Pre: 609 and 610.

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Italian (ITAL)

College of Languages, Linguistics and Literature

Students choosing Italian for the language requirement should realize it may not be offered if demand is limited.

ITAL 101 Elementary Italian (3) Conversation, grammar, and reading. HSL

ITAL 102 Elementary Italian (3) Conversation, grammar, and reading. Pre: consent. HSL

ITAL 110 Immersion Elementary-Italian (6) Combined content of 101 and 102 covered in one summer session. (Summer only) HSL

ITAL 160 Intensive Elementary Italian Abroad (V) Intensive course of formal instruction on the first-year level in Italian language and culture in Italy. HSL

ITAL 201 Intermediate Italian (3) Reading, conversation, composition. Pre: 102 or 110. HSL

ITAL 202 Intermediate Italian (3) Continuation of 201. Pre: 201. HSL

ITAL 258 Intermediate Italian Abroad (3) Intensive course of full-time formal instruction in Italy on the second-year level in Italian language and culture. Pre: 102 or 110 or 160. HSL

ITAL 259 Intermediate Italian Abroad (3) Continuation of 258. HSL

ITAL 311 Conversation (3) Systematic practice for control of spoken Italian. Further development of vocabulary for accurate, mature expression. Pre: 202 or consent

ITAL 358 Third-Level Italian Abroad (3) Intensive formal instruction at the third-year level in Italian language skills: reading, writing, grammar, or conversation in an Italian-speaking country. Pre: 202 or 259 or equivalent.

ITAL 359 Third-Level Italian Abroad (3) Continuation of 358.

ITAL 360 Intensive Third-Level Italian Abroad (V) Intensive formal instruction at the third-year level in Italian language skills: reading, writing, grammar, or conversation in an Italian-speaking country. Pre: 202 or equivalent.

ITAL 458 Fourth-Level Italian Abroad (3) Intensive course of full-time formal instruction in 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) Continuation of 458.

ITAL 460 Intensive Fourth-Level Italian Abroad (V) Intensive course of formal instruction on the fourth-year level in Italian language and culture in Italy. For semester programs only. Pre: 360 or equivalent.

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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, speaking, reading, writing, grammar. Meets one hour, four times a week, plus lab work. Pre: placement test or consent. HSL

JPN 102 Elementary Japanese (4) Continuation of 101 or 100. Pre: 100 or 101, or consent. HSL

JPN 105 Accelerated Elementary Japanese for Pre-Professionals (8) Content of 101 and 102 covered in one semester. Emphasis on practical Japanese used in professional contexts. Meets two hours, four times a week. Pre: consent. HSL

JPN 111 Elementary Japanese for Oral Communication I (3) The first of a series of courses focusing on speaking and listening skills necessary to performing in common situations in Hawai‘i and Japan. Pre: consent. HSL

JPN 112 Elementary Japanese for Oral Communication II (3) Continuation of 111. Pre: 100 or 111, or consent. HSL

JPN 201 Intermediate Japanese (4) Continuation of 101 and 102. Meets one hour, four times a week, plus lab work. Pre: 102, 105, or placement test; or consent. HSL

JPN 202 Intermediate Japanese (4) Continuation of 201. Pre: 201 or placement test; or consent. HSL

JPN 205 Accelerated Intermediate Japanese for Pre-Professionals (8) Content of 201 and 202 covered in one semester. Emphasis on practical Japanese used in professional contexts. Meets two hours, four times a week. Pre: 102, 105; or consent. HSL

JPN 211 Intermediate Japanese for Oral Communication I (3) Continuation of 111-112. Pre: 102 or 112; or consent. HSL

JPN 212 Intermediate Japanese for Oral Communication II (3) Continuation of 211. Pre: 201 or 211, or consent. HSL

JPN 217 Introduction to Japanese Reading and Writing with Basic Kanji (3) For students who have completed the oral communication courses up through JPN 212 and wish to continue on to JPN 301. Also appropriate for semi-bilingual students who lack literacy skills. Pre: 212 or consent.

JPN 258 Intermediate Japanese Abroad (4) Intensive course of formal instruction on the second-year level in Japanese language and culture in Japan. Pre: 102 or 105. HSL

JPN 259 Intermediate Japanese Abroad (4) Continuation of 258. Pre: 201 or 258, or consent. HSL

JPN 301 Third-Year Japanese (4) Transitional course employing four skills (listening, speaking, reading, writing) and grammar training to prepare students to address academic content in Japanese. Meets one hour, four times a week, plus lab work. Pre: 202, 205, 217, or placement test; or consent.

JPN 302 Third-Year Japanese (4) Continuation of 301. Pre: 301 or placement test, or consent.

JPN 305 Accelerated Third-Year Japanese (8) Content of 301 and 302 covered in one semester. Meets two hours, four times a week, plus lab work. Pre: 202, 205, 217, or consent.

JPN 307 Special Japanese Reading and Writing (3) For bilingual students whose aural and spoken skills in Japanese were acquired informally. Emphasis on reading and writing through 301 level. Pre: placement test.

JPN 308 Special Japanese Reading and Writing (3) Continuation of 307. Pre: 307 or placement test. HSL

JPN 311 Third-Year Japanese for Professional Communication I (3) Training in oral communication skills essential for operating in a Japanese-speaking professional environment or workplace. Pre: 202, 205, 212, or placement test; or consent. (Fall only)

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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); 635 for (S).

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

JPN 710 Alpha) Research Seminar in Japanese Literature (3) (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); and 635 for (S).

**Journalism (JOUR)**

**College of Social Sciences**

JOUR 150 The Media and Society (3) Communications media in theory and practice. Development, role, influence; rights, responsibilities, problems, issues, and trends. DS

JOUR 250 Media Writing (3) Fundamentals of writing for various news media and public relations; ethics. Sophomore standing only. A-F only. Pre: ENG 100, 100A, 190, or 200.

JOUR 300 Reporting (3) Theory and practice of information gathering using a variety of primary and secondary sources, finding information online, use of databases and interviews for writing news stories. Sophomore standing or higher. A-F only. Pre: 250 (with a minimum grade of B) or concurrent.

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. 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: 250 (with a minimum grade of B) or concurrent.

JOUR 320 Visual Journalism: Multimedia (3) Fundamentals of visual journalism; visual theory, principles, and tools to create multimedia journalism projects for online, emerging media, and print platforms. Sophomore standing or higher. A-F only. Pre: 250 (with a minimum grade of B) or concurrent.

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 330 Video Journalism (3) Fundamentals of video journalism using digital video cameras for writing, reporting, editing, and producing news stories.

Sophomore standing or higher. A-F only. Pre: 250 (with a minimum grade of B).

**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 processes. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 451) DS

JOUR 385 Practicum (1) Working on campus student newspaper or quasiprofessional publications under professional and faculty supervision. CR/NC only. Repeatable up to three credits. Pre: consent.

JOUR 390 (Alpha) Journalism/Communications Workshops (V) Short-term intensive workshops in journalism and mass communication skills and projects. (B) workshop in new media; (C) workshop in reporting; (D) workshop in editing; (E) workshop in broadcast journalism; (F) workshop in public relations. Repeatable in different alphabets up to 6 credits. JOUR or COM majors only. Pre: consent. (Cross-listed as COM 395)

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. Repeatable one time with instructor approval. Pre: 300 and 320 or 330 or consent, and JCS 101 or 110 or 111. (Fall only)

JOUR 402 Media and Community (6) Intellectual, historical, social and cultural context of contemporary journalism in our community with application through projects. Pre: 300 and 320 and 330 or consent, and JCS 101 or 110 or 111.

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. Focus on regular and visiting faculty. Repeatable on different topics to six credits. 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 COM or JOUR and junior standing or consent. (Cross-listed as 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: 250 (with a minimum grade of B) and 300, and either 320 or 330; or 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**

Students registering for 101-187, 323, 331-339, 371, 385, and 470 will be requested to complete a medical history form and a liability disclaimer form on the first day of instruction. All students taking 491-494 must be immunized for hepatitis B virus prior to admission in the class.

The minimum required grade for prerequisites for undergraduate-level courses is a grade of C or better, unless otherwise specified. The minimum required grade for prerequisites for graduate-level courses is a grade of B or better.

**KRS 101 Physical Fitness (1)** Conditioning exercises and activities to develop and maintain physical efficiency. 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.

**KRS 104 Swimming: Intermediate (1)** Perfecting and integrating basic stroke 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 turns, 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. Pre: 106.

**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)** Correct 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)** Long 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

Key to symbols & abbreviations: see the first page of this section.
Courses 445

KRS 124 Dances of Hawai‘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 Hawai‘i: 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 foxtrot, tango, 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 tango, cha-cha, 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: Beginner (1) Corrective work in three basic strokes and in net play; the lob, drop shot, overhead smash, and half-volley; applying spin in baseline shots; basic strategy in singles and doubles play. Repeatable unlimited times, but credit earned one time only. Pre: 130 or consent. DA

KRS 131 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: 130 or consent. DA

KRS 135 Volleyball: Beginner (1) Combined lecture-lab-physical activity with emphasis on beginner skills and knowledge relative to serving, passing, spiking, digging, blocking, and offensive and defensive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: 135 or consent. DA

KRS 136 Volleyball: Intermediate (1) Combined lecture-lab-physical activity with emphasis on improving skills and knowledge relative to serving, passing, spiking, digging, blocking, offensive and defensive strategy. Open to all students. Repeatable unlimited times, but credit earned one time only. Pre: 135 or consent. DA

KRS 151 Adaptable and Prescribed Exercises (1) Small group and individual guidance and instruction for students recommended by student health service. Repeatable unlimited times, but credit earned one time only. Pre: consent. DA

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. Pre: consent. DA

KRS 153 Olympic and Power Lifting (1) Exercise technique and prescription with an emphasis on anaerobic and aerobic techniques. Knowledge in advanced oxidation 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 tumble mat and trampoline; balancing stunts; techniques of spotting; safety procedures. Repeatable unlimited times, but credit earned one time only. DA

KRS 156 Heavy Apparatus (1) Single and combination stunts on side horse, horizontal bar, parallel bars, still rings; techniques of spotting; safety procedures. Repeatable unlimited times, but credit earned one time only.

KRS 160 Judo (1) Rules, etiquette, method of falling and breaking the fall, simple throws and their counters, simple holds and breaking of such holds, randori. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 161 Aikido (1) Rules, etiquette, basic rolls, simple holds and the breaking of such holds, specific physical conditioning exercises. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 163 Tai Chi Ch’uan (1) Classic forms of t’ai chi ch’uan. Repeatable unlimited times, but credit earned one time only.

KRS 164 Karate: Beginner (1) Rules, etiquette, basic stances, blocks, thrusts, kicks, ippon kumite, and selected kata. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 165 Karate: Intermediate (1) Emphasis on improving the basic techniques (stances, punches, kicks, forms, and sparring); introduction to combination techniques. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only. Pre: 164.

KRS 170 Yoga: Beginner (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 and offensive defense. Repeatable unlimited times, but credit earned one time only. Pre: 173 or consent.

KRS 177 Kensington Field Hockey (1) Field hockey fundamentals; the use of offensive and defensive strategies in games and tournaments. Repeatable unlimited times, but credit earned one time only. A-F only. Pre: consent.

KRS 180 Physical Fitness I: Aerobics (1) Emphasis on improving the fitness of the cardiovascular system through walking, jogging, and calisthenics. Repeatable unlimited times, but credit earned one time only. Pre: 180 or consent.

KRS 181 Physical Fitness II: Flexibility (1) Emphasis on improving muscular flexibility and strength through the use of stretching, calisthenics, and various forms of aerobic exercises. Repeatable unlimited times, but credit earned one time only. A-F only. Pre: consent.

KRS 182 Physical Fitness III: Strength Training (1) Emphasis on improving muscular strength through weight training. Repeatable unlimited times, but credit earned one time only. Pre: consent. A-F only. Pre: 182 or consent.

KRS 185 Floor Exercise Gymnastics (1) Corrective work in floor exercises through analysis of movements; focus on mastery of the strokes introduced in 130 and 131; advanced corrective work in floor exercises. Student to provide own gi.) Repeatable unlimited times, but credit earned one time only. Pre: 185 or consent.

KRS 186 Track and Field for Physical Education (1) Knowledge and rules of various track and field events. Overview 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. Pre: consent.

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 unlimited times, but credit earned one time only.

KRS 202 School Health Problems: Secondary (2) Responsibilities of secondary school teacher in recognizing and meeting pupils’ needs, emphasizing health instruction, health services, healthful school living, school health policies. Repeatable one time.

KRS 203 Foundations of Physical Education (3) Physical education as a professional field. Overview of history, philosophy, and current practices in physical education. Survey of psychological and sociological foundations of exercise and sport. KRS majors or approval. Repeatable one time. A-F only.

KRS 208 Recreation Services in Contemporary Society (3) Theories and philosophies in recreation: history; contemporary issues; roles in modern society; relationship to health, physical education, and exercise science.

KRS 210 Leisure Education and Life Skills Development (3) Using sport 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 224 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 values of outdoor recreation; characteristits and determinants of programs; planning, organization, leadership, and facilities for recreational uses of natural environments. Repeatable one time. Pre: 208 or consent.

KRS 241 Health Education Curriculum (2) Objectives of school health program, emphasizing scope and sequence of health instruction; critical examination of health curriculum guides from various states. Repeatable one time. Pre: 201 or 202.

KRS 249 Programming and Leadership (3) Factors in planning and delivering 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.

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 with emphasis on measurement criteria and instruments, interpretation of data and content, organization and conduct of evaluation program. Repeatable one time. Pre: 201 or 202.

KRS 302 School’s Role in Community Health (2) Functional interrelationships between school and other community health organizations in solving school-community health problems. Repeatable one time. Pre: consent.

KRS 305 Principles of Sports Medicine (3) Examinations with some depth, principles of risk management and pathology of athletic injuries, major musculoskeletal structures, and concepts of evaluative skills, treatment, and rehabilitation for common athletic injuries. A-F only. Repeatable one time. DB

Key to symbols & abbreviations: see the first page of this section.
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 for specific activities as expressive or creative mediums. Involves the teaching of rhythm, 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 operation of agencies providing recreational services to the various publics. 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. Repeatable one time. 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; cardiopulmonary resuscitation (CPR), first aid, and first aid skills. 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 and elementary physical education. Students actively participate and learn about developmentally-appropriate content and pedagogy for children in grades P-5/6. Peer bit teaching is included. A-F only.

KRS 334 Movement Education II (4) (3 Lec, 1 1-hr. Lab) Content and pedagogy for teaching Pre/K-5 physical education. Students will learn to plan and teach physical education for children. Peer bit and field teaching included. Repeatable one time, but credit earned one time only. A-F only.

KRS 335 Coaching of Track and Field (2) Techniques and 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 problems. 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 KRS majors, but open to others with consent. Ki- nesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: PHYL 103 or 415/411L or consent. Pre: 354L. DB

KRS 354L Exercise and Sport Physiology Lab (2) Laboratory section to accompany KRS 354. Emphasis will be hands-on data collection and analysis of the physiological responses to exercise and physical training and lab procedures. Pre: consent. Co-requisite: 354L. DB

KRS 371 Teaching Techniques I: Elementary (3) Teaching techniques and methods of elementary physical education. Emphasis on rhythm, gymnastics, and dancing. A-F only. Pre: Consent. DB

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.

KRS 385 Physical Fitness for Physical Education Teachers (1) Diagnostic and precription for basic health and fitness of children and youth. Repeatable one time. Pre: consent. (Spring only)

KRS 388 Field Work in Strength and Conditioning (3) Emphasis on nutritional information, 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 seniors in major health education, physical education, athletic training, or recreation with a minimum 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 influences in health promotion and education. Repeatable one time. A-F only.

KRS 402 Practicum in Physical Education (3) Field experience in teaching physical education activities in schools, K-12; techniques in leadership; selection of activities and program evaluation for K-12 licensure. Repeatable two times. A-F only. Pre: admission to COE and consent.

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; leadership; selection of appropriate activities and program evaluation for teaching licensure. Repeatable one time, but credit earned one time only. A-F only. KRS majors only.

KRS 405 (Alpha) Teaching Residency (V) Full-time supervised experience in elementary and secondary school. School level courses may be earned. A-F only. Pre: 208 (with a minimum grade of B-) and 404 (with a minimum grade of B-); requirements for registration listed under "student teaching"; or consent. Pre: consent. DB

KRS 406 Seminar in Teaching Residency (3) Analysis and resolution of issues in teaching residency; teaching strategies and techniques; curriculum planning; professional growth and development. Repeatable one time. A-F only. Pre: 402 and 404, or consent.

KRS 407 Psychosocial Aspects of Sport (3) Examination and application of sociological and psychological theories to sport including the influence of race, ethnicity, gender, identity and human development, social class, disabilities, and sexual orientation on the sport experience. A-F only. Pre: consent. DB

KRS 415 Prevent/Care of Athletic Injuries (3) An examination of the most recent practices and procedures in the prevention and care of athletic and sports injuries. Observational field experiences in athletic training will be required. A-F only. Pre: PHYL 301 (or concurrent) or consent and PHYL 301L (or concurrent) or consent. DB

KRS 416 Fundamentals of Ergonomics (3) Introduction to ergonomics principles and their application in understanding and prevention of Muscular Skeletal Disorders encountered in the working environment including introduction to legal aspects of ergonomics. Pre: 463 or consent.

KRS 419 Administration in Athletic Training, Exercise Science, Allied Health (3) An examination of organization and administration in Athletic Training, Allied Health and Exercise Science. Content includes: leadership and management; decision-making; liability, ethical considerations and management strategies for all aspects of Health Care Administration. KRS majors only. A-F only.

KRS 420 Lower Extremity Assessment (3) An examination of the philosophy of injuries to the lower extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. KRS majors only. A-F only. Pre: 353, 415 or consent.

KRS 421 Upper Extremity Assessment (3) An examination of the philosophy of injuries to the upper extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. KRS majors only. A-F only. Pre: 353 and 415, or consent.

KRS 423 Curriculum and Supervision (3) Effective program development, planning, and supervision, including issues in legal liability and administration of all aspects of physical education programming in grades K-12. Repeatable one time. A-F only. Pre: 270 or consent. Majors only.


Key to symbols & abbreviations: see the first page of this section.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRS 429</td>
<td>Evaluating and Marketing Leisure Services</td>
<td>Basic methods in marketing, planning, evaluating programs and problem-solving methods, survey research, research design, data analysis, and report generation for park, recreation, and tourism systems. A-F only. Pre: 329 (or concurrent), or consent.</td>
</tr>
<tr>
<td>KRS 432</td>
<td>Emergency Care for the Professional Rescuer</td>
<td>Combined lecture-lab on advanced emergency care for injuries and illnesses and includes certifications for CPR/First Aid/AED. Class size of approximately 20 students. Open to all majors. Repeatable one time. A-F only. Pre: consent.</td>
</tr>
<tr>
<td>KRS 433</td>
<td>Coaching Athletics</td>
<td>Combined lecture-lab with emphasis on scientific principles, theory and practice, and professional qualities of the coach. A-F only. Pre: consent.</td>
</tr>
<tr>
<td>KRS 437</td>
<td>Camp Resources and Planning</td>
<td>(1 Lec, 1 3-hr Lab) Combined lecture-lab for camp counselors and camp leadership. Plan and evaluate camp experiences for children and youth, including those with disabilities. Includes field trips. Pre: 331 and 332, or consent.</td>
</tr>
<tr>
<td>KRS 438</td>
<td>Practicum in Camping</td>
<td>Supervised leadership at a camp setting with children and youth, including those with disabilities. Day or residential camps. One full week camping for each credit hour. Maximum of four credit hours. Pre: 437 (or concurrent) or consent.</td>
</tr>
<tr>
<td>KRS 443</td>
<td>Disability and Diversity in Physical Activity</td>
<td>(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 SPED 443)</td>
</tr>
<tr>
<td>KRS 447</td>
<td>Motor Development and Learning</td>
<td>(3 Lec, 1 1-hr Lab) Motor development through the lifespan with emphasis on fundamental principles and patterns. Factors affecting motor learning performance as a function of memory, practice, knowledge of performance, and motivation are incorporated. Required field experience. Repeatable one time. A-F only.</td>
</tr>
<tr>
<td>KRS 478</td>
<td>Adapted Physical Activity in Early Childhood</td>
<td>Concepts of developmentally appropriate curricular, instructional, and environmental changes in the development, and design of physical activity sessions and environments for young children with and without disabilities are covered. A-F only. Pre: consent.</td>
</tr>
<tr>
<td>KRS 480</td>
<td>Nutrition in Exercise and Sport</td>
<td>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. (Cross-listed as FSHN 480) DB</td>
</tr>
<tr>
<td>KRS 482</td>
<td>Commercial Recreation</td>
<td>Overview of leisure services and trends in commercial, private and employee recreation, and resort and recreational tourism. The social, economic, and environmental significance is examined. Pre: consent.</td>
</tr>
<tr>
<td>KRS 483</td>
<td>Recreation Planning and Maintenance</td>
<td>(3 Examination of social, economic, and environmental factors of recreation and tourism development. Emphasis on methods, processes, citizen participation, design issues/regulations, and land use. Repeatable one time. Pre: 238 and 329, or consent.</td>
</tr>
<tr>
<td>KRS 485</td>
<td>Healthy Sexuality Education</td>
<td>(3 Standards-based planning, teaching, and assessment for comprehensive sexuality education, K-12. Focus on research-based curriculum and strategies to promote personal and social responsibility for health. A-F only.</td>
</tr>
<tr>
<td>KRS 487</td>
<td>Exercise Assessment and Conditioning Lab</td>
<td>(4 Designed to provide knowledge of laboratory techniques and procedures for aerobic and anaerobic fitness assessment, interpretation of aerobic and anaerobic testing results, and individual exercise program/prescription. A-F only. Pre: 480 and EDEP 429, or consent. (Fall only)</td>
</tr>
<tr>
<td>KRS 488</td>
<td>Practicum in Health and Exercise Science</td>
<td>Application of various testing procedures on human subjects with different physical capacities. Repeatable one time. Pre: 152, 353, 354, and 463; or consent.</td>
</tr>
<tr>
<td>KRS 489</td>
<td>Program Design in Strength Training and Conditioning</td>
<td>(3 Designed to provide theoretical and practical experience in supervision of a strength training program includes program design, exercise techniques, organization, testing, evaluation, methods of strength development, facility design and special populations. Kinesiology &amp; Rehabilitation Internship, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 152, 153, 353, 354, 354L, and 463; or consent.</td>
</tr>
<tr>
<td>KRS 490</td>
<td>Introduction to Athletic Training Clinic</td>
<td>(3) Introduction to the Entry-Level Graduate Athletic Training Program and the Clinical Education Plan. Students will be required to document all requirements and demonstrate proficiency in basic clinical skills. Repeatable one time. A-F only. Pre: 332, 354, PHYH 302L, and 50 hours observation experience in an athletic training clinic. Co-requisite: 415. (Once a year)</td>
</tr>
<tr>
<td>KRS 491</td>
<td>AT Practicum I</td>
<td>(3) Introductory-level supervised experiences within the profession of athletic training. This practicum is required for the KRS entry-level Graduate Athletic Training Education Program. A-F only.</td>
</tr>
<tr>
<td>KRS 492</td>
<td>AT Practicum II</td>
<td>(3) Introductory-level supervised experiences within the profession of athletic training. This practicum is required for the KRS entry-level Graduate Athletic Training Education Program. A-F only.</td>
</tr>
<tr>
<td>KRS 493</td>
<td>Athletic Training Practicum III</td>
<td>(3) 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.</td>
</tr>
<tr>
<td>KRS 494</td>
<td>Athletic Training Practicum IV</td>
<td>(3) 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.</td>
</tr>
<tr>
<td>KRS 500</td>
<td>Master’s Plan B/C Studies</td>
<td>Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.</td>
</tr>
<tr>
<td>KRS 600</td>
<td>Counseling in the Schools</td>
<td>(3) History, philosophy, and organization of school counseling programs. Counselor role and functions, legal and ethical issues, contemporary issues, current methodology and resources. (Meets EdD common core elective.) Pre: consent.</td>
</tr>
<tr>
<td>KRS 603</td>
<td>Lower Extremity, Thorax, and Abdomen</td>
<td>(3) Human gross anatomy dissection of the lower extremity, thorax, and abdomen with emphasis on muscles, function, innervation, and vascular supply. Repeatable one time. Enrolled in DRB or KRS graduate programs (including Biomedical Sci-Anat/Repbol &amp; Phys majors) only or consent. A-F only. (Fall only) (Cross-listed as ANAT 603)</td>
</tr>
<tr>
<td>KRS 604</td>
<td>Upper Extremity, Head, Neck, and Spine</td>
<td>(3) Human gross anatomy dissection of the upper extremity, head, neck, and spine. Emphasis is placed on muscles, function, innervation, and vascular supply. Repeatable one time. Enrolled in DRB or KRS graduate programs (including Biomedical Sci-Anat/Repbol &amp; Phys majors) only or consent. A-F only. (Fall only) (Cross-listed as ANAT 604)</td>
</tr>
<tr>
<td>KRS 605</td>
<td>Human Growth and Development-Life Span</td>
<td>(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.</td>
</tr>
<tr>
<td>KRS 607</td>
<td>Scientific Principles of Physical Conditioning and athletic performance</td>
<td>Application of physiological principles to physical conditioning and athletic performance. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>KRS 608</td>
<td>Muscular Strength and Power Development</td>
<td>(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.</td>
</tr>
<tr>
<td>KRS 609</td>
<td>Athletic Training, Clinical Experience I</td>
<td>(3) Clinical Experience I (3) Sem, 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. Co-requisite: 615B.</td>
</tr>
<tr>
<td>KRS 610</td>
<td>Athletic Training, Clinical Experience II</td>
<td>(3) Clinical Experience II (3) Sem, 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 second semester post admission to the program. A-F only. Pre: 609 or consent. Co-requisite: 615U.</td>
</tr>
</tbody>
</table>
KRS 611 Athletic Training, Clinical Experience III (3) (1 Sem, 5 3-hr Practicum) Cultivating 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. Co-requisite: 615H.

KRS 612 Athletic Training, Clinical Experience IV (3) (1 Sem, 5 3-hr Practicum) Cultivating 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. Co-requisite: 615H.

KRS 613 Athletic Training Clinical Practicum (V) (1 Sem, 5 4-hr Practicum) Advanced clinical practicum in which the BOC certified/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, 3-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 the advancement of the discipline and the athletic training profession. Repeatable up to 12 credits. A-F only. Pre: consent.

KRS 615 (Alpha) Clinical Examination of Pathology (3) (2 Lec, 1 3-hr Lab) Examination, care and treatment of musculoskeletal, neurological, and neuromuscular conditions and pathology; (B) lower extremities; (H) head, neck and spine; (U) upper extremity. EL-GATEP majors only. Graduate students only. A-F only. Pre: consent for (B); 615B and 615L, or consent for (H);615B or consent for (U). Co-requisite: 490 and 609 for (B); 490 and 611 for (H); 490 and 610 for (U).

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, pharm, drug abuse, health issues) Pre: ANAT 604 or consent.

KRS 617 Therapeutic Interventions: Modalities (4) (3 Lec, 1 3-hr Lab) The physiology principles and operational 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 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 functional goals and functional 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 culminating experience preparing the student for the computer-based BOC Exam and for a career in athletic training. Follows the students’ didactic and clinical preparation in the 12 competency areas of athletic training. Repeatable 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, sport, 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 Activity (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and exceptionalities, and how these influence instruction, engagement, and behavior in physical activity settings across the lifespan. A-F only. Pre: consent. (Cross-listed as SPED 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. Bit teaching and field experiences are included. A-F only. Pre: 633. (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 Activity (3) Trends, research, and problems related to physical activity across the lifespan. A variety of topics and contexts will be addressed. Enrolled in KRS graduate program only. A-F only. Pre: consent.

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 652 (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 with each student. Pre: 663 and consent. 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 rehabilitation methods and sport science. Repeatable one time. Pre: consent.

KRS 665 Metabolic Analysis (3) Theory and practice of metabolic analysis of human performance examining each of the power systems used in energy production during exercise and how to use this information to prescribe exercise programs. Pre: consent.

KRS 666 Advanced Fitness Assessment and Exercise Prescription (3) Provides knowledge of field and laboratory techniques and procedures for aerobic and anaerobic fitness assessment, interpretation of testing results and individual exercise program/ prescription techniques. Repeatable one time. Pre: consent.

KRS 667 Body Composition and Weight Management (3) Analysis of the theory and practice used in the assessment of body composition and human physique. Includes strategies for determining body composition effects changes in body composition. Pre: consent.

KRS 670 Consultation: Theory and Practice (3) Consultation in educational, business, health, community, and human services agencies. Pre: consent.

KRS 673 Research Methods in KRS (3) The use of experimental designs/models in physical education research with emphasis on understanding the concepts, applications, and interpretations of statistical analysis. Pre: consent.

KRS 674 Assessment in Physical Activity (3) Overview of assessment purposes, types, practices and procedures used in physical education for those with disabilities. Frequently used 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 to teaching the motor domain with 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 679 Principals of Practice of Rehabilitation Counseling (3) Principles, practice 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 individuals 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 practice, e.g., recreational counseling, rehabilitation counseling, 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 Counseling (3) Theory, process, and techniques of professional evaluation and assessment. Assessment methods and processes as they relate to vocational choice and adjustment of special groups. Pre: 681 and consent.

KRS 687 Assistive Technology in Rehabilitation Counseling (3) Study of application of assistive technologies to enhance the lives of people with disabilities. Case studies provide the vehicle in guiding students toward integration of available information into reality of actual situations. Special emphasis on the importance of using a consumer-centered approach in providing assistive technology services. A-F only. Pre: 681 and consent.


KRS 695 Promoting Physical Activity (3) Overview of the theoretical and applied study of physical activity epidemiology. Physical activity content includes benefits, factors that influence, levels, valid instruments to assess, and programs to promote physical activity. (Fall only)

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 practical 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. Pre: 703 and consent.

KOR 111 Elementary Korean I (3) Will expose the 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 faculty mentors. CR/NC only. KRS majors only. Pre: consent.

KOR 112 Elementary Conversational Korean I (3) Designed to enable students to use language in South Korea to develop professional language skills and to deepen knowledge and understanding of contemporary Korean culture. Pre: 111 or consent. (Fall only)

KOR 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. Offered if staff available. CR/NC only. Repeatable three times. Pre: consent.

KOR 401 Fourth-Level Korean (3) Continuation of 400. Pre: 400 or consent. (Fall only)

KOR 402 Fourth-Level Korean (3) Continuation of 401. Pre: 401 or consent. (Spring only)

KOR 403 High-Advanced Korean I (3) Continuation of 402. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture, using authentic materials. Pre: 402 or consent. (Fall only)

KOR 404 High-Advanced Korean II (3) Continuation of 403. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture, using authentic materials. Pre: 402 or consent.

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: 402 or consent.

KOR 425 Selected Readings in Korean (3) Selected readings in various disciplines. Repeatable one time with consent. Pre: 402 or consent.

Key to symbols & abbreviations: see the first page of this section.
KOR 451 Structure of Korean (3) Introduction to phonology, morphology, and history. Pre: 302 or consent.

KOR 452 Structure of Korean (3) Introduction to syntax and semantics. Pre: 302 or consent.

KOR 470 Language and Culture of Korea (3) Relation of Korean language to literature, history, philosophy, social structure, values, and interpersonal relationships; social and regional varieties. Pre: 402 or consent. DH

KOR 480 Korean Oral Proficiency Through Film (3) Designed to increase proficiency level from advanced to superior 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) engineering; (F) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: 402 or diagnostic assessment procedures or consent.

KOR 486 (Alpha) Korean for Academic Purposes (V) Content taught in Korean by professional school faculty and flagship instructor in domain of (B) economics; (C) political science; (D) computer science; (E) engineering; (F) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: 402 or consent.

KOR 493 Introduction to Traditional Korean Literature (3) Critical readings from earliest times and presentations that emphasize genre, style, and context. Pre: 402 or consent. DL

KOR 494 Introduction to Modern Korean Literature (3) Critical readings of 20th-century materials and presentations that emphasize context and the development of style. Pre: 402 or consent. DL

KOR 495 Internship Program (V) Supervised internship with Korean professional hosts in Korea. Students will also attend an on-campus preparatory and follow-up language class. A-F only. Pre: 486, diagnostic assessment procedures, or consent.

KOR 496 Korean Abroad (V) Supervised internship with Korean professional hosts in Korea. Students also undergo a one-week training module designed to prepare them to maximize the benefits of the overseas internship. Repeatable up to 3 times. CR/NC only. Pre: 495, diagnostic assessment procedures or consent.

KOR 499 Directed Fourth-Level Reading (V) For those who have junior standing or higher or consent. Pre: 122 or consent. 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 lyric and didactic verse (e.g., hyangga, changga, basahi, sijo, kase, free form); (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).

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) Combined lecture-discussion on preparing students to be able to conduct interdisciplinary research in Korean. Require advanced-level Korean proficiency. Pre: diagnostic assessment (equivalent to ILR Level 2) or consent. (Once a year)

KOR 624 (Alpha) Analysis of Korean Academic Discourse (3) Co-taught by Korean faculty of professional schools and Korean instruction in domain of (B) economics; (C) political science; (D) computer science; (E) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health; and (K) others. 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 633 Korean Syntax and Semantics (3) Review of theoretical problems in Korean syntax and semantics; different approaches; and contributions of Korean linguistic study to syntactic and semantic theory. Pre: 452 or consent.

KOR 634 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 learning, 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.

KOR 636 Korean Conversation Analysis (3) Theoretical framework of discourse analysis and review of Korean conversational discourse structures, such as turn-taking, sequence organization, and discourse markers; training for data collection, transcription, and data analysis. A-F only. Pre: 451 and 452, or consent. (Alt. years: fall)

KOR 640 Literary Translation of Korean (3) Translation of major works from Korean into English. Pre: 493 or 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 with emphasis on critical 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. (Cross-listed as ASAN 653)

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 socio-cultural issues in the evolving contexts of modern Korean intellectual history. Pre: 494 or consent. (Cross-listed as ASAN 664)

KOR 699 Directed Research (V) Repeatable unlimited times. 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. DL

LLEA 124 Greek and Latin Elements in Scientific Terminology (3) Important roots, prefixes, and suffixes for building a scientific vocabulary.

LLEA 151 World Myth to 1500 C.E. (3) Reading and analysis of myths and legends from around the globe, from before the dawn of writing to C.E. Students will learn to interpret traditional stories from several theoretical and cross-cultural perspectives. A-F only. FGA

LLEA 301 Biblical Hebrew I (3) Orthography and structure of Biblical Hebrew, history and development of Hebrew as the sacred language of Judaism, overview of religious and historical development of the Hebrew Bible. Pre: sophomore standing or consent. (Fall only) (Cross-listed as REL 301)

LLEA 302 Biblical Hebrew II (3) Reading of selected prose passages from the Hebrew Bible; analysis of literary forms, paying special attention to stories which have played an important role in the development of the Abrahamic religions. Minimum C grade required for prerequisites. Pre: 301/REL 301. (Spring only)

LLEA 305 Ancient Egyptian Hieroglyphics I (3) Decipherment of hieroglyphs and reading of Middle Egyptian literary texts. (Fall only)

LLEA 306 Ancient Egyptian Hieroglyphics II (3) Decipherment of hieroglyphs and reading of Middle Egyptian literary texts, including Tale of Sinuhe. Pre: 305 or permission of instructor. (Spring only)

LLEA 327 The Glory of Greece: Ancient Greek Literature in Translation (3) Major writers: emphasis on Homer, drama, and philosophy. Sophomore standing or higher or consent. Pre: 122 or consent.

LLEA 328 The Grandeur of Rome: Ancient Roman Literature in Translation (3) Major writers: emphasis on Vergil, satire, and novel. Sophomore standing or higher or consent. Pre: 122 or consent.

FRENCH

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. 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 Cinema (3) Introduction to German film history, form, style, theory, and analysis. Sophomore standing or higher. 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, Storm and Stress, and classical periods. DL
LLEA 342 German Fascism and Propaganda (3) Lectures and discussion. Study of German Fascism and propaganda in German literature, art, and film. Sophomore standing or higher. A-F only. DH
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, 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
GENERAL AND GRADUATE COURSES
LLEA 270 Freaks and Monsters (3) Monsters, freaks and otherwise in literature, film, history and medicine. Suitable for non-literature majors. DL
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 upheaval: (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/NG only. Pre: completion of course in which practicum will be done and consent of instructor, no waiver.
LLEA 416 German Literature, Culture and Film: 1989 to Present (3) Study of German literature, culture and film, 1989 to present. Credit cannot be earned for both 416 and GER 416. Sophomore standing or higher. DH
LLEA 470 Freaks and Monsters 2: The Ethics of Otherness (3) An interdisciplinary examination ofcorporeal Otherness. Unusual real and fictional bodies from fairground history, art, anatomy, literature, natural history and ethology. 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 alphas. 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 languages read works in their major in the original. Pre: graduate standing or 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 two times for different alphas (up to 9 credits). 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) Repeatable unlimited times. Pre: consent of department chair.
LLEA 700 Thesis Research (V) Repeatable unlimited times. Pre: consent of department chair.
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 150 Literature and Social Change (3) Study of works produced in Africa, the Americas, Asia, Europe, and Oceania from prehistory to the present, showing how the spoken and the written word reflect and effect social change. A-F only. 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: 451 (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. 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: 451 or 453. A-F only.
Latin (LATN)
College of Languages, Linguistics and Literature
A grade of C- or better in the prerequisite 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 translating skills. Emphasis on prose. Pre: 102 or equivalent. HSL
LATN 202 Intermediate Latin (3) Continuation of 201: emphasis on poetry. Pre: 201. HSL
LATN 303 Roman Historians (3) Selections from Caesar, Sallust, and others. Pre: 201 and 202, or consent. DL
LATN 304 Roman Epic (3) Selections from Virgil, Ovid, and others. Pre: 201 and 202, or consent. DL
LATN 325 Roman Philosophy (3) Selections from Lucretius, Cicero, and Seneca. Pre: 201 and 202, or consent. DL
LATN 332 Roman Drama (3) Selections from Plautus, Terence, and Seneca. Pre: 201 and 202, or consent. DL
LATN 333 Roman Lyric (3) Selections from Catullus, Horace, and others. Pre: 201 and 202, or consent. DL
LATN 338 Roman Novel (3) Selections from Petronius and Apuleius. Pre: 201 and 202, or consent. DL
LATN 345 Roman Satire (3) Selections from Horace and Juvenal. 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.

Key to symbols & abbreviations: see the first page of this section.
Latin American and Iberian Studies (LAIS)

College of Languages, Linguistics and Literature

LAIS 360 (Alpha) Studies in Culture (3) Politics of culture and the letter, the U.S. 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 DL

LAIS 362 Latin American Literature (3) Reading and discussion of classic works of Latin American literature. Pre: sophomore standing or consent. DL

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 368 Households in Cross-cultural Perspective (3) Study of cross-cultural patterns in household and community level organizations in Latin America and elsewhere. Topics may include gender relations, kinship structures, political economy, impacts of colonialism, modernization, and globalization on households. Students may use most often in their private practice. Pre: sophomore standing or higher. (Cross-listed as ANTH 368) DS

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) Mesamerican; (C) Andean Region. Repeatable one time for different alphas. Pre: sophomore standing or consent. (Cross-listed as ANTH 372 (Alpha)) DH

LAIS 380 Studies in Culture: Portugal and Brazil (3) Surveys the cultures of the Portuguese-speaking world from pre-Lusitanian times, including connections with Africa, and Hawai'i. Pre: sophomore standing or consent. (Cross-listed as HIST 478) DH

LAIS 478 New World Rituals and Ideologies (3) Study of cross-cultural patterns in ritual behaviors and cerimonialization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), Andean Christianity, spiritual conquest, conceptions of death, etc. Sophomore standing or higher. Minimum C required grade for prerequisites. Pre: 360, or consent. (Same course) (Cross-listed as ANTH 478 and REL 478) DH

LAIS 495 Topics in Latin American and Iberian Studies (3) Combined lecture-discussion on selected themes—political, social, cultural—in Latin or Iberian American topics. Topics pre-announced. Repeatable one time. Pre: 360 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.

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 performance 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: LAW 504.


LAW 508 Negotiation and Alternative Dispute Resolution (V) Lawyers negotiate settlements in almost all their cases. This class presents a “hands-on,” skill-building approach to the newest ideas, as well as centuries-old negotiation styles that the skillful lawyer might use most often in their private practice. Pre: sophomore standing or consent. The class also examines the rapidly developing field of alternative dispute resolution (ADR), including mediation, facilitation, arbitration, and court-annexed ADR. (CE 614)

LAW 509 Contracts I (V) Law of private agreements. Examines 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 in a market society 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—healing present-day wounds of historic injustice. Considers how to repair the continuing social damage of injustice. (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. 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 which may be of particular or expertise. (B) business law; (C) Constitutional law; (D) criminal law; (E) critical legal; (F) education law; (G) health law; (H) intellectual property law; (I) practice of law; (J) public interest law; (K) topic 10; (M) topic 11; (N) topic 12; (O) topic 13; (P) topic 14; (Q) topic 15. Repeatable 3 times.

LAW 521 Law, Aging and Medicine (V) Introduction 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 judgment-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 525 Legislation and Statutory Interpretation (V) The interrelationship between the legislative and judicial branches of government is explored through a review of Federal and Hawai‘i law-making processes, direct democracy, legislative drafting, and theories of the legislative process and statutory interpretation.

LAW 526 Group Directed Study (V) Designed for maximum flexibility, this course allows a professor to work with a small number of students on a reading/discussion project of mutual interest. Repeatable up to 15 credits. 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 by war, theories of the way to peace and conditions for lasting peace. (Once a year)

LAW 530 Second-Year Seminar (V) Seminar required for the spring semester of all second-year law students. Substantial paper required. Topics announced in previous fall semester. Placement by lottery.

LAW 531 Business Associations (V) After a brief survey of agency, partnerships, and other forms of business organization, the course will cover the fundamentals of corporations, and securities regulation, including disregarding the corporate entity, management and control of closely held corporations, merger, liability under the federal securities laws, takeovers, public registration, exemptions, and derivative suits.

LAW 532 Health Law (V) Introduction to medical jurisprudence, medical malpractice, informed consent, health care decisions, medical ethics, the health care industry, managed care, financing health care, and the role of government in health care.
LAW 533 Constitutional Law I (V) Introduction to judicial function in constitutional cases, jurisdiction of the U.S. Supreme Court, and discretionary barriers to judicial review.

LAW 534 Constitutional Law II (V) Advanced course in constitutional law with special emphasis on rules 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 intellec- tual effort, including patents, copyright, trademarks, and trade secrets. While the course attempts to provide a unified background in theory and policy for all fields of intellectual property, it emphasizes areas of importance to the general practitioner. Accordingly, principles 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.

LAW 536 Current Civil Rights Issues (V) Uses the current U.S. Supreme Court docket to engage in an in-depth study of vital 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 analyzes whether 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 legal consequences of transactions or to relationships with elements in more than one state.

LAW 539 Remedies (V) Examines both practice and theoretical underpinnings of equitable remedies. Frequently, compensatory damages cannot adequately protect clients or provide them with the relief they need. This course covers temporary restraining orders, preliminary and permanent injunctions, restitution 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. Repeatable unlimited times.

LAW 540 Contract Drafting (V) Hands-on workshop class in drafting contracts, agreement, and similar documents for commercial/business purposes. LAW 500 or concurrent.

LAW 541 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 criti- cism 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 separation of powers; and (2) in-depth analysis of procedural aspects of complex cases with special focus on new procedural rules aimed at reduc- ing waste and delay.

LAW 543 Evidence (V) “Objection, your Honor!” This course examines the rules of evidence that govern trial in both civil and criminal cases and will focus on such topics as hearsay, witness examination, impeachment, physical and demonstrative evidence, expert testimony, writings, relevance, judicial notice, and presumption.

LAW 544 Race, Culture, and Law (V) U.S. cases and legal theory emphasizing law in the social con- struction 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 trans- fer of rights in information and other intangibles are examined together with end user license agreements and the structure and negotiation of upstream licens- ing mechanisms. Repeatable up to three credits. Pre: 535 or departmental approval. (Once a year)

LAW 546 (Alpha) Intercession J Term (V) January term provides students the opportunity to explore contemporary legal topics with national and interna- tional experts. (B) alternative dispute resolution; (C) rule of law; (D) law practice; (E) diversity; (F) access to justice; (G) public law; (H) legal theory; (I) legal practice; (J) rights. Repeatable five times. (Once a year)

LAW 547 Gender and Law (V) Examines the ways in which international law and domestic legal systems address the rights of women, gender roles, and gender identity. Uses comparative approach with an emphasis on case studies from the Asia-Pacific region. (Cross-listed as WS 545)


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 Philippines shipping. Pre: 533 or concurrent.

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 of wills; the creation, enforcement, adminis- tration, 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.

LAW 555 (Alpha) Externship (V) Legal work for judges and attorney supervisers in public agencies, private law firms, and the legislature. (H) Hawai’i; (P) Pacific. Repeatable three times for (H). 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), note and 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 un- derstanding of the basic financial concepts and tools for lawyers with transactional practices, preferred stock, common stock and convertible securities. Pre: 531 (or concurrent) or consent.

LAW 559 Labor Law I (V) Regulation of union-man-agement relations under state and federal laws.

LAW 560 High Growth Entrepreneurship (V) An interdisciplinary (JD-MBA) course examining legal, business, and technology issues related to building high growth companies. Student teams develop company feasibility reports and skills necessary to advise high growth companies. Pre: 500 and 510.

LAW 561 Administrative Law (V) Procedure and remedies for resolving controversies between citizens and government officials exercising administrative power.

LAW 562 Debtors’ and Creditors’ Rights (V) Bankruptcy law and rules, laws of liens, receiver- ships. 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 pre-trial motions. CR/NC only.

LAW 565 Securities Regulation (V) An introduc- tion 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 law- yers. Students are expected to develop proficiency in the use of the Internal Revenue Code and Treasury Regulations.


LAW 569 Sales (V) In-depth study of Uniform Com- mercial 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, appeals, jurisdiction of the Supreme Court, federal-question 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 recognition of hu- man 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: adminis- trative organization; regulatory powers; police power; local governmental taxation; relationship between local, state, and federal government.

LAW 576 Directed Study and Research (V) Individual research and writing under the direction of faculty.

LAW 580 Land Use Management and Control (V) Survey course of public land use management.

LAW 583 Real Estate Development and Financ- ing (V) Federal and state laws in the practice of real estate development and financing law. Condomini- um, securities, subdivision, consumer protection, and mortgage areas.

LAW 584 Civil Rights (V) Focuses on the civil rights of Americans and introduces alternative rem- edies and procedures for securing these rights.

LAW 589 Labor and Employment Law (V) Em- ployment law, statutory rights affecting the employ- ment relationship, and alternative contractual 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.

LWEV 500 (Alpha) Workshops and Clinics (V) prosecution clinic; (C) defense clinic; (D) elder law clinic; (E) environmental law clinic; (G) estate planning workshop; (I) native Hawaiian rights clinic; (J) family law and domestic violence law; (K) general business clinic; (M) mediation clinic; (N) lawyering skills workshop; (P) mediation workshop; (Q) immigration clinic; (R) child welfare clinic; (S) Hawai’i Innocence Project; (T) Hawaii Institute for Human Rights; (U) Legislation and statutory interpretation; (W) advanced elder law clinic (3). Repeatable one time for (K), (I), and (J); repeatable two times for (W). LWEV majors only for (R), (S), (T), (U), and (W). CR/NC and letter grade for (I); CR/NC only for (N), (P), (Q), and (W). Pre: 543 for (B) and (C); 521 or consent for (D); 529 or 561 or LWEV 582 for (E); 552 and 567, or consent for (G); 568 or consent for (J); 548 for (Q); 590D for (W). Once a year for (K) (Alt. years for (U))

LAW 591 Government Contracts Law (V) A primer on statutory, regulatory, and decisional laws that shape the government procurement process; covers contract relationships between private party contractors and local and state governments; examines the federal acquisition process, bids and proposals, and contract award controversies before judicial and administrative tribunals; reviews socio-economic contracting provisions and programs and Qui Tam litigation. Repeatable one time. (Fall only)

LAW 595 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 under 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. Pre: consent for (F)

Law-Environmental Law (LWEV)

School of Law

LWEV 503 Wildlife and Natural Resources Law (V) Seminar covering federal and Hawai’i 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 arise under the national, 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; (F) judicial. Repeatable six times.

LWEV 528 International Environmental Law (V) Study of the international regulation of activities and processes used to prevent environmental degradation and to preserve resources of environmental value. Pre: LWEV 512 (concurrent).

LWEV 529 Environmental Litigation Seminar (Q) 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, national, international levels. (Once a year)

LWEV 540 Hazardous Waste Law (V) Examination of major federal statutes, regulatory and case law, and Hawai'i counterparts. Policies behind hazardous waste laws and their impact on individuals, community, and social and ethical issues.

LWEV 582 Environmental Law (V) Basic policy questions and problems concerning environment. Examination of federal and Hawaiian 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 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.

Law-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; (E) environmental law; (H) Native American; (J) Jessup international; (K) international environmental law; (O) other. Repeatable one time. 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.

Law-Legal Writing (LWLW)

School of Law

LWLW 530 Law Thesis (V) Intensive writing that satisfies the law school’s upper division writing requirement and results in advanced law paper of publishable quality, extending over two consecutive semesters of study. Repeatable up to 4 credits. LAW majors only. A-F only.

LWLW 537 Law Teaching Seminar I (V) Interdisciplinary seminar used LP I 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 II assignments and additional readings to discover and deliver the theoretical and practical underpinnings of appellate advocacy and negotiation the methodologies used to teach them. Instructor approval required. Repeatable one time. (Spring only)

LWLW 539 Legal Composition Seminar I (V) Study of principles and practices of teaching legal discourse one-to-one and in small group. Emphasis on 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 methodology to make the legal writing process efficient and the product effective. Instructor approval required. Repeatable one time. (Spring only)

Law-LLLM Master of Law (LWLM)

School of Law

LWLW 570 Introduction to American Law (V) General introduction to the principles and distinctive aspects of the American legal system and its institutions. Pre: LL.M. students only.

LWLW 580 U.S. Legal Research and Writing (V) Introduction to the basic principles of American legal research and writing. Students review techniques of case and statutory analysis and learn to write a professional legal memoranda and client opinion letters. LAW majors only.

Law-Pacific and Asian Law (LWPA)

School of Law

LWPA 506 International and Foreign Law Research (V) Global issues play a significant role in the 21st century practice of law. Introduction to legal concepts in foreign and second legal systems. Use of the law and the legal environment facing foreign businesses, including the 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 Japan’s law today.

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 school students only. Recommended: LAW 515, LAW 554, LAW 562. (Alt. years)


LWPA 564 International Criminal Law (J) Designed to give an understanding of international criminal law. Will review all aspects of international criminal law from substantive international crimes to criminal liability and sentencing by domestic and international tribunals. LAW majors only.

LWPA 565 Law and Society in Korea (J) Provides students with an understanding of the law, society, and legal systems in Korea. Areas of law including constitutional, civil, criminal, and business are discussed. Emphasis on South Korea. LAW majors only.

LWPA 575 (Alpha) Topics in International Legal Studies (V) Selected topics presented by faculty members or visiting scholars, focusing upon subjects in the Pacific and Asian areas. (C) China; (G) global; (J) Japan; (K) Korea; (P) Pacific; (S) Southeast Asia. Repeatable six times for (C), (J), (K), (P), (S); not repeatable for (G).

LWPA 577 Japanese Business Law (V) Focus on the legal environment facing foreign businesses operating in Japan. Includes consideration of the business environment and culture, issues relating to governmental oversight, contract consciousness, corporate law, and dispute resolution. Uses the example of an actual joint venture between an American and a
Japanese company as a tool for studying the relevant issues from a practical perspective.

LWPA 578 Chinese Business Law (V) Introduction to business and commercial law in the People’s Republic of China. After a brief overview of China’s political and legal systems, the course will examine basic aspects of international law, including treaties, property, contract and coal 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 uses. Potential of utilizing native rights based on statute, custom, and use to fashion new and expanded rights.

LWPA 580 (Alpha) Topics-Native Hawaiian Law (V) Specific topic areas will be the subject of focus from year to year, depending upon current developments and issues in Native Hawaiian and Indigenous law in Hawai‘i, the nation, and internationally, and expertise of faculty, computing faculty, (B) policy and governance; (C) business and economic development; (D) law and culture; (E) Indigenous peoples, (F) Indigenous environment and sustainability.

LWPA 583 Legal History of Hawai‘i (3) Designed to acquaint the student with the unique legal history of Hawai‘i, emphasizing particular legal controversies that have shaped the law of our island society. LAW majors only.

LWPA 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 historical foundations of Chinese law and introduction to the present legal system in the People’s Republic of China. Repeatable one time. (Cross-listed as ASIAN 685)

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 laws to protect rights in trademarks, patents, and copyrights. No prior law will be expected to interest in territoriality and jurisdiction, international antitrust issues, and international dispute resolution, and human rights implications of international intellectual property rights protections. Pre: LAW 535.

Law-Ulu Lehua (LWUL)

School of Law

LWUL 501 Ulu Lehua Seminar (V) Introduces foundational concepts in American legal systems. Engages students in legal analysis and techniques of legal advocacy. Repeatable one time. CR/NC only.

LWUL 502 American Legal Systems II (V) Introduces conceptual and historical foundations of systems of public and private ordering in the U.S. and its territories. Subjects include federalism, constitutional democracy, separation of powers, and the common law. Repeatable one time. CR/NC only.

Library and Information Science (LIS)

College of Natural Sciences

All LIS courses numbered 600 or higher (except LIS 680 Seminar for Beginning Librarians) may be taken only by graduate students admitted to the LIS Program or with approval from the LIS Program Chair.

A grade of B- or better in the prerequisite courses is required for continuation.

LIS 500 Master’s Plan B/C Studies (1)

LIS 591 Library and Information Studies Workshop (V) Designed for in-service librarians and other information specialists needing to update information skills, focus on a particular topic, or learn new approaches and concepts. Repeatable for credit. Credits earned in these courses cannot be applied for graduate degrees.

LIS 601 Introduction to Reference and Information Services (3) Philosophy, principles, and practice of reference services in libraries, information centers and information literacy. Bibliographic control, reference research, reference interview, online searching, evaluation of bibliographic and Webliographic material. Field component. MLIS degree required course.

LIS 605 Metadata Creation for Information Organization (3) Theory and practice of metadata creation for organization of information resources, cataloging codes for description and access, Library of Congress and Dewey Decimal Classification schemes, use of OCLC. MLIS degree required course.

LIS 606 Advanced Cataloging and Classification (3) Continues 605 with study of authority work, and further study of book materials cataloging, including electronic and internet resources. Extensive use is made of OCLC Connexion cataloging client. Pre: 605.

LIS 610 Foundations of the Information Professions (3) Lecture/discussion/survey of the information professions, development of professional identity, professional values and ethics, historical development, current issues in the information professions. MLIS 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 record- ing, preservation and transmission of knowledge. Development of libraries through the mid-twentieth century as instruments of cultural transmission.

LIS 615 Collection Management (3) Principles and issues of collection management and care. Criteria and tools for selecting and deselecting materials. Relationships with publishers/producers. MLIS degree required course.

LIS 618 Government Documents (3) Survey of government documents at the federal, state/local and international levels in all formats. Covers methods of acquisition and organization, including depositary 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 related 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 approach providing 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: LIS 670.

LIS 650 Management of Libraries and Information Centers (3) Theories and principles of administration for effective management of libraries and information centers, with emphasis on planning, resource allocation, team skills, project management, assessment, leadership, communication, and advocacy. MLIS degree required course.

LIS 652 Introduction to Archives Management (3) Study of archival principles and management theories applicable to all types of archives. Includes policies, 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 relationships 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 663 Database Searching (3) Techniques and strategies for searching professional online databases and web information resources. Query formulation using controlled vocabularies, free text and specialized functions to match retrieved resources with user needs. MLIS degree or LIS 591. Pre: LIS 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, 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 storage, 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 information efficiently from digital journal archives and reference databases. Pre: LIS 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: 665, 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 a prototype database. Pre: 670.

LIS 675 Database Content Evaluation (3) Lecture and discussion and 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: 670.

LIS 678 Personalized Information Delivery (3) Study of the components of personalized information systems: information filtering systems with emphasis on modeling and presentation of documents, queries, user information preferences, and user-system interaction. Topics include advanced Information Retrieval (IR) models, metadata and mark-up languages, query operations, thesaurus-based IR, acquisition of user profiles, and user/system performance evaluation. Pre: 647, 665, 670, 674, ICS 321, ICS 421, or ICS 624; or consent.

LIS 680 Seminar for Beginning School Librarians (1) Series of presentations 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) Effectiveness 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 and oral traditions, including 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 curriculum units and lessons. Evaluation of print and multimedia resources for 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 management.

LIS 688 Pacific Islands Information Resources (3) Study of reference tools and bibliographic sources for Pacific Islands studies, including exam of online catalogues, 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 agency settings with supervision of professional librarians or information specialists. Available to classified students only. Selection based on academic advisor approval, application form, interview and readiness to function as a professional librarian. Students must apply and be accepted before registration. Selection is by agency. CR/NC only. Pre: 601 and 663 (or concurrent).

LIS 693 Special Topics in Librarianship (V) Issues of topical interest in the profession. Concentration on current issues, 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. Repeatable up to nine credits.

LIS 695 Seminar in Research in Librarianship (3) Various methodologies and techniques of current interest. Research for master’s program and consent of practicum coordinator required.

LIS 699 Directed Reading and/or Research (V) Individualized program of directed reading and/or research outside the scope of regularly titled courses. Enrollment requires approval before end of previous semester, with specification of goals, work requirements, number of credits, rationale. Repeatable up to six credits.


LIS 701 Seminar in International Librarianship (3) International and comparative librarianship; professional organizations; descriptive methodologies; research; periodicals; international agencies; influence of literacy 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 ASAN 705)

Linguistics (LING) College of Languages, Linguistics and Literature

LING 102 Introduction to the Study of Language (3) Non-formal language, emphasizing the everyday use of language, its relevance to contemporary issues in society, and local language issues. Content studied through lecture, readings, and writing emphasis on writing as a grading criterion. DS

LING 103 Language and Symbolic Reasoning (3) Introduction to language as a formal symbolic system and to the techniques of analysis and reasoning that reveal its workings. A-F only.

LING 105 Language Endangerment, Globalization, and Indigenous Peoples (3) Focus on language endangerment and globalization. Students are introduced to case studies on language endangerment from around the world and throughout history. Offered through the distance-learning Unit Mastery program. A-F only.

LING 120 Language as a Window to the Mind (3) Introduction to language-related phenomena, which gives insight into the organization of the human mind. Combines lecture, discussion and group projects.

LING 150 (Alpha) Language in Hawai‘i and the Pacific (3) Introduction to the study of language and language-related issues, with a focus on Hawai‘i and the Pacific: (B) unit mastery; (C) lecture discussion. A-F only. DS

LING 201 Language Documentation for Non-Linguists (2) Provides training in the fundamentals of language documentation and conservation for non-linguists. Repeatable two times. CR/NC only. Pre: proficiency in a lesser studied language and consent.

LING 320 General Linguistics (3) Introduction to the basic analysis of language, focusing on phonetics, phonology, morphology, syntax, semantics, historical linguistics, language acquisition, and related topics. DS

LING 331 Computer Applications (3) Background: uses for machine translation, dictionary programs, speech synthesis, grammar modeling, etc. Pre: 320 (or concurrent) or consent.

LING 344 Languages of the World (3) Survey of major language families; typological classification and language universals; writing systems, “contact” languages. Varieties of grammatical structures illustrated by selected languages. Pre: 320 or consent. DS

LING 346 The Philippine Language Family (3) Introduction; phonological and grammatical systems; historical developments; emphasis on Filipino, Cebuano, and Ilokano. Pre: grade of B or better in 320 or 320 and experience with a Philippine language, or consent. DH

LING 347Pidgin and Creole Languages (3) Nature, history, structure, and geographic distribution of pidgins and creoles. Pre: 102 or consent. (Alt. years) (Cross-listed as IS 347)

LING 410 Articulatory Phonetics (3) Intensive training in recognition, reproduction, and recording of human sound speech; preparation for fieldwork with unrecollected languages and for clinical work in speech pathology. DH

LING 412 Psycholinguistics (3) The mental processes involved in producing, understanding, and acquiring language. Students will conduct a small psycholinguistic experiment. Open to nonmajors. Pre: one of 102, 320, PSY 100, or SPA 300; or consent. DS

LING 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 IS 414) DS

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

LING 416 Language as a Public Concern (3) How does language serve as a proxy for larger social questions? Focuses on four main themes: language revitalization, discrimination on the basis of accent, gender miscommunication and the English Only Movement. A-F only. Pre: 102 or 520 or consent. DS
LING 420 Morphology (3) Theory of word structure; analysis of a variety 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 concurrent. (Fall only)

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. Dispels 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. Pre: 410. 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; subgrouping 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 dialectal variation. Related to cognitive language development. Pre: 320, DS. DH

LING 499 Directed Research (V) Repeatable up to 3 credits. CR/NC only. Pre: 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 Acoustic and Auditory Phonetics (3) Principles of acoustics and audition 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 617 Language Acquisition and Language Revitalization (3) Provides training relevant to the study and revitalization of heritage languages and endangered languages. Pre: 320 or equivalent.

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 SNOBOL4. Applications to student’s research. Pre: 421 and 422, or consent.

LING 632 Laboratory Research (3) Laboratory methodology 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 independent graduate standing.

LING 640 (Alpha) Topics in Linguistics (3) History of the discipline, schools of linguistic thought, current issues, etc. Repeatable unlimited times. (E) English linguistics; (F) phonology and phonetics; (G) general; (H) history of the discipline; (S) sociolinguistics; (X) syntax; (V) 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 646 The Comparative Method (Continuation of 4.5. 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: 421 and 422, or consent.

LING 680 Introduction to Language Documentation (3) Cover, and theory behind language documentation, and the role of language endangerment in the field. Discussion on skills required to undertake documentation; topics may vary depending on the emphases of the instructor. Pre: 320 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 710 Methods of Language Documentation (3) Students learn to conduct best-practice digital language documentation projects, from equipment purchase to data collection and data annotation to archiving and presentation. Pre: 680 or consent.

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 four 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; (M) semantics; (Q) language acquisition; (R) written language; (S) sociolinguistics; (X) syntax; (V) psycholinguistics. Repeatable unlimited times. Pre: consent.

LING 770 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) Repeatable unlimited times.

Management (MGT)

Studer College of Business

MGT 320 Fundamentals of Entrepreneurship (3) Covers the role of new ventures and entrepreneur-
MAO 201 Intermediate Maori I (3) Continuation of 102. Meets three hours weekly. Pre: 102. HSL
MAO 202 Intermediate Maori II (3) Continuation of 201. Meets three hours weekly. Pre: 201. 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. Pre: consent. DL
MAO 301 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Pre: 202. No waiver. (Fall only)
MAO 302 Advanced Maori Language and Culture (3) Advanced Maori language and culture. Pre: 301. (Spring only)

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. Pre: 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. Pre: 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 direct marketing. Emphasis on integrated marketing communications. Pre: BUS 312 or consent.

MKT 332 Integrated Communication Campaigns (3) Management of integrated marketing communications campaigns. Includes: conducting target market and competitor research, developing creative content and media strategies, production of communication materials and completion of major real world project. Pre: 331 and BUS 312.

MKT 341 Retailing Management (3) Principles, functions, and analysis of opportunities and problems in retailing: location and layout; merchandise planning; buying and selling; organizational forms and design; expense analysis and control; coordination of store activities. Pre: BUS 312 or consent.

MKT 351 Professional Selling (3) Emphasis on selling techniques, psychological principles of persuasion, and interpersonal communication. Lecture, discussion, and application of relevant principles and techniques. A-F only. Pre: BUS 312 or consent.

MKT 352 Sales 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. Pre: BUS 312 or consent.

MKT 361 Seminar in Marketing (3) Study and discussion of significant topics and problems in the field of marketing. May be repeated four times with change in topic. Pre: consent and usually senior standing.

MKT 362 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. Notes on the World Wide Web. Real world projects provide opportunities for application. Pre: BUS 311 and BUS 312, or consent.

MKT 363 Customer Relationship Management (3) Focuses on the evolving field of customer relationship management. Students learn how to manage marketing information and decision-making systems that maximize customer retention and build long-term relationships. A-F only. Pre: BUS 311, or consent.

MKT 372 Marketing for New Ventures (3) Examines role of marketing in the formation and launch of entrepreneurial ventures within and outside of ongoing businesses. Emphasis on new product development and low cost, high impact marketing activities. Pre: BUS 312 or consent.

MKT 381 Multinational Marketing (3) Principles and topics related to international marketing, with content on Asia. Permits students to focus on specific international business, foreign direct investment; (M) Korean management systems; (N) international human resource management; (J) international communication in international business; (H) international management and industrial relations; (B) Chinese management systems; (C) Japanese management systems; (D) management of multinational corporations; (F) contemporary issues in international business foreign direct investment; (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. Pre: consent.

MKT 650 Management Topics (3) In-depth analysis of selected current practices and trends in administration. May be repeated four times with change in topic. Pre: consent.

MKT 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 that can take to increase entrepreneurship. A-F only. Pre: consent. (Once a year)

MKT 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 foreign direct investment; (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. Pre: consent.
MKT 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)

MKT 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 building blocks of 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 researchers 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 a faculty member(s). A-F only. Pre: PhD student status in international management or consent. Mathemantics (MATH)

Marine Biology (MBIO)
College of Natural Science/School of Ocean and Earth Science and Technology

MBIO 601 Marine Biology-Environments and Organisms (4) (3 hr Lec, 3 hr Lab) Introduction to the diversity of marine organisms and the many specialized coastal, reef, and oceanic habitats in which they live. Lab and field research exercises will complement lecture subjects. Graduate standing in Marine Biology graduate degree program only. A-F only. Pre: consent. (Fall only) (Cross-listed as OCN 601)

MBIO 611 Introduction to Quantitative Methods in Fisheries Science (4) (2 Lec, 1-3 hr Lab) Fisheries and population models including growth, stock-recruitment, surplus production, age-structured and size-structured population models, parameter estimation, uncertainty characterization, resampling methods, and scientific computing. Graduate students only. A-F only. Pre: MATH 215 or 216, or MATH 241 or 242, or consent. (Alt. years)

MBIO 740 A Advanced Topics in Quantitative Biology (V) Reflects faculty expertise and needs for graduate training in quantitative methods for biology, including statistical, computational, and analytic approaches. Format (lecture/lab/discussion) will vary by topic. Repeatable unlimited times. Graduate standing required. Pre: for fall.

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. FS

MATH 111 Math for Elementary Teachers I (3)
Understanding, communicating, and representing mathematical ideas, problem solving, reasoning, and using symbolism. Operations and properties of operations with particular attention to sets. Prospective elementary education majors only.

MATH 112 Math for Elementary Teachers II (3)
Understanding, communicating, and representing mathematical ideas, problem solving, and argumentation. Counting, introduction to measurement, the standard operations on the natural numbers, equations, and inequalities. Pre: 111. FS

MATH 134 Precalculus: Elementary Functions (2) Algebra review, functions with special attention to polynomial, rational exponential and logarithmic functions, composed and inverse functions, techniques of graphing. Credit not allowed for 134 and 140, or 134 and 161. Pre: two years of high school algebra, one year of plane geometry.

MATH 140 Precalculus: Trigonometry and Analytic Geometry (3) Studies trigonometric functions, analytic geometry, polar coordinates, vectors, and related topics. This course is the second part of the precalculus sequence. Credit allowed for only one of 134, 135, or 140. Pre: 134, 135, or 161 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 in economics and social sciences. Credit allowed for only one of 134, 135, or 161. FS

MATH 190 Introduction to Programming (2) (3 hr) Introduction to numerical algorithms and structured programming using Fortran, MATLAB, or other computer 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: 134, 135, or 161, or assessment exam. FS

MATH 215 Applied Calculus I (4) Basic concepts; differentiation and integration and applications to management, finance, economics, and the social sciences. Pre: 134 or consent. (Fall only) (Cross-listed as OCN 215)

MATH 216 Applied Calculus II (3) Pre: assessment and consent, or a grade of A in 215 or higher.

MATH 241 Calculus I (4) Basic concepts; differentiation and integration; applications to management, finance, economics, and the social sciences. Pre: 134, 135, or consent. (Fall only) (Cross-listed as OCN 241)

MATH 242 Calculus II (4) Pre: 241 or consent.

MATH 243 Calculus III (3) Pre: 242 or 252A, or consent.

Courses 459
Nondeterminism, parallelism, alternation, and Boolean circuits. Reducibility and completeness.

**MATH 671 Advanced Probability (3)** Independence and conditioning, martingales, ergodic theory, Markov chains, central limit theorem. A-F only. Prec. 631 (with a minimum grade of B) or consent. (Alt. years)

**MATH 672 Stochastic Processes (3)** Stationary, Gaussian, and Markov processes. A-F only. Prec. 671 (with a minimum grade of B) or consent. (Alt. years)

**MATH 681 Graph Theory (3)** Connected graphs and digraphs. Graph embeddings, Connectivity and networks. Factorization and factorizations. Coverings, Coloring, Applications.

**MATH 695 Directed Reading and Research for Plan B Masters Students (V)** Maximum of 3 credit hours. Repeatable two times. Graduate standing in MATH. A-F only.

**MATH 699 Directed Reading and Research (V)** Maximum of 3 credit hours. Repeatable unlimited times.


**MATH 799 Apprenticeship in Teaching (V)** An experience-based introduction to college-level teaching: students will serve as student teachers to professors; responsibilities include supervised teaching and participation in planning and evaluation. Open to graduate students in mathematics only. Repeatable up to six credits. CR/NC only. Prec. graduate standing in mathematics.

**MATH 800 Dissertation Research (V)** Research for doctoral dissertation. Repeatable unlimited times.

## 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. Prec. 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 responsibility, economic considerations, quality control, and computer-aided drafting. Teamwork and project required. Prec. PHYS 170.

**ME 271 Applied Mechanics II (3)** Dynamics of particles and rigid bodies; force, acceleration, impulse-momentum, work, energy. A-F only. Prec. C or better in ME 270; MATH 244 (or concurrent) or MATH 253A (or concurrent). (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. Prec. grade of C or better in PHYS 170 and MATH 244 (or MATH 253A)

**ME 312 Applied Thermodynamics (3)** Gas mixtures, generalized thermodynamic relationships, combustion and heat transfer, chemical equilibrium, chemical reaction, power and refrigeration cycles. Prec. grade of C or better in ME 271 or MATH 244 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. Prec. 331 or consent.

**ME 342 Manufacturing Processes Lab (2)** (1 Lec, 1-2 hr Lab) Manufacturing laboratory: tension/compression testing, cold rolling, welding, casting, statistical process control, programming and milling using a CNC machine. Prec. 341 (or concurrent) or consent.

**ME 360 Computer Methods in Engineering (3)** Numerical solutions for algebraic and transcendental equations, simultaneous linear algebraic equations, integration and differentiation; integration of ordinary differential equations. Engineering applications. Prec. MATH 190 (or EE 160), MATH 244 (or MATH 253A), and MATH 307.

**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. Prec. CEE 270 (grade of C or better), MATH 244 (or MATH 253A), and MATH 307 (or MATH 308).

**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. Prec. ME 271 (or CEE 271), 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. Prec. CEE 271 or ME 271 (C or better), MATH 244 (or MATH 253A) and either MATH 302 or MATH 307.

**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. Prec. MATH 244 (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 data acquisition methods. Techniques and procedures for carrying out dynamic measurements within the constraints of cost, time and accuracy. A-F only. Prec. one of 360, MATH 407, or PHYS 305 (for concurrent). Either MATH 375 or (concurrent) MATH 302 (for concurrent). Prec. one of 360, MATH 407, or PHYS 305 (for concurrent) or either MATH 375 or (concurrent) MATH 302.

**ME 403 Advanced Mathematics for Engineers (3)** Applications of ordinary differential equations. Laplace transform, vector field theory, matrices, line integrals. Prec. MATH 244 (or MATH 253A), and MATH 302 (or MATH 307). DP

**ME 404 Computational Fluid Dynamics (3)** Basic computational fluid dynamics; four important partial differential equations; introduction to finite element method: Interpolation and Galerkin method; finite element method for transport phenomena; some algorithms for parallel computing. A-F only. Prec. 322 (or concurrent) MATH 360, MATH 407 or PHYS 305; or consent. (Once a year)


**ME 418 Power and Propulsion (3)** Principles, performance, and design of gas turbine power plants and propulsion systems. Prec. 312 and 422 (or concurrent). DP

**ME 419 Astronautics (3)** The space environment (vacuum, neutral, radiation, and plasma); motion in gravitational fields; orbit transfer; Earth-satellite operations; rocketry; propulsion analysis and performance; reentry dynamics; interplanetary trajectories; attitude dynamics and stabilization. A-F only. Prec. 422 or consent. (Spring only)

Key to symbols & abbreviations: see the first page of this section.
ME 453 Energy Conversion Systems (3) Energy conversion and its impact on the environment. Conventional, hydroelectric, nuclear fission and fusion, solar, wind, ocean, geothermal, and biomass power; energy storage, transmission and conservation. Prereq.: 312, 322, and 422 (or concurrent); or consent. DP
ME 455 Nuclear Power Engineering (3) Nuclear reactor principles. Reactor heat transfer, heat generation and removal. Design and analysis of reactor power systems and plants. Prereq.: 312 and 422. DP
ME 471 Experimental Stress Analysis (3) (1-3 hr Lab) Techniques of experimental stress analysis: strain and deflection measurement of beams and shafts, strain to stress conversion, principal and maximum shearing stresses, failure in biaxial stress states, stress concentrations, residual stresses, buckling, creep, electric resistance strain gages, brittle coatings, photoelastic methods, transducers. A-F only. Prereq.: 371 and departmental approval. (Spring only)
ME 473 Mechanical Vibrations (3) Response of machines and systems to transient and periodic excitation. Vibration isolation and transmissibility. Modal analysis and design of a project freedom systems. Applications to design. Prereq.: 371, 375; or consent. DP
ME 480 Thermofluid Measurements and Design (3) Measurement techniques in thermodynamics, fluid mechanics, and heat transfer. Hands-on experience with design of the open-ended design of thermofluid systems. Contemporary engineering ethics issues. Final report and presentation are required. A-F only. Prereq.: 422 (or concurrent).
ME 481 Design Project I (3) (1 1-hr Lec, 2 2-hr Lab) Engineering ethics, engineering design meth- odology, design planning, decision making, materials selection, economic analysis, quality control, finite element analysis, initiation of an open-ended design project. A-F only. Prereq.: 372 (or consent) and 375 (or concurrent).
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 analysis and simulation. Manufacturing specifications, shop drawings, and a final report are required. A-F only. Prereq.: 481.
ME 491 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, me- chanics, materials, systems, or design. Prereq.: consent.
ME 492 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, me- chanics, materials, systems, or design. Prereq.: consent.
ME 499 Project (V) Investigation of advanced problems in mechanical engineering design or development. Student must find faculty sponsor before registering. Prereq.: senior standing.
ME 500 Master’s Plan B/C Studies (1)
ME 611 Advanced Thermodynamics (3) Introduc- tion to general principles of classical thermodynam- ics. Main topics include equilibrium conditions, thermodynamic relations, Legendre transformations, Maxwell relations, stability of thermodynamic systems, phase transitions, and critical phenomena. Graduate students only. A-F only. Prereq.: 311 or consent.
ME 615 Advanced Aerodynamics (3) Advanced topics in aerodynamics, two- and three-dimensional wing theory, slender-body theory, lifting surface methods, vortex and wake dynamic, analytical and numerical methods, for computing unsteady aerody- namic behavior and introduction to flight-dynamics. A-F only. Prereq.: 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. Prereq.: 422 (or equivalent) or consent. (Spring only)
ME 622 Convection Heat Transfer (3) Heat transfer in laminar and turbulent boundary layers. Analogy between heat, momentum, mass transfer. Prereq.: 422 or consent.
ME 625 Numerical Methods in Fluid Mechan- ics and Heat Transfer (3) Integration of ordinary differential equations. Finite difference solutions of partial differential equations with applications to conduction and convection. Introduction to finite element methods. Prereq.: 422, and either MATH 190 or EE 160.
ME 626 Viscous Flows (3) Formulation and prop- erties of the Navier-Stokes equations; exact solutions; creeping flows; lubrication theory; laminar boundary layers, laminar and transition turbulence; turbulent boundary layers. Prereq.: 322. (Fall only)
ME 630 Rheology (3) Vector and tensor opera- tions. Constitutive equations. Generalized Newtonian fluids and linear viscoelastic fluids. Rheometry and experiments. Flow of suspensions. Advanced topics in the mechanics of polymers, food products, biomateri- als and asphalt, laboratories. Prereq.: 626 or consent. (Spring only)
ME 636 Fundamentals of Electrochemistry (3) Thermodynamics of cells, electrode kinetics, mass transfer by migration and diffusion, microelec- trode techniques, forced convection, impedance, double-layer structure, and absorbed intermediates in electrode processes. Prereq.: consent.
ME 645 Clinically Driven Design and Devel- opment (3) Exploration of simple, cost-effective alternatives in medicine through different stages of concept generation, design analysis, and prototype validation and investigation of their commercialization potential. Graduate students only. Prereq.: 342 or consent.
ME 646 Mechanics and Design Composites (3) Introduction to composites; anisotropic elasticity and laminar theory; stress, strain, and deflection theories; composite beams, columns, rods, plates, and shells; energy method; failure theories; joining of composites, computer-aided design in composites. Prereq.: 371 or consent.
ME 647 Nanoscience and Nanotechnology (3) Science and applications of nanotechnology. Synthe- sis of nanomaterials; nanoscale structure character- ization by electron microscopy and Raman spectroscopy; electrical, thermal, and mechanical properties of nanomaterials; ionic liquid; renewable energy, environmental, and biological applications of nano- materials. A-F only.
ME 650 Surface Phenomena (3) Fundamental and modern concepts of surface science. Main topics include surface thermodynamics, capil- larity and wetting phenomena, surface forces, surfac- tants, and particles. Prereq.: 311 or consent. (Fall only)
ME 651 Automatic Control (3) Linear optimal feedback control, discrete time optimal control, funda- ments of adaptive control, application to motion and force control of robot arms and manipulators. Pre: 15, EE 351; or consent. Pre: 422 (or equivalent) or consent. (Spring only)
ME 660 Mixed Oxidation Fuel Cell Technology (3) Working principles of all major fuel cell types; fundamentals of proton exchange membrane (PEM) fuel cells; state-of-the-art theoretical models and diagnostic techniques for PEM fuel cells. A-F only. Prereq.: 422 (or equivalent) or consent. (Spring only)
ME 671 Continuum Mechanics (3) Cartesian ten- sors in mechanics, coordinate transformations, analy- sis 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 mechan- ical engineering. Applications to machine design, vibrations, elasticity, heat transfer. Prereq.: 360, 371; or consent.
ME 678 Advanced Dynamics (3) Lecture on rigid- body dynamics. Topics include: dynamical systems; motion representation and constraints; Newtonian mechanics; Lagrangian mechanics; Hamilton’s prin- ciple; stability analysis; introduction to multibody dynamics. Prereq.: 375 or equivalent, or consent.
ME 680 High Growth Entrepreneurship (V) An interdisciplinary (JD-MBA) course examining legal, business, and technology issues related to building high growth companies. Students teams develop company feasibility reports and skills necessary to advise or build high growth businesses. Recommended: 531. Law students only. (Once a year) (Cross-listed as LAW 560)
ME 691 Seminar (1) Current problems in all branches of mechanical engineering. All graduate stu- dents are required to attend; registrants are expected to present talks. Prereq.: graduate standing.
ME 696 Advanced Topics in Mechanical Engi- neering (V) Highly specialized topics in thermosciences, mechanics, materials, system, or design. Prereq.: consent.
ME 799 Directed Reading or Research (V) Di- rected study on subject of mutual interest to student and a staff member. Student must find faculty spon- sor before registering. Repeatable unlimited times. Prereq.: 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. Prereq.: admission to PhD candidacy or consent.

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 sci- ences to patient care. CR/NC only. Prereq.: 557.
MDED 541 Clinical Skills Assessment (1) Required comprehensive interdepartment multidisci- plinary assessment program for fourth-year medical students. CR/NC only. Prereq.: FMCH, MDE, 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; (D) leadership in underserved care. MDED majors only for (D). CR/NC only for (D). Pre: FMCH, MED, OBGN, PED, PSTD, SURG 531 or 532. (Spring only for (D))

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 in tutorials. CR/NC only. Pre: 551 and 551L. 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: 551 and 551L. Co-requisite: 552L. (Fall only)

MDED 553L MD 3 Renal/Hematology Tutorials (4) Advanced series of problem-based learning tutorials for first-year medical students focusing on cardiovascular and pulmonary health care problems. CR/NC only. Pre: 551 and 551L. Co-requisite: 552L. (Fall 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 first-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 behavior 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 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. 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: 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) teacher’s art; (D) introduction to student research; (E) health and wellness; (F) quality improvement. Repeatable one time. CR/NC only. Pre: 551L. (Fall only)

MDED 595 (Alpha) Topics in Medical Education (V) Summer selective 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 simulation laboratory; (G) cardiovascular case maps; (H) pulmonary case maps; (I) clinical skills preceptor; (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 (MDET)

School of Medicine

MDET 151 Introduction to Medical Technology (2) Designed to acquaint students to the field of medical technology/clinical laboratory science. Repeatable one time.

MDET 301 The Clinical Laboratory (3) (2 Lec, 1 3-hr Lab) Theory and clinical application of medical laboratory methods and healthcare professional relationships. MDET majors only. Repeatable one time. Pre: consent.

MDET 331 Clinical Lab Management (3) Student will become familiar with fundamental administration of a clinical laboratory to include technical, personnel, and financial management areas. Repeatable one time. CR/NC only. Pre: consent.

MDET 431 Clinical Immunology (2) (1 Lec, 1 3-hr Lab) Modern diagnostic practices in parasitology. Repeatable one time. Pre: MICR 351 or consent.

MDET 451 Hematology (1) (3-hr Lab) Fundamental study of blood in normal and pathological states: formation, development, and classification of blood cells. MDET majors only. Pre: major or consent.

MDET 451L Hematology Lab (2) (1 Lec, 1 3-hr Lab) Laboratory to accompany MDET 451. MDET majors only. Pre: major or consent. Co-requisite: 451.

MDET 463 Clinical Microbiology II (3) (1 Lec, 2 3-hr Lab) Modern practices in diagnostic microbiology. Repeatable one time. MDET majors only. A-F only. Pre: 431 or consent.

MDET 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. MDET majors only. Pre: MICR 461 or consent. (Spring only)

MDET 471 Clinical Biochemistry I (4) Biochemical processes in human health and disease states. Repeatable one time. MDET majors only. Pre: CHEM 273 or consent. (Spring only) DB

MDET 472 Clinical Biochemistry II (4) (Continuation of 471) Repeatable one time. MDET majors only. Pre: 471 or consent. (Once a year)

MDET 477 Clinical Lab Methods and Analyses I (3) (1 6-hr Lab) Lab experiments illustrating fundamental principles and methods of clinical laboratory analysis. Repeatable one time. MDET majors only. Pre: 471.

MDET 478 Clinical Lab Methods and Analyses II (3) (2 Lec, 1 3-hr Lab) Continuation of 477. Pre: 477.

MDET 481 Professional Issues in Medical Lab Science (1) Discussions about various professional issues through oral presentations and critiquing of peer presentations. Repeatable one time. MDET majors only. Pre: 451L.

MDET 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.

MDET 499 Directed Reading and Research (V) Repeatable one time.

MDET 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)
Key to symbols & abbreviations: see the first page of this section.
MET 699 Directed Research (V) Repeatable unlimited times. Pre: consent.
MET 700 Thesis Research (V) Repeatable unlimited times.
MET 702 Numerical Weather Prediction (3) (2 Lec, 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 basic models, with a term project. Repeatable one time. Pre: 600 or OCN 620; MATH 407 or 408; or consent. (Alt. years)
MET 704 Climate and Climate Variability (3) Physical basis of climate, numerical climate models, paleoclimatic indicators, modern instrumental climatometry, assessment of human impact on climate, predictions of future climate. Repeatable one time. Pre: 600 or OCN 620, or consent. (Alt. years)
MET 706 Tropical Climate Dynamics and Modeling (3) Overview of current progress in tropical climate dynamics with a particular focus on large-scale atmosphere-ocean interactions; introduction of basic numerical techniques for students to construct and run immediate tropical atmosphere and ocean models. Pre: 600.
MET 708 General Circulation of the Atmosphere (3) The circulation variations, 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) Repeatable unlimited times.

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 and the environment; potential food microorganisms; industrial and water; environment pollution; food microbiology; industrial applications at an introductory 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 172 (or concurrent), 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 351L. Pre: CHEM 272/272L, and BIOL 171, or equivalent. Co-requisite: 351. DY

MICR 361 Introductory Bioinformatics (4) (3 Lec, 1 3-hr Lab) 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 (or concurrent)/301L (or concurrent), and OCN 201; or 351/351L; or consent. DB

MICR 401L Marine Microbiology Laboratory (1) (3-hr Lab) Laboratory to accompany 401. Pre: BIOL 265/265L and BIOL 275/275L and BIOL 301 (or concurrent)/301L (or concurrent) and OCN 201; or 351/351L and 401 (or concurrent). Consent required. (Fall only)

MICR 410 Advanced Topics in Microbiology (2) (Capstone for but not 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) (3-hr Lab) Components and metabolism of the bacterial cell; emphasis on the role of analysis of 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, immunohistochemistry, immuno-biology to illustrate principles of 461. Co-requisite: 461 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. Consent: DB

MICR 463L Microbiology of Pathogens Lab (2) (2 3-hr Lab) Characterization of bacterial pathogens. Isolation, identification, and diagnosis. Co-requisite: 463 consent. DY

MICR 470 Microbial Pathogenesis (3) Fundamental mechanisms of infectious diseases at the molecular level. Emphasis is on the role of host-pathogen interactions. Pre: 351/351L or consent. DB

MICR 475 Bacterial Genetics (3) Genetic analysis and molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: BIOL 275 or consent. (Cross-listed as MCB 475) DB

MICR 475L Bacterial Genetics Lab (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 consent. (Cross-listed as MCB 475L) DY

MICR 485 Microbes and Their Environment (3) Distribution, diversity, and roles of microorganisms in terrestrial, freshwater, and marine ecosystems.

Importance of bacteria in pesticide degradation, bioremediation of oil spills, sewage treatment, 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) 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) (3-hr Lab) General laboratory techniques and related theories in virology; including isolation, cell culture, assay, purification, and identification of viruses. Pre: 351/351L or BIOL 275/275L and 490 (or concurrent); or consent. DB

MICR 509 Microbial 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, or consent.

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

MICR 601 Molecular Cell Biology (3) Provide fundamental concepts and dynamic characteristics of the molecules of the prokaryotic and eukaryotic cell, their biosynthesis and regulation, and the mechanisms that regulate cellular activities. A-F only. Pre: basic course in cell and molecular biology, or consent. (Fall only) (Cross-listed as MBBE 601)

MICR 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 repeat and discussions on selected advanced topics and current research literature. Pre: 461 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 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 symbioses. Pre: one of 351, 475, or BIOL 481; or consent. (Cross-listed as PEPS 646)

MICR 652 Advanced Marine Microbiology (3) Advanced studies of marine microorganisms in diverse habitats with consideration of applications of marine microbes, including marine microorganisms, microorganisms, phylogeny and diversity, and past and current methods. A-F only. Pre: 351 and 401; or consent. (Alt. years)

MICR 655 Advanced Virology (3) Detailed repeat and discussions on selected advanced topics and current research literature. Pre: 463, 490, BIOL 441; or consent. (Alt. years: fall)

MICR 680 Advances in Microbial Ecology (3) Highlights in microbial ecology; interaction of mi-
croorganisms with abiotic and biotic components of their environments. Modern techniques for study of autecology 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 human 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 700 Thesis Research (V) Repeatable unlimited times.

MICR 795 Special Topics in Microbiology (V) Selected topics in any aspect of microbiology. Repeatable unlimited times.

MICR 800 Dissertation Research (V) Repeatable unlimited times.

**Military Science and Leadership (MSL)**

**ROTC Programs**

A weekly two-hour leadership laboratory is required for courses numbered 200 and above. This laboratory is optional for the 100-level courses. The laboratory includes practical application of leadership skills, land navigation, basic tactical skills, and physical fitness training.

MSL 100 Introduction to Physical Fitness (1) Hands-on participatory course following the Army's physical fitness program. Classes conducted three days per week with Army ROTC cadets. Focus is on aerobic conditioning, muscular strength and endurance. Repeatable three times.

MSL 101 Introduction to Military Science I (2) Introduces cadets to personal challenges and competencies critical for effective leadership; personal development of life skills such as goal setting, time management, physical fitness, and stress management related to leadership, officership, and the Army profession. Focus on developing basic knowledge and comprehension of Army Leadership Dimensions while understanding the ROTC program, its purpose in the Army, and its advantages for the student.


MSL 102 Introduction to Military Science II (2) Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback and using effective writing skills. Explores leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Cadre role models and building stronger relationships among cadets through common experience and practical interaction are critical.

MSL 102L Introduction to Military Science II Lab (1) Practical application in adventure training, one- rope bridges, rifle marksmanship, land navigation, drill and ceremonies, physical training. Co-requisite: 102.

MSL 201 Intermediate Military Science I (3) Explores creative and innovative tactical leadership strategies and styles through historical case studies and engaging in interactive student exercises. Cadets practice aspects of personal motivation and team building by planning, executing, and assessing team exercises. Focus is on continued development of leadership values and attributes through understanding of rank, uniform, customs and courtesies.

MSL 202 Intermediate Military Science II (3) Challenges of leading complex, contemporary opera- tional environments. Dimensions of cross-cultural challenges of leadership in a constantly changing world are highlighted and applied to practical Army leadership tasks and situations. Cadets develop greater self-awareness as they practice communication and team building skills, and tactics in real world scenarios. Provides a smooth transition to MSL 301.

MSL 203 ROTC Basic Camp (6) Four-week summer camp conducted at Ft. Knox, Kentucky. Substitutes for ROTC basic course (101, 102, 201, and 202) and fulfills course requirement for admission to ROTC advanced courses. Credit will be given for 203 or basic courses, but not both. Pre: consent.

MSL 301 Leading Small Organizations I (4) (2.5 Lec, 1.5-hr Lab) Challenges cadets to study, practice, and evaluate adaptive leadership skills with demands of the ROTC Leader Development Assessment Course (LDAC). Challenging scenarios related to small unit operations will develop self-awareness and critical thinking skills. Cadets will receive systematic, specific feedback on their leadership abilities, and analyze/evaluate their leadership values, attributes, skills and actions. Pre: 101, 102, 201, 202; or consent.

MSL 302 Leading Small Organizations II (4) (2.5 Lec, 1.5-hr Lab) Intense situational leadership challenges to build cadet awareness and skills in leading small units. Decision-making, persuading, and motivating team members under fire are explored, evaluated, and developed. Leadership operations are reviewed to prepare for the ROTC LDAC. Cadets apply principles of Law of Land Warfare, Army training, and motivation to troop leading procedures; and are evaluated on what they know and do as leaders. Pre: 101, 102, 201, 202; or consent.

MSL 303 ROTC Advanced Camp (6) Six-week summer field training exercise conducted at Fort Lewis, Washington. Arduous and intensified leadership training is conducted throughout the six-week period. Requirements are the same as for ROTC Basic Camp. Cadets receive systematic, specific feedback on their leadership abilities and are evaluated on what they know and do as leaders. Pre: 101, 102, 201, 202; or consent.

MSL 391 History of Military Warfare (3) Lecture/discussion on the art and science of warfare with concentration on U.S. military history from the Colonial Period onward. Generally restricted to Army ROTC students, but non-ROTC students are reviewed to prepare for the ROTC LDAC. Cadets apply principles of Law of Land Warfare, Army training, and motivation to troop leading procedures; and are evaluated on what they know and do as leaders. Pre: 101, 102, 201, 202; or consent.

**Molecular Biosciences and Bioengineering (MBBE)**

College of Tropical Agriculture and Human Resources

MBBE 304 Biotechnology: Science and Ethical Issues (3) Introduction to the concepts, goals, ethical issues and consequences of biotechnology using real-life case studies of cloning, DNA fingerprinting, gene therapy and genetic engineering. Pre: BIOL 171 or consent. (Cross-listed as BIOL 394)

MBBE 375 Essential Biochemistry (3) Introduction to basic concepts of cellular biochemistry and metabolic pathways as applied to nutritional, medicinal and environmental biochemistry. A-F only. Pre: CHEM 152 or CHEM 272 or BIOI 341, or consent.

MBBE 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 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 metabolism of 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 PEPs 402) DB

MBBE 402L Principles of Biochemistry Lab (2) (1 Lec, 1.3-hr Lab) Principles technique of biochemical laboratory. A-F only. Pre: 402 or concurrent). BIOL 402 (or concurrent). DY

MBBE 405 Marine Functional Ecology and Biotechnology (3) Marine functional genomics, biodiversity of marine natural habitats, marine microbial communities and their ecological functions, interactions of marine microbes and their host, climate change and marine biodiversity, marine biotechnology. A-F only. Pre: OCN 201 or MICR 130, or consent. (Spring only) (Cross-listed as OCN 403)

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

MBBE 412 Environmental Biochemistry (3) Biochemical and chemical principles of occurrence, distribution, biotic and abiotic conversion, fate, and impact of synthetic and natural molecules in the environment. Important pollutants will be used as case studies to illustrate the principles. A-F only. Pre: CHEM 152 or CHEM 272, and CHEM 171; or consent. (Spring only) (Cross-listed as PEPs 412) DB

MBBE 461 Biotechnology for Teachers (3) Principles, methods, classical examples, recent development, benefits and concerns of modern biotechnology. Pre: BIOL 304 or equivalent.

MBBE 480 Integrative Genomics and Biotechnol- ogy (3) Integration of molecular genetics, virology, plant molecular biology, and bioinformatics. Gene silencing, functional genomics, and the development of expression systems for the production of heterologous proteins. A-F only. Pre: MICR 401 and BIOL 275/275L; or consent. (Fall only) DB

MBBE 480L Integrative Genomics and Biotechnol- ogy Lab (3) Laboratory to accompany 480. A-F only. Pre: 401 and BIOL 275/275L; or consent. (Spring only) DY
Focuses on the actions of plant pathogens and molecular 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 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)

MBBE 490 Lab Automation: Advanced Techniques in Plant Molecular Biology (3) Combined lab lecture on semi-automated systems used to analyze 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 biosciences and bioengineering. Pre: consent.

MBBE 499 Directed Research (V) Supervised individual research projects in research problems in biochemistry, molecular and cellular biology, genetics, and genomics. Repeatable 3 times or up to 16 credits. Limited to qualified undergraduate students. A-F only.

MBBE 600 Molecular Cell Biology (3) Provides fundamental concepts and contemporary approaches to the study of the molecular processes that govern cell function and dysfunction. Prerequisites: Consent of instructor and CMB 621, and CMB 654 or equivalent; or consent. (Fall only)

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 sciences, physics, and biochemistry. Basic knowledge of food science is expected; or consent. (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. Repeatable three times. 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, transgenic 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 Expression (3) Lecture/discussion on molecular 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 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 PEP 405, or 480, or MICR 351. (Every 2 years) (Cross-listed as PEP 652)

MBBE 680 Methods in Plant Molecular Biology (3) (1 Lec, 2-3 hr Lab) Advanced methodology and research strategies. Hands-on laboratory training in basic and current molecular procedures for plant research. Pre: one of BIOL 481 or BIOL 407.

MBBE 683 Advanced Bioinformatics Topics for Biologists (4) Teaches problem-solving with bioinformatic tools. Real-world problems will be provided and worked out, students encouraged to provide their own research problem where they require assistance. Graduate student must work on genomics research project requiring bioinformatic analysis, working knowledge of UNIX OS, Perl, Java or C. A-F only. 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. (Fall only)

MBBE 690 Directed Research (V) Repeatable up to 16 credits. Repeatable in different sections. Pre: 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) Repeatable up to 16 credits. Repeatable in different sections. Pre: consent.

MBBE 700 Thesis Research (V) CR/NC only.

MBBE 800 Dissertation Research (V) CR/NC only.

Molecular and Cell Biology (MCB) College of Natural Sciences

MCB 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 human and animal 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 MCB 410 (or equivalent), or consent. (Cross-listed as MICR 314)

MCB 461 Immunology (3) Structure and biological actions of antigens and antibodies; fundamentals of antiviral and antibacterial systems. Immunology of the immune response and medical sciences. Pre: MICR 351 or BIOL 172; or consent. Recommended: BIOL 275/275L. (Cross-listed as MICR 461)

MCB 461L Immunology Lab (2) (3-2 hr Lab) Basic exercises and experiments in immunology, immunocompetence, immunology to illustrate principles of 461. Co-requisite: 461 or consent. (Cross-listed as MICR 461L)

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 or BIOL majors only. Senior standing or higher. Pre: BIOL 407 (or concurrent) and BIOL 408 (or concurrent) or consent. (Spring only) (Cross-listed as BIOL 472)

MCB 475 Bacterial Genetics (3) Genetic analysis and molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: MICR 351 or BIOL 275, or consent. (Cross-listed as MICR 475)

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 MICR 475L)

Music (MUS) College of Arts and Humanities

MUS 106 Introduction to Music Literature (3) Elements, styles, and forms of music, from listener's standpoint. CR/NC only.

MUS 107 Music in World Cultures (3) Folk, popular, and art music from major regions of the world, with emphasis upon Asia and the Pacific; representative styles and regional characteristics. FGC

MUS 108 Fundamentals of Western Music (3) Fundamental concepts in organization of music as expressive medium in Western culture. Roles of composer, performer, and listener. Notation as mode of communication. Discovery and verification of ideas through laboratory experience. DA

MUS 114 University Chorus (1) Performance of choral music 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. (B) voice; (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 in different sections. 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. Co-requisite: 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 in literature at elementary level. (B) koto; (C) shamisen; (E) shakuhachi. Cannot be audited. Pre: consent. DA

MUS 128 (Alpha) Asian Music Performance Class (1) Basic principles of performance of Asian music. Relevant problems in literature at elementary level. (B) koto; (C) shamisen; (D) South Indian singing; (E) shakuhachi. Cannot be audited. Pre: consent. DA

MUS 155 Percussion Techniques (2) Similar to 151 using percussion instruments. A-F only.

MUS 156 Brass Techniques (2) Similar to 151 using brass instruments. A-F only.

MUS 157 String Techniques (2) Fundamental performance techniques, materials, and teaching skills on string instruments for students preparing to teach instrumental music. A-F only. (Once a year)

MUS 158 Woodwind Techniques (2) Fundamental performance techniques, materials, and teaching skills on woodwind instruments for students preparing to teach instrumental music. A-F only. (Once a year)

MUS 199 Recital Attendance (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
MUS 226 Second-Level Secondary Piano (1) Continuation of 225. Pre: 225 or consent.
MUS 240 Creative Applications of Music Technology (3) Introduction 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 and philosophy, school structure and governance, diversity and multicultural education, and professional ethics. Supervised clinical and field experiences required. MUS majors only. A-F only. (Alt. years)
MUS 251 Diction for Singers (3) Diction and phonetics of English, Italian, liturgic Latin, German, and French for singers and choral conductors. Pre: 232B or consent.
MUS 253 Elementary Music in Action (3) (3 Lec, 1 hr Lab) Musical concepts, philosophy and pedagogy: use of media, singing, movement, and instruments; as well as resources for an active elementary music classroom. 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.
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. DH
MUS 270 World of Music Asia/Pacific (3) Study of music as a 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) DH
MUS 281 Theory I (2) Materials and organization of music; analysis, writing, and keyboard application. Pre: 280 or consent. Co-requisite: 283 or consent.
MUS 282 Theory II (2) Continuation of 281. Pre: 281 or consent. Co-requisite: 283 or consent.
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.
MUS 284 Aural Training II (1) Continuation of 283. Pre: 283 or consent. Co-requisite: 282 or consent.
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.
MUS 289 Introductory Practicum in Music Composition (V) Original composition; specific approaches to creative writing. Repeatable. Pre: 282 and 284; or consent.
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) gamelan; (I) gagaku; (J) Tahitian; (K) Oceanic; (M) other. Repeatable unlimited times. Pre: upper division standing or consent. DA
MUS 312 Hula/Chant Ensemble I (1) 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 Conducted 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. Soundscapes using original synthesis techniques to enhance film and support stories. Pre: 240 or consent. (Alt. years)
MUS 342 Digital Audio Synthesis and Multi-media 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 interdisciplinary approach. Exploration of 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; 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 General Music Methods 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 Instrumental Music Methods 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: 250, 286, and 326 (or concurrent); or consent. Co-requisite: 355. (Every 3rd semester)
MUS 356 Choral Music Methods (3) Objectives, materials, and procedures of choral music in schools. A-F only. Pre: 250, 286, or consent.
MUS 356L Choral Music Methods 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; fresh- men 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 continuity. Pre: 265, 266, and 286.
MUS 383 Orchestration (3) Basic principles of scoring for orchestra and large bands (instrumental ranges, timbres, transpositions; transcribing or composing for band, orchestra, and chorus. Pre: 286 or consent.
MUS 386 Theory and Practice of Jazz Improvisation (2) Development of an improving technique through analysis and performance practice. For instrumentalists only. Pre: 285 and 287.
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, music education, and ethnomusicology; for music majors. Consult department for topics and specific dates. Repeatable up to twelve credits. 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) chamber music; (C) University Chamber Singers; (D) piano-vocal collaboration; (E) composer-performer collaboration; (F) chamber music; (G) guitar; (K) jazz; (M) contemporary music; (N) theater music; (O) percussion; (P) digital and electronic musical arts; (Q) piano-instrumental collaboration. Repeatable unlimited times. A-F only for (E) and (Q). Pre: audi- tion or consent. DA
MUS 411 (Alpha) Ethnic Music Ensembles II (1) Performance of literature for ensembles and performing groups of various sizes and kinds: (A) Hawaiian; (B) Hawai- ian; (C) Japanese; (D) Chinese; (E) Korean; (F) Okinawan; (G) Philippine; (I) 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.
MUS 413 Hula/Chant Ensemble III (2) Ancient style; hula 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. DA
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 Orches- tra (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 (1) Performance of joga and solo gamelan traditions; Ujon-Ujon, Wagang Kulit, Wagang Wong. Repeatable unlimited times. Pre: 311H or consent. DA
MUS 419 (Alpha) University Band (1) Performance of literature, including works by contempo- rary composers. (B) symphonic band; (C) symphonic band; (D) concert band; (E) marching band; (F) marching band percussion. Repeatable unlimited times. Pre: audition or consent. DA

Key to symbols & abbreviations: see the first page of this section.
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: one of 253B, THEA 321, THEA 322, or consent; and/or audition. (Cross-listed as THEA 421) DA

MUS 422 Piano Repertoire (1) Focused study on a specific area of piano literature. Intensive score study, analysis, performance practices, technique and listening lists will be studied. A-F only. Pre: 2 semesters of 232C or consent. Repeatable six times for different topics. (Alt. years)

MUS 423 Keyboard Skills I (2) Practical keyboard applications including transcription, keyboard harmonization, figured bass, improvisation, score reading and analysis. Pre: 282 and 2 semesters of 232C, 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: 341 or consent. (Alt. years)

MUS 450 Music Technology for Teachers (3) Studio course designed for music education majors or musicians interested in discovering and utilizing technology resources to enhance the music teaching or learning process. A-F only. Pre: 286 or consent.

MUS 451 Perspectives on K-12 Music Education (2) Required for K-12 music education majors. Topics include music learning, classroom management, assessment, and national standards. A-F only. MUS ED majors only. Junior standing or higher. Pre: 250, 286, 288, and EDEP 311; or consent. (Fall only)

MUS 452 Advanced String Pedagogy (2) Study of intermediate to advanced techniques and pedagogical approaches to violin, viola, cello, and double bass in both individual and class settings. A-F only. Pre: 157 or consent. (Alt. years)

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: 353 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 alphas. 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 alphas. 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 its precursors in the Renaissance to the beginning of the 19th century; development of historical styles, intensive listening and analysis. Pre: 265 and 266, or consent. A-F only. Pre: 686 majors only. Graduate students only. A-F only. Pre: 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. (Once a year)

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 musical culture areas. (B) China; (C) India; (D) Japan; (E) Korea; (F) Indonesia; (G) Philippines; (H) India; (I) Polynesia; (P) Africa; (Q) other. Repeatable one time for different alphas. Pre: junior standing or consent. (H) Cross-listed as ASAN 478

MUS 479 Topics in Ethnomusicology (3) Problem-oriented cross-cultural investigation of music and music organization. Pre: junior standing or consent. DH

MUS 484 Composition for Musicians (3) Original composition; specific approaches to creative writing. Intended for music majors not majoring in composition. Repeatable one time. MUS majors only. A-F only. Pre: 286 and 288.

MUS 485 Intermediate Practicum in Music Composition (3) Creative writing beginning with smaller forms. Repeatable unlimited 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 488 Contemporary Techniques (2) Theoretical techniques in music of the 20th and 21st centuries; emphasis written as the synthesis of concepts. Investigation of important stylistic movements. Pre: 286 or consent.

MUS 495 Senior Project I (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 composition; in (B) compositional and analysis; in (D) music literature; (E) performance repertory; (F) music education; (H) theory. Repeatable nine times. 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 649 College Level Teaching Practicum (1) Practical experience teaching at the college level. Examination of elements for successful college teaching. Repeatable two times. MUS majors only. Graduate students only. A-F only. Pre: consent.

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: 355 or 354, teaching experience, and graduate standing.

MUS 657 World Musics in Undergraduate Education (2) Concepts and materials at junior college and undergraduate levels. Preparation for structuring and teaching courses in non-Western musics. Pre: graduate status in music and 107 or 407 (or consent).

MUS 659 Seminar in College Music Teaching (3) Examines components of good teaching, adult learning theories, course organization, methodologies, evaluation, and other music issues. For students planning a college teaching career in music. Pre: consent.

MUS 660 (Alpha) Studies in Music Literature (3) Detailed study by chronological period. (B) medieval; (C) Renaissance; (D) Baroque; (E) Classic; (F) Romantic; (G) 20th century. Repeatable in different alphas. Pre: 661 or consent.

MUS 661 Bibliography and Library Resources in Music (3) Basic materials and techniques; includes retrieval techniques from online computer catalog. Pre: graduate standing or consent.

MUS 670 (Alpha) Regional Music (3) Musical content and historiosocial 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 to 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 685 Intercultural Composition (3) Examination of compositional approaches, techniques, and characteristics of works with East Asian influences in Western concert settings. Composing idiomatically for East Asian instruments. Repeatable one time. MUS majors only. Graduate students only. A-F only. Pre: graduate standing or consent.

MUS 687 Masters Composition Practicum (3) Original composition in all forms. Masters-level composition students only. Repeatable five times. A-F only. Pre: consent.

MUS 695 Plan B Master’s Project (V) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A maximum of 3 credits may be earned in MUS 695. Graduate standing in music education or music composition. A-F only.

MUS 699 Directed Work (V) Reading and research in ethnomusicology, musicology, music education; reading and practice in theory, composition, or performance. Repeatable unlimited times. Pre: consent of chair and department chair.

MUS 700 Thesis Research (V) Repeatable unlimited times.

MUS 701 (Alpha) Topics in Music (3) Advanced topics in musicology; theory, ethnomusicology,
and music education. (B) psychology of music; (C) research in music education; (D) research methods in musicology; (E) advanced diction for singers. Repeatable in different alphas. Pre: 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) child- hood; (C) adolescence/college; (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) Repeatable unlimited times. Pre: candidacy for PhD degree and consent of dissertation chair.

APPLIED MUSIC

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 (1) For nonmajors or majors in secondary performance fields. Individual instruction in solo vocal or instrumental performance at elementary level. Representative works. (B) voice; (C) piano; (D) organ; (E) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion. (Z) other. Repeatable for six semesters. Pre: audition or consent.

MUS 232 (Alpha) Applied Music, Western (Y) For music majors or intended majors. Individual instruction in solo vocal or instrumental performance at first performance level. Representative works. Weekly repertoire laboratory required. (B) voice; (C) piano; (D) organ; (E) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for four semesters. Pre: audition or consent.

MUS 233 (Alpha) Applied Music, Western (V) For music majors or intended majors. Individual instruction in solo vocal or instrumental performance at first performance level. Individual instruction in solo vocal or instrumental performance at first level. Representative works. Weekly repertoire laboratory required. (B) voice; (C) piano; (D) organ; (E) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for six semesters. Pre: audition or consent.


MUS 331 (Alpha) Applied Music, Western (V) For nonmajors or 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 (B) For students accepted for MMUs in performance. Individual instruction in solo vocal or instrumental performance at graduate level performance. Representative works. (B) voice; (C) piano; (H) violin; (I) viola; (J) cello; (K) 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 two times.

MUS 636 Graduate Recital (V) For students accepted for MMUs in performance. Individual instruction in solo vocal or instrumental performance at graduate level full recital required. (B) voice; (C) piano; (H) violin; (I) viola; (J) cello; (K) bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion.

Native Hawaiian Health (NHH)

School of Medicine

NHH 499 Directed Reading/Research (V) Individual reading and/or research. Repeatable unlimited times. Junior standing or higher. Pre: consent.

NHH 501 Scientific Basis of Medicine (2) Introduction to medical science stressing key historical figures and significantly emphasize the development of scientific methods. Special emphasis on writing skills, health team concept, and culture and contributions of the Pacific. CR/NC only. Pre: admission to Imi Ho'ola Post-Baccalaureate Program.


NHH 503 Medical Biology I (11) (2 Lec, 2 Tutorial, 1 3-hr Lab) Foundation in medical sciences, including anatomy, physiology, microbiology, pathology, and pharmacology (focus on respiratory and cardiovascular systems); develop critical thinking and problem-solving skills. Includes lectures, problem-based tutorials, and histology and gross anatomy labs. Pre: admission to Imi Ho'ola Post-Baccalaureate Program.

NHH 504 Medical Biology II (11) (2 Lec, 2 Tutorial, 1 3-hr Lab) Continuation of 503. Pre: 501.

NHH 505 Medical Biochemistry I (6) Provide background knowledge of chemistry, biochemistry, and molecular biology with emphasis in principles of biochemical processes as well as clinical correlations to medical conditions; develop critical thinking, standardized test taking skills, and problem-solving skills. Pre: admission to Imi Ho'ola Post-Baccalaureate Program.

NHH 506 Medical Biochemistry II (6) Continuation of 505. Pre: 505.

NHH 513 Native Hawaiian Health and Traditional Healing (1) Introduction to Native Hawaiian health issues and traditional healing practices. MD majors only, CR/NC only. Pre: MDED 551 or consent.

NHH 545 Native Hawaiian Health Care (V) Clinical experience in the Native Hawaiian Health Care System and community health centers, incorporating both western and traditional Hawaiian medicine. Open to fourth year medical students interested in Native Hawaiian Health Care. Pre: MED 531 or MED 532.

NHH 575 Seminar in Issues of Social Justice in Health (1) Social justice provides an analytical and prescriptive framework to understand health inequities; understand connections between social forces and health outcomes, and the role of the individual in improving social justice in the health system. Graduate standing only. Pre: MDED 551. (Spring only)

NHH 595 Clinical Skills Preceptorship in the Lau Ola Clinic of the Department of Native Hawaiian Health (V) Provides a focused experience in clinical medicine with opportunities to practice the history and physical examination in Lau Ola, the clinical setting of the Department of Native Hawaiian Health. Repeatable one time. MD majors only. CR/NC only. Pre: MDED 574 or consent. (Fall only)

NHH 699 Directed Reading/Research (V) Individual reading and/or research. Repeatable unlimited times. Graduate standing only. Pre: consent.

Natural Resources and Environmental Management (NREM)

College of Tropical Agriculture and Human Resources

NREM 203 Applied Calculus for Management, Life Sciences, and Human Resources (3) (2 Lec, 1 1-hr Lab) Applications of calculus (limits, continuity, derivatives, exponential and logarithmic functions, partials, integrals) to problems in business management, social sciences, and environmental sciences. Use 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. FS

NREM 210 Introduction to Environmental Science (3) Analysis of our environment with emphasis on understanding relationships and interactions of physical, biological, technological, and political components using scientific methods of inquiry. Food supply and safety, water quality, pollution control, biodiversity, environmental policy. Open to nonmajors. (Cross-listed as PEPS 210) DB

NREM 220 Agricultural and Resource Economics (3) Introduction to basic economics concepts, including demand, supply, exchange, market price and market failure. Economic evaluation and policy for the uses of various natural resource endowments, especially in production agriculture, is included. A-F only. DS

NREM 301 Natural Resource 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, wildlife, and fisheries. NREM majors only. A-F only. Pre: 210, CHEM 151 or higher, BIOL 172; or consent. (Spring only) DB

NREM 301L Natural Resources Management Lab (1) (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. (Spring only) DY

NREM 302 Natural Resource and Environmental Policy (3) Introduction to American government policy in natural resources and environmental protection at federal, Hawai‘i state and county levels. Policy principles, legal, structural, governmental agencies, major statutes and programs, analytical techniques, program assessments, 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. DS

NREM 304 Fundamentals of Soil Science (4) (3 Lec, 1 1-hr Lab) Origin, development, properties, management of tropical soil environments, and interactions of the Hawaiian soils. A-F only. Minimum prerequisite grade of C or consent. Pre: CHEM 161 and 161L, or consent. (Fall only) (Cross-listed as TPSS 304) DP DY

NREM 306 Environmental Ethics (3) Application of traditional moral theories to environmental issues. Development and evaluation of specific interven-
eral ethical theories. Application of ethical theories to environmental decision-making. A-F only. Pre: 210 or GEOG 101 or PHIL 101 or PHIL 103. (Alt. years)
NREM 310 Statistics in Agriculture and Human Resources (3) Theory, applications, and presentation of statistical reasoning. Descriptive, 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. Introduce broad range of business strategies. Understand the critical role each strategy plays. Facilitate student’s practice of analytical and critical thinking through case studies. (Cross-listed as TPSS 351)
NREM 358 Basic Environmental Benefit Cost Analysis (3) Fundamentals of benefit-cost analysis with extensions to environmental impacts and projects. case studies. Pre: 220 or ECON 130 or consent. DS
NREM 380 Tropical Forestry/Agroforestry (3) (2 Lec, 1-3 hr Lab) Biophysical and socioeconomic description and analysis of major tropical forestry and agroforestry management systems, including Hawai'i and the Pacific Basin. The role of traditional land use, pressure from regional and global development, and efforts to create sustainable, diverse systems for rural communities will be discussed. Pre: CHEM 151 or higher and BIOL 171 or higher. (Alt. years: spring) DS
NREM 399 Directed Study (V) Limited to exceptional under graduate 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 conflict management. Pre: two social science courses or consent. (Fall only) DS
NREM 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. Practical concepts and models identification, model formulation and solution, and interpretation and presentation of results. Pre: 220 or ECON 130, and 310 or ECON 321; or consent. (Once a year) (Cross-listed as ECON 429 and TPSS 429) DS
NREM 450 Wildlife Ecology and Management (3) Lecture-based overview of the history, ecology, and management of wildlife species (i.e., terrestrial vertebrates) from around the world and Hawai'i. One or two field trips may be required. Class size limited to 25 students. Pre: BIOL 172 or consent. (Alt. years)
NREM 461 Soil and Water Conservation (3) Past and present issues in soil and water conservation will be examined. Principles of erosion, conservation tillage, irrigation, and drainage will be discussed. Land-based threats to coastal zones and watershed management will also be covered. Pre: 301 or 304. DP
NREM 463 Irrigation and Water Management (3) Basic soil-water-plant relationships, irrigation water requirements, irrigation efficiencies, different methods of irrigation, planning, design and management of an irrigation system, fertilization and impact of irrigation on the environment. Pre: 203 (or equivalent) and NREM/TPSS 304 (or equivalent), or consent. (Alt. years) (Cross-listed as TPSS 463)
NREM 467 Natural Resources Conservation Planning (3) Combined lecture and hands-on field course on theory and practice of natural resource conservation planning. Includes individual and group projects. Pre: undergraduate junior or senior or graduate standing. Recommended: at least one upper division course in soils, natural resources, planning, geography, or related area; or consent. (Alt. years) DP
NREM 475 Plant Nutrient Diagnosis in the Tropics (3) Designed for students to identify essential nutrients required by plants; diagnose nutrient disorders in plants; and propose environmentally sound solutions to correct disorders. Pre: 304/TPSS 304 (or concurrent) and BIOL 172. (Cross-listed as TPSS 475)
NREM 477 Geographic Information Systems for Resource Managers (4) Combined lecture-lab on the basic concepts and principles of geographic information systems, and global positioning system. Practical skills to be developed by solving real natural resources and environmental problems. Pre: either 310 or MATH 140 or MATH 373, and 301; or consent. (Once a year)
NREM 480 Applied Forest Ecology (3) Application of ecological theory to sustainable management of forest resources in Hawaii and beyond, including silviculture (production of timber and non timber forest products), restoration (restoring damaged or degraded forests), and conservation (existing forest resources). A-F only. Pre: 301 and 380 or consent. (Alt. years)
NREM 491 Topics in Natural Resources and Environmental Management (V) Study and discussion of significant topics and problems. Offered by visiting faculty and/or for extension programs. Repeatable five times up to four credits. A-F only. Pre: consent.
NREM 492 Internship (1) Integration and application of academic knowledge and critical skills by solving real natural resource and environmental problems. Pre: visit to a local agency or business. Offered in terms of economic theory and market information. A-F only. Pre: AREC 626 and ECON 627, or consent.
NREM 492L Internship Experience (3) Critical evaluation of existing and alternative cropping systems from a long-term perspective. Value conflicts and resolution Pre: graduate standing or advanced undergraduate standing, and consent.
NREM 612 Predicting and Controlling Degradation in Human-Dominated Terrestrial Ecosystems (3) Historic, present, and projected trends in understanding of ecosystems. Emphasis on problem identification, scheduling, logistics, risk analysis, inventory, and analytical methods, management tools to case study problems. Applications of research findings by solving real natural resources and environmental problems. Pre: either 310 or MATH 140 or MATH 373, and 301; or consent. (Once a year)
NREM 613 Sustainable Agriculture Seminar (2) Critical evaluation of existing and alternative cropping systems from a long-term perspective. Value

Key to symbols & abbreviations: see the first page of this section.
ogy, soils, and ecosystem ecology recommended. (Alt. years)
NREM 671 International Agricultural Systems (2) Analysis of trends and strategies in international agricultural research and development, international agricultural research centers (IARC), Food and Agriculture Organization (FAO), university networks and consortia, and private voluntary organizations (PVOs). Pre: graduate standing or advanced under-graduate 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 images: 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 470 or GG 460 or one introductory remote sensing course. (Alt. years)
NREM 680 Ecosystem Ecology (4) (2 Lect, 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. years: 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 coursework in graduate standing, or consent. Completion of 680 recommended, but not required. (Alt. years)
NREM 685 Landscape Ecology (3) Focuses on the history, theories, and contemporary views of landscapes; including scale, land cover, land use, landscape metrics, disturbance regimes, land management, landscape change, the relationship of landscapes to species, and modeling. Pre: graduate students, or consent. (Alt. years)
NREM 690 Conservation Biology (3) Theories and concepts of ecosystem evolution and genetics for conservation of biological diversity. Topics will include restoration ecology, management planning, laws and policies, biological invasions. Pre: BIOL 375 and either ZOOL 480 or BOT 462; and either ZOOL 410, 439, 540, 545, 454, 456, or 492. (Cross-listed as BOT 690 and ZOOL 690)
NREM 691 Advanced Topics in Natural Resources and Environmental Management (V) Study and discussion of significant topics and problems at an advanced level. Offered by visiting or existing faculty as a special course. Repeatable one time. Pre: graduate standing or consent.
NREM 695 Master’s Plan B Capstone Preparation (1) Preparation for NREM Master’s Plan B capstone experience. NREM majors only. A-F only. Pre: 600 (or concurrent), 601, 605 (or concurrent), a graduate methods course, and at least 12 graduate elective credits. (Fall only)
NREM 696 Master’s Plan B Capstone Experience (3) Capstone experience for NREM Master’s Plan B students. NREM majors only. A-F only. Pre: 695 or concurrent.
NREM 699 Directed Research (V) Repeatable unlimited times. Pre: graduate standing.
NREM 700 Thesis Research (V) Repeatable unlimited times.
NREM 701 Research Seminar (1) Presentation and discussion of student research proposals, theses and dissertations, and research presentations by NREM faculty, students, and invited speakers. A-F only. Pre: consent.
NREM 800 Dissertation Research (V) Repeatable unlimited times.
NREM 801 Seminar on Science Teaching (3) Introduction to the HSNC Competencies and spiral of concepts and is based on the assumption of student responsibility for learning. Emphasis on research evidence to support nursing care. NURS majors only. A-F only.
NURS 220 Health and Illness I (4) Focuses on nursing assessment to support identification of risk factors and detection/prevention of complications from illness. NURS majors only. A-F only. Pre: 210, 210L, 211, and 212, or departmental approval. Co-requisite: 220L.
NURS 220L Health and Illness I Lab (6) Clinical course focuses on using nursing assessment to support identification of risk factors and detection/prevention of complications from illness. Nursing skills are integrated into clinical experiences. NURS majors only. CR/NC only. Pre: 210, 210L, 211, and 212. Co-requisite: 220.
NURS 301 Introduction to Evidence Based Practice and Health Promotion (1) Focuses on an introduction to the HSNC Competencies and spiral of concepts and is based on the assumption of student responsibility for learning. Emphasis on research evidence to support nursing care. NURS majors only. A-F only.
NURS 343 Gerontology: Its Nursing Implications (3) Explores attitudes toward the aged, biological 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) Relates values, beliefs, attitudes, family organization, lifestyles, and health practices in different ethnic groups to health-care and nursing practice. Pre: open to non-nursing majors with consent.
NURS 360 Health and Illness III (3) Focuses on complex situations requiring strong recognition skills, and rapid decision making. The evidence based supporting assessment and nursing intervention is explored. NURS majors only. A-F only. Pre: 320 and 320L, or departmental approval. Co-requisite: 360L.
NURS 360L Health and Illness III Lab (6) Clinical course focuses on complex situations requiring application of strong recognition skills and rapid decision making. Evidence based supporting assessment and nursing intervention is explored. NURS majors only. CR/NC only. Pre: 320 and 320L. Co-requisite: 360.
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 210. 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.
NURS majors only. A-F only. Pre: 320 and 320L, or departmental approval. Co-requisite: 360 and 360L.

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 stats courses: MATH 115, PSY 210, SOCS 225, BUS 310, NREM 310, ECON 321, and EDEP 429; or consent.

NURS 399 Directed Reading/Research I, II (V) Limited to juniors and seniors in nursing.

NURS 411 NCLEX Review (2) Overview of the NCLEX-RN licensure examination and regular, systematic practice in taking multiple choice examinations. Pre: open to non-nursing majors with consent.

NURS 420 Cooperative Education in Nursing (V) A two-semester course with seminar in professional role development in addition to paid work experience in nursing at a local agency. Upper division NURS majors only. Repeatable one time. CR/NC only. Pre: 360 and 360L.

NURS 421 Summer Internship (3) Summer practicum experience for students to learn the role of the professional nurse by building on previously learned knowledge and skills in the nursing program. Repeatable two times. NURS majors only. CR/NC only. Pre: 360 and 360L, or consent. (Summer only)

NURS 431 Complementary and Alternative Therapies (3) Survey of complementary and alternative therapies used for health promotion of individuals and groups. NURS majors only. A-F only. Pre: open to non-nursing majors with consent.

NURS 439 Management for Health Professionals (3) Explores basic management concepts. Emphasizes problem solving methods as a means of determining situationally appropriate actions in institutional and community settings. Upper division NURS majors only. Senior standing or higher. Co-requisite: 475 or consent.

NURS 450 Community, Public, and Global Health Nursing (5) Theory course focuses on community, public, and global health nursing with an emphasis on strategies applied to improve health and decrease health inequities at the local as well as national and international levels. NURS majors only. A-F only. Pre: 360, 360L, and 363. Co-requisite: 450L.

NURS 450L Community, Public, and Global Health Nursing Lab (4) Clinical course focuses on community, public, and global health nursing with an emphasis on strategies applied to improve health and decrease health inequities at the local as well as national and international levels. NURS majors only. CR/NC only. Pre: 360, 360L, and 363. Co-requisite: 450.

NURS 452 Cultural Aspects of Health Management in Populations Indigenous to Hawai‘i, the Pacific, and Asia (3) Focuses on cultural aspects that influence health management in indigenous populations of Hawai‘i, the Pacific, and Asia, with an emphasis on development of culturally sensitive strategies to promote and improve health management. Repeatable one time. NURS majors only. Undergraduate majors only. A-F only.

NURS 453 Introduction to Genetics in Nursing Practice (3) Fundamentals of genetics and genomics, including principles of inheritance in human cells and development, chromosome structure and function, and implications on health. Includes overview of topics relevant to genetics/genomics in the clinical setting. NURS majors only. A-F only. Pre: 212, 220, 220L, and 363.

NURS 460 Complex Nursing and Leadership (4) Theory course emphasizes the judgments, knowledge, and skills necessary for nursing practice, including case management and quality management experiences. The experience focuses on complex clinical judgments, interdisciplinary team functioning, and leadership. NURS majors only. A-F only. Pre: 450 and 450L, or consent. Co-requisite: 460L.

NURS 460L Complex Nursing and Leadership Lab (6) Clinical course emphasizes application of knowledge and skills necessary for nursing practice, including case management and quality management experiences. Focuses on complex clinical judgments, interdisciplinary team functioning, and leadership. NURS majors only. CR/NC only. Pre: 450 and 450L. Co-requisite: 460L.

NURS 461 Advanced Pathophysiology and Neurobiology (3) Provides an advanced understanding of pathophysiological mechanisms and neurobiology underlying human illness across the lifespan. Provides a foundation for formulating clinical decisions and therapeutic plans of care to promote disease prevention and health promotion. NURS majors only. A-F only.

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 for a given semester must be successfully completed with credit before progressing to the following semester. NURS majors only. A-F only. Co-requisites: 439 and 475L.

NURS 475L Complex Nursing Practice Lab (5) Delivery of comprehensive nursing care to clients with complex needs in community or acute care settings. Emphasis on quality management, continuity of care, culture, and ethics. NURS majors only. A-F only. Pre: 439 and 475.

NURS 499 Directed Reading and Research (3) Planned individualized study in specialized area related to interprofessional collaborative practice. Repeatable one time. Senior undergraduate NURS students only. Pre: consent.

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

NURS 501 Professionalism in Nursing (2) Introduction to history of nursing and leaders in the field. Will explore 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. (Once a year)

NURS 502 Pathophysiology (3) Web-enhanced on pathophysiologic 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. (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: 501. (Once a year)

NURS 504 Pathophysiology (3) Underlying human illness across the lifespan. Attention to principles of communication and interviewing. NURS majors only. A-F only. Pre: admission into MEPN. Co-requisite: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 505 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: 501, 502, 503, 504L, 505, 505L. (Once a year)

NURS 504L Health Assessment Lab (2) Application of assessment skills in lab and clinical settings, with attention to principles of communication, interviewing and physical examination skills. NURS majors only. CR/NC only. Pre: admission into MEPN. Co-requisite: 501, 502, 503, 504, 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. NURS majors only. A-F only. Pre: admission into MEPN. Co-requisite: 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: 505. (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/psychosocial rehabilitation of identified mentally ill adults/children and their families. NURS majors only. A-F only. Co-requisite: 507L. (Once a year)

NURS 507L Bio-Behavioral Health Nursing Clinic/Lab (2) 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/psychosocial rehabilitation of identified mentally ill adults/children and their families. NURS majors only. CR/NC only. Co-requisite: 507. (Once a year)

NURS 508 Nursing Care of Childbearing Families (2) Introduction to the biopsychosocial concepts of holistic nursing care for the perinatal family. Women’s and men’s health issues are discussed. NURS majors only. A-F only. Pre: 508L. (Once a year)

NURS 508L Nursing Care of Childbearing Families Clinic/Lab (2) Application of holistic nursing care to 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. Co-requisite: 508L. (Once a year)

NURS 509 Nursing Care of Children and Families (2) Examines the bio/psychosocial response of the child and family to health and illness, as well as nursing care for acute and chronic conditions. Lab course taken concurrently with NURS majors only. A-F only. Co-requisite: 509L. (Once a year)

NURS 509L Nursing Care of Children and Families Clinic/Lab (2) Accompanies and supports Pediatric Nursing to provide educational experiences in the hospital and outpatient or community settings. NURS majors only. CR/NC only. Co-requisite: 509. (Once a year)

NURS 513 Acute Care Nursing (3) Addresses the bio/psychosocial human health response to a wide range of conditions. Health promotion, risk reduction and disease detection and nursing care treatment in the acute care setting will be covered. NURS majors only. A-F only. Co-requisite: 513L. (Once a year)

NURS 513L Acute Care Nursing Lab (3) Application of the bio/psychosocial human health response to a wide range of conditions. Application of health promotion, risk reduction and disease detection and nursing care treatments in the acute care setting. NURS majors only. CR/NC only. Co-requisite: 513L. (Once a year)

NURS 517 Clinical Immersion to Nursing Practice (3) Examination of continuity of care for clients with complex needs. Examination of leadership, management, and quality improvement in the clinical setting. Admission to MEPN only. A-F only. Pre: 504, 505, 507, 508, 509, and 513. Co-requisite: 517L.

NURS 517L Clinical Immersion to Nursing Practice Lab (3) Delivery of nursing care to clients with complex needs in community and/or acute care settings. Leadership, management, and quality improvement competencies are stressed. Admission to MEPN only. CR/NC only. Pre: 504, 505, 507, 508, 509, and 513. Co-requisite: 517L.

NURS 518 Introduction to Community and Public Health Nursing (2) Introduces community and public health nursing with an emphasis on application to nursing practice in the community.
and public health settings. Restricted to matriculated MEPN students only. A-F only. Pre: completion of 501, 502, 503, 504, 504L, 505, and 505L (with a minimum grade of B- or better for 501, 502, 503, 504, and 505; CR for 504L and 505L). Co-requisite: 518L. (Spring only)

NURS 518L. Introduction to Community and Public Health Nursing Lab (3) Application of health promotion, risk reduction, and disease prevention and detection and nursing care treatments in the community setting. Restricted to matriculated MEPN students only. CR/NC only. Pre: completion of 501, 502, 503, 504, 504L, 505, and 505L (with a minimum grade of B- or better for 501, 502, 503, 504, and 505; CR for 504L and 505L). Co-requisite: 518L. (Spring only)

NURS 600 Epidemiology for Advanced Nursing (3) Introduction to epidemiologic principles and methods, with an emphasis on its application to nursing practice. Students taking for one credit will focus on application of epidemiology to advanced nursing practice. NURS majors only. A-F only. (Once a year)

NURS 605 Health Promotion and Disease Prevention (3) Teaching and learning concepts applied to health promotion and prevention of common health and illness conditions with culturally diverse individuals, families, groups, and communities. Includes didactic (30 hrs) and fieldwork (45 hrs). Repeatable one time. Pre: classified graduate student status in the SONDH.

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 611 Psychiatric-Mental Health Assessment and Diagnosis (3) Identification and synthesis of pertinent biopsychosocial and cultural data to complete advanced psychiatric-mental health assessments and diagnoses.

NURS 612 Advanced Assessment and Clinical Reasoning (2) Provides a framework for the development of complex and comprehensive care plans and comprehensive data collection, organization, precise recording, accurate assessment and communication of data reflecting the biopsychosocial status of individuals across the life span. Masters nursing students only. A-F only.

NURS 612L. Advanced Assessment and Clinical Reasoning Lab (1) Clinical lab and practicum for advanced practice nursing. Emphasis on integration of knowledge, skills and outcome evaluation. Masters nursing students only. A-F only.

NURS 613 Pathophysiology for Advanced Practice (3) Provides an understanding of normal physiological mechanisms and pathological processes to serve as a foundation for clinical assessment, decision making, and clinical management across the lifespan. Pre: enrollment as a classified student in a graduate program in the SONDH.

NURS 615 Clinical Skills and Procedures for Advanced Practice Nursing (V) Clinical laboratory that focuses on clinical skills and procedures performed by advanced practice nurses (nurse practitioners and certified nurse specialists). Topics will vary by section and semester. Repeatable up to 12 credits. NURS majors only. CR/NC only.

NURS 616 Psychobiology of Human Behavior and Psychopharmacology (3) Survey of the psychobiological basis of selected human behaviors and mental disorders across the lifespan and psychopharmacologic treatments prescribed by health care providers. Pre: consent.

NURS 617 Human Responses to Acute and Chronic Illness-A (3) The first of two courses that focuses on the delivery of advanced practice nursing in the assessment, diagnosis, and management of common acute and chronic adult health problems in the acute care setting. NURS majors only. A-F only. Pre: 612L, 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: 612L, 612L, and 613; no waiver. (Once a year)

NURS 620 Nursing Research and Theory for Practice (3) Examination of theory and the research process to prepare nurses for utilization of knowledge for provision of quality care. Pre: enrollment as a classified student in the graduate degree program in SONDH.

NURS 621A and Episodic Care Management (3) Diagnosis and management of health and illness with emphasis on clients with acute/episodic conditions seen in context of family and community. Advanced practice nurse-client relationship, practice roles, and culturally relevant care are included. A-F only. Pre: 612L, 612L, 613, and 629. Co-requisite: 518L. (Spring only)

NURS 623 Psychopharmacology (3) Survey of biopsychological bases of and biotherapies for major mental disorders, including the schizophasias, affective and personality disorders, pediatric and geriatric problems, and neurological dysfunctions with appropriate applications to health care. Pre: graduate standing or consent.

NURS 624 Adolescent and Family Psychiatric-Mental Health Care (3) Seminar on theory/research in advanced psychiatric-mental health nursing of adolescents and young adults across populations. Emphasis on developmental and nursing theories, evidence-based practice, therapeutic modalities and disease management of psychiatric illness. Pre: 611L (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 work 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 assessment techniques. NURS majors only. A-F only. Pre: NURS major, 612L and 612L, and 633 and 634, and 3 credits of 667L or consent. Co-requisite: 675L. (Once a year)

NURS 629 Pharmacology for Nurses in Advanced Practice (3) Prepares APNs to evaluate, monitor, and prescribe pharmaceuticals to treat acute and chronic illness across lifespan. Emphasis on drug indications, mechanisms of action, clinical efficacy, adverse effects, interactions, monitoring, education, and cost effectiveness. Enrollment as a classified student in the SONDH graduate degree program. Repeatable unlimited times. Pre: 613 (or concurrent) or consent.

NURS 630 Transforming Healthcare through Collaboration, Informatics, and Policy (3) Will explore the role of the advanced practice nurse in an interdisciplinary approach of health informatics and policy in transforming health and health systems.

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: 611L.

NURS 633 Child Health: Promotion and Maintenance (3) Presents normal developmental, physiological and social needs of children within the context of family; then focuses on the management of common acute and chronic illnesses of children.

NURS 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 675L and/ or 675L.

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: 612L, 612L, 613, and 629. Co-requisite: 675L.

NURS 638 Child and Adolescent Psychiatric-Mental Health (3) Theory and research in advanced practice psychiatric-mental health nursing of children and adolescents using the life span approach. Focuses on application of epidemiologic principles and methods, with an emphasis on its application to nursing practice. Students taking for one credit will focus on application of epidemiology to advanced nursing practice. NURS majors only. A-F only. (Once a year)

NURS 639 Disasterary Knowledge 1 (3) Exploration of a variety of philosophies and theoretical frameworks and an examination of factors influencing the development of nursing theory and the emergence of nursing as a discipline.


NURS 641 Advanced Nursing in the Global Health Environment (3) Exploration and analysis of key global health topics of concern for APNs. A-F only.

NURS 646 Advanced Psychiatric-Mental Health Practice (V) Supervised application of theories, research, and skills for advanced practice psychiatric-mental health nursing with individuals, families, and groups representing culturally diverse populations. Includes the program’s capstone experience. Repeatable five times. Pre: 611L or concurrent. Co-requisite: 611L 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. (I) current issues in professional nursing.


NURS 662 Leadership and Management of Health 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.
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<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
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<tbody>
<tr>
<td>NURS 664</td>
<td>Seminar and Practicum in Nursing Executive Leadership (3)</td>
<td></td>
<td>(Supervised practicum to build mid to senior level nursing leadership competencies and facilitate change in complex healthcare organizations. Pre: 663 (or concurrent) or consent.)</td>
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<tr>
<td>NURS 665</td>
<td>Clinical Economics and Finance (3)</td>
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<td></td>
<td>(Evaluating and applying economic concepts and tools for use in developing and managing patient care processes.)</td>
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<tr>
<td>NURS 668</td>
<td>Community Based Participatory Research (CBPR) for Advanced Practice Nurses (3)</td>
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<td>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)</td>
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<td>NURS 669</td>
<td>Introduction to Evidence-Based Practice (3)</td>
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<td>Introduces evidence-based practice models for use in nursing practice. Discusses process improvement, evidence-based practice, and research. Develops skills in searching, critiquing, and synthesizing the literature, pertinent to a clinical problem. A-F only. Pre: permission of course faculty. (Fall only)</td>
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<tr>
<td>NURS 670</td>
<td>Advanced Practice Nursing During Public Health Disasters (3)</td>
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<td>The role of the advanced professional nurse in public health preparedness, planning and response. Includes 45 hours of field work where the student will practice emergency response functional roles. NURS majors only. A-F only. Pre: consent. (Summer only)</td>
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<tr>
<td>NURS 671</td>
<td>Biostatistics Application in the Advanced Nursing Practice Setting (3)</td>
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<td>Includes basic bio-statistical techniques and the application of statistical findings to practice programmatic decisions. NURS majors only. A-F only. Pre: graduate standing in the Department of Nursing or consent. (Once a year)</td>
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<td>NURS 672</td>
<td>Advanced Practice Community Public Health Nursing Practicum (V)</td>
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<td>Student will conduct and present a 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.</td>
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<td>NURS 673</td>
<td>Implementation and Evaluation Strategies for Evidence-Based Practice (3)</td>
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<td>Using knowledge of translational science, designs an implementation plan for a practice guideline. Determines evaluation methods and identifies variables that best measure success. Discusses institutionalization of, and identifies facilitators and barriers to, practice change. NURS majors only. Graduate standing only. A-F only. Pre: 665. (Spring only)</td>
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<tr>
<td>NURS 675</td>
<td>Advanced Practice Clinical (V) Application of concepts to nursing practice.</td>
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<td>Application of concepts to nursing practice. Diagnosis, process improvement, evidence-based practice, and research. Develops skills in searching, critiquing, and synthesizing the literature, pertinent to a clinical problem. A-F only. Pre: permission of course faculty. (Fall only)</td>
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<td>NURS 695</td>
<td>Successful Aging: Physiologic (3) Advanced study of the functional, cultural,</td>
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<td>Emphasis is on promoting successful aging among older residents of the Pacific Basin and applications to primary health care in culturally diverse populations. A-F only. Pre: 612L (or concurrent), 613L (or concurrent), and 629 (or concurrent); or consent.</td>
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<td>NURS 696</td>
<td>Nursing Education Capstone (3) A culminating experience in nursing education</td>
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<td>Capstone experience for students interested in critical thinking, reflective practice, application of evidence-based research, and professional development in nursing. A-F only. Pre: consent. (Spring only)</td>
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<td>NURS 700</td>
<td>Thesis Research (V) Research for master's thesis. Repeatable unlimited times.</td>
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<tr>
<td>NURS 702</td>
<td>Philosophical Thoughts (3) Introduces the analysis of forces that affect adult learning. NURS majors only. A-F only. Pre: consent. (Fall only)</td>
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<tr>
<td>NURS 721</td>
<td>Instrument Development and Evaluation in Research (3) Theory of testing and</td>
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<td>Theory of testing and evaluation applied to nursing research in culturally diverse populations. NURS majors only. A-F only. Pre: consent. (Once a year)</td>
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<tr>
<td>NURS 730</td>
<td>Principles of Evidence-based Practice for Advanced Nursing (3) Evaluates</td>
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<td>Evaluates conceptual models for use in evidence-based practice. Refines skills in searching and critiquing the literature for application to practice change. Synthesizes a body of literature to design interventions pertinent to a practice problem. A-F only. Pre: consent. (Fall only)</td>
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<tr>
<td>NURS 732</td>
<td>Instrumentation and Evaluation (3)</td>
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<td>NURS 739</td>
<td>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. A-F only. Pre: consent. (Fall only)</td>
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<tr>
<td>NURS 741</td>
<td>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.</td>
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<tr>
<td>NURS 742</td>
<td>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.</td>
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<td>NURS 743</td>
<td>Qualitative Methods II (3) Advanced in-depth exploration of the data collection, data analysis and management of ethical 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)</td>
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<td>NURS 744</td>
<td>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)</td>
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<td>NURS 745</td>
<td>Creative Learning Strategies for Adults (3) Analysis of critical thinking of learners. A-F only. Pre: 742 (with a minimum grade of B-). (Fall only)</td>
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<tr>
<td>NURS 746</td>
<td>Grant Writing and Grant Management (3) Designed to introduce students to grants, grant writing, and grant management. Combined</td>
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Key to symbols & abbreviations: see the first page of this section.
OEST 699 Directed Reading/Research (V)
Selected interdisciplinary ocean/earth-related topics involving science, technology, engineering, and/or policy. Repeatable one time. Pre: consent.

OEST 735 Ocean Policy and Management (3)
Interdisciplinary approach to problems relating to human and marine 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 435, 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 resources, energy distribution. Political and scientific constraints. A-F only. Pre: 202 or OCN 201, or consent. (Cross-listed as OCN 330) DP

ORE 411 Buoyancy and Stability (3) Ship no- menciature 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) Design, construction, 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 for ocean engineers. 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: 603 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 limit element analysis 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 flows, internal hydraulic gradients, 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, seisms, ships, wind and rain, ocean dynamics, flow and biological imaging and measurement, seafloor mapping, and the forward/inverse problem. Pre: consent. (Offered 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 marine requirements. Pre: 607 or consent.

ORE 664 Nearshore Processes and Sediment Transport (3) Sediment transport by waves and currents in coastal areas and its effect on morphological processes. Effect of man-made structures on littoral drift. Pre: 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 hydraulic 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) Repeatable unlimited times. Pre: graduate standing and consent.

ORE 700 Thesis Research (V) Repeatable unlimited times. Pre: candidacy for MS in ocean and resources engineering.

ORE 707 Nonlinear Water Wave Theories (3) Higher-order theories. Fourier transforms and potential theory. Nonlinear shallow-water wave equations and hydraulic jumps; effects of rotation. Internal waves. Analytical techniques necessary will be developed as course progresses. Pre: 607 with a B-grade.

ORE 766 Numerical Methods in Ocean Engineering (3) Formulation and application of numerical methods for simulating and solving ocean engineering problems. Mathematical and computational fundamentals; accuracy and stability; numerical interpolation, differentiation, and integration; boundary element, finite difference, and finite element methods. Pre: consent.

ORE 783 (Alpha) Capstone Design Project (3) Major design experience based on knowledge and skills acquired in earlier coursework and incorporating realistic constraints. Includes economic, environmental, ethical, social, and liability considerations. Emphasis is placed on teamwork and consultant-client relationship. Pre: graduate standing consent.

ORE 791 Special Topics in Ocean and Resources Engineering (V) Content will reflect special interests of visiting and permanent faculty. Pre: 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) Repeatable unlimited times. Pre: 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 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. CR/NC only. (Fall only)

OCN 120 Global Environmental Challenges (3) Scientific understanding of human-caused environmental challenges and their potential solutions. Open to non-majors. (Spring only) DP

OCN 199 Introduction to Directed Research (V) Reading and research in any area of Oceanography under the direction of a faculty member. Repeatable up to six credits. CR/NC only.

OCN 201 Science of the Sea (3) Structure, formation, and features of ocean basins; seawater properties and distributions; currents; waves; tides; characteristics of marine organisms; marine ecological principles; man and the sea. Field trip required. DP

OCN 201L Science of the Sea Laboratory (1) 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. DY

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. Pre: 201, MET 200, GG 101, GG 103, or GG 170; or consent. (Cross-listed as MET 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. Pre: 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 is placed on the relationship between problems using linear algebra, vector calculus, ordinary differential equations, and numerical solutions. Pre: MATH 242 or consent. (Cross-listed as GG 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. Pre: any course 200 or above in PHIIL or any course 200 or above with either DB or DP designation, or consent. (Alt. years: spring; offered as PHIIL 315)

OCN 320 Aquatic Pollution (3) Pollution of freshwater and marine systems by human activities. Causes, consequences, and correctives. Pre: 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 constraints. Pre: 201, ORE 202; or consent. (Cross-listed as ORE 330) DP

OCN 331 Living Resources of the Sea (3) Marine fisheries, aquaculture, and the 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, Pre: 310/310L, and MATH 244; or consent. DP

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

OCN 399 Directed Reading (V) Directed reading on earth system science, oceanography, or environmental science. Repeatable up to 6 credits. Pre: 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. Pre: 201, 310/310L, or OCN 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 biotechnology. A-F only. Pre: or MICR 130, or consent. (Spring only) (Cross-listed as MBBE 405)

OCN 423 Marine Geology (3) Sediments, structure, geophysics, geochemistry, history of ocean basins and margins. Pre: GG 200 and GG 302, or consent. (Cross-listed as GEG 423) DP

OCN 430 Introduction to Deep-Sea Biology (1.5 Lec, 1.5 Discussion) Biology and ecology of deep-sea organisms and communities. Topics including bentho-pelagic coupling, depth zonation, energetics, diversity, adaptations, hydrothermal vents, sealife, deep-sea resource extraction and global climate change. A-F only. Pre: 201 and BIOL 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. Pre: 363 or consent. (Fall only)

OCN 444 Plate Tectonics (3) (2 Lec, 1-3 hr Lab) Quantitative geometric analysis of plate tectonics theory: instantaneous and finite rotation polies; triple-junction analysis; plate boundary stresses. Pre: GG 200 or consent. (Alt. years) (Cross-listed as GG 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. Pre: ANSC 321 and ANSC 445/445 or BIOL 172/L and CHEM 162/L 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. A-F only. Pre: 201, 201L, 310/310L, and PHYS 272/272L; or consent. (Alt. years)

OCN 481 Introduction to Ocean Ecosystem Modeling (3) Introduction to modeling biogeochemical and ecological ocean processes by building a coupled model of the Pacific to investigate physical effects on plankton blooms. Students learn ecosystem dynamics, basic numerical methods, and Matlab programming. A-F only, GES majors only. Pre: PHYS 272, and OCN 312 (with a minimum grade of B-). (Spring only)

OCN 490 Communication of Research Results (2) Lecture/discussion to provide instruction and experience in oral and written presentation of scientific results and material. Registration limited to GES majors in their final semester. A-F only. Pre: consent.

OCN 496 Topics in Global Environmental Science (V) Lecture and discussion or seminar. Current topics in environmental science explored in detail. Typically offered by faculty in their specialties, or developed in response to student interest. GES majors only. Repeatable one time or up to six credits. Pre: consent.

OCN 499 Undergraduate Thesis (V) Directed research in which the student carries out a scientific project of small to 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 or up to six credits. Pre: consent.

OCN 601 Marine Biology-Environments and Organisms (4) (3 hr Lec, 3 hr Lab) Introduction to the diversity of marine organisms and the many specialized coastal, reef, and oceanic habitats in which they live. Lab and field research exercises will complement lecture subjects. Graduate standing in Marine Biology required. Pre: consent. (Fall only) (Cross-listed as MBIOL 601)

OCN 620 Physical Oceanography (3) Introduction to properties of seawater, oceanographic instruments and methods, heat budget, general ocean circulation, regional oceanography, waves, tides, sea level. Formation of water masses, dynamics of circulation. Repeatable one time. Pre: MATH 242 (or concurrent), or consent.

OCN 621 Biological Oceanography (3) Factors governing productivity, population dynamics, distribution of organisms in major ecosystems of the ocean, emphasis on ecology of pelagic zone. OCN majors only. Pre: consent.


OCN 623 Chemical Oceanography (3) Chemical processes occurring in major ecosystems of the ocean, emphasis on effects of pelagic zone. OCN majors only. Pre: consent.

OCN 624 Marine Microplankton Ecology (4) (3 Lec, 1-3 hr Lab) Distribution, abundance, and ecology of marine microplankton, including bacteria, algae, and protozoans, with an emphasis on metabolic rates and processes. Pre: consent. (Fall only)

OCN 627 Ecology of Pelagic Marine Animals (4) (3 Lec, 1-3 hr Lab) Ecology of pelagic animals including feeding, energetics, predation, and anti-predation tactics. Life-history strategies, vertical flux of materials, population dynamics, fisheries. Pre: consent. (Spring only)

OCN 628 Benthic Biological Oceanography (4) (3 Lec, 1-3 hr Lab) Processes controlling the structure and function of benthic communities, including organism-sediment interactions, sediment geochemistry, feeding strategies, recruitment, succession, and population interactions. Pre: consent.

OCN 629 Molecular Methods in Marine Ecology (3) Molecular methods for studying marine functional ecology; emphasis on hands-on tools for ecological and biogeochemical studies of microbes; developing practical skills for research project in marine microbial ecology and biological oceanography. A-F only. Pre: 403, 626, 627, or 628; or consent. (Fall only)

OCN 630 Deep-Sea Biology (3) (1.5 Lec, 1.5 Discussion) Biology and ecology of deep-sea organisms and communities. Topics including bentho-pelagic coupling, deep zonation, energetics, diversity, adaptations, hydrothermal vents, seamounts, abyssal plains, deep-sea resource extraction, and global climate change. Pre: consent. (Alt. years)

OCN 632 Biogeochronological 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 through-out the remainder of the semester. Prereq: BIOL 171 and CHEM 161 and GG 101; or consent.

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. Prereq: 623 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, dynamics, and cycles, and analysis of natural and human-induced environmental change. Chemical and biological system and co-evolution of the biota. Repeatable one time. Prereq: 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 a scientific method; physical regimes in the ocean; ocean processes and observational strategies; resolution, sampling, array design and observing systems; models and data assimilation; major field programs; operational oceanography and climate prediction. Prereq: consent. (Cross-listed as GG 640)

OCN 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 hydrothermal rocks. Sedimentology, sedimentary petrography and geochemistry. Repeatable one time. Prereq: consent. (Cross-listed as GG 641)

OCN 642 Elemental Composition Changes (3) Distribution, origin, processes of formation. Sulfides, oxides, and placer minerals. Comparative studies of continental ore bodies. Submarine rift, subduction, and ablation. Prereq: one of 622, 625, GG 407, or GG 603.

OCN 643 Topics in Marine Geochemistry (3) Seminar on a broad topic; discussion and critique of research papers. Repeatable one time. Prereq: 623 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. Prereq: 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. Prereq: MATH 244 or MATH 253A.


OCN 661 Ocean Waves II (3) Baroclinic gravity waves, inertial waves, mid-latitude Rossby waves, topographic waves, equatorial waves. Prereq: 660 or consent.

OCN 662 Marine Hydrodynamics (3) Introduction 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. Prereq: 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 turbulence, and theory and parameterization of turbulent fluxes. Prereq: MATH 402 and MATH 403 (or their equivalents) and either 620 or MET 690, or consent. (Alt. years) (Cross-listed as GG 665)

OCN 666 Large-Scale Ocean-Atmosphere Interactions (3) Seminar/lecture 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 over 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. Prereq: 620 or MET 690, 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 layer-sea ice; sediment transport; boundary layer-sea ice. Prereq: 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. Prereq: 667 or consent.

OCN 674 Paleooceanography (3) Study of the paleoceanographic and paleoclimatic evolution of the Earth’s oceans, atmosphere, and biosphere. Repeatable one time. Prereq: 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 impacts on the functioning of marine ecosystems. A-F only. Prereq: previous course in marine science, or consent. (Alt. years)

OCN 681 Introduction to Ocean Ecosystem Modeling (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. Prereq: 620, 621, or consent. (Alt. years)

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

OCN 700 Thesis Research (V) Repeatable unlimited times. Prereq: master’s thesis. CR/NC only.

OCN 750 Topics in Biological Oceanography (V) Seminar. Literature and concepts in one of several active fields considered in detail. Repeatable up to 12 credits. Prereq: consent.

OCN 755 Seminar in Chemical Oceanography (1) Seminar. Prereq: consent.

OCN 791 Proposal Development (2) Repeatable unlimited times. Prereq: two of the 623 or the 620 and MET 690, or consent. CR/NC only. Prereq: two of the 623 or the 620 and MET 690, or consent. (Alt. years) (Cross-listed as MET 791)

OCN 799 Doctoral Dissertation (1-12) Doctoral dissertation. Repeatable unlimited times. Prereq: consent. CR/NC only. Prereq: two of the 623 or the 620 and MET 690, or consent. (Alt. years) (Cross-listed as MET 799)

PACS 101 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. Prereq: 108 or 201 or 202, or consent. DS

PACS 202 Pacific Islands Movement and Migration (3) Combined lecture and service-learning activities. Examines the diaspora of Pacific Islanders. Includes a service-learning activity examining cultural, political, and economic status of groups of Pacific Islanders living in other Pacific Places. Limit of 20 students. A-F only. Prereq: either 108 or HWST 107, or consent. DS

PACS 302 Contemporary Issues in Oceania (3) Combined lecture and discussion. Examination of critical political, social, and economic issues in the Pacific Islands region today. Prereq: 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 Islander and contemporary writings in English by Pacific Islanders. Prereq: one ENG DL course or consent. (Cross-listed as ENG 371) DL

PACS 399 Directed Research (V) Repeatable up to 12 credits.

PACS 401 Senior Capstone (3) Capstone for Pacific Islands Studies students to engage in intensive collaborative research with a Pacific Islander community in Hawai‘i, culminating in a research paper and public presentation. PACS majors only. A-F only. Prereq: 108 and 201 and 202, and either 301 or 302.

PACS 462 Drama and Theatre of Oceania (3) Survey of the contemporary drama and theatre of Oceania that combines island and Western traditions. Includes Papua New Guinea, Hawai‘i, Fiji, Samoa, Australia, New Zealand. Prereq: ANTH 250 or THEA 101, or consent. (Cross-listed as THEA 462) DH

PACS 492 Topics in Pacific Islands Studies (3) Repeatable two times. Prereq: upper division standing, or consent.

PACS 494 Culture and Consumption in Oceania (3) Lecture on changing patterns of consumption in Oceania, and the historical, political, cultural, and economic forces shaping such practices. Prereq: upper division standing, or consent.

PACS 495 Encountering Tourism in Asian-Pacific Societies (3) A critical examination of a wide spectrum of issues relating to the evolution and current impact of tourism on contemporary Asian and Pacific Islands societies. Topics include colonial antecedents, social impacts, cultural and environmental concerns, case studies (including Hawai‘i). Prereq:
PATH 599 Electives in Pathology (V) Individualized instruction in clinical and/or anatomic pathology. Third-year elective. Repeatable unlimited times. Pre: consent.

PATH 699 Directed Research (V) In-depth study of pathology of aging, nutrition, alcoholism, and immunology. Open to selected students and selected graduate students. Repeatable unlimited times. 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, arbitration, 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 resolution studies. Pre: any social science 100- or 200-level course or consent. DS

PACE 315 Personal Peace: Stories of Hope (3) Interviewing, writing, and publishing stories of those who have overcome great difficulties to find personal peace. Pre: grade of B or better in ENG 100 or consent. DH

PACE 345 Aggression, War, and Peace (3) Biocultural, evolutionary, and cross-cultural perspectives on the conditions, patterns, and processes of violence, war, nonviolence, and peace. Pre: ANTH 152. (Cross-listed as ANTH 345) 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 in university social science 100 or 200 level course, or consent. DH

PACE 413 Terrorism (3) Multidisciplinary approach to the origins, dynamics, and consequences of international terrorism, including the psychological, legal, ethical and operational concerns of counterterrorism. Pre: any 200-level DS course, or consent.

PACE 420 Introduction to Human Rights: International and Comparative Perspectives (3) Introduction to international, regional, and domestic human rights law; comparative perspectives on the theoretical origins of human rights and policy debates on the protection of human rights, dispute resolution, and enforcement mechanisms. Pre: any 100 or 200 level social sciences course, or consent.

PACE 429 Negotiation (3) Negotiation theory, negotiation skills and application of negotiation in conflict prevention and resolution. Pre: any Social Science 100 or 200 level course, or consent. DH

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: either 247, 310, 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 Resolution (3) Recent issues, practices in peace and conflict resolution. Repeatable one time. Pre: any DS course, or consent. DS

PACE 489 Hiroshima & Peace (3) 10-day intensive course at Hiroshima City University, Japan, in the 2-weeks before the annual August 6 commemoration of the atomic bombing. Home-stay with Japanese family. Sophomore standing, A-F only. Pre: any 200 level social science course, or consent. DH

PACE 495 Practicum and Internship (3) The practicum and internship in Peace and Conflict Resolution provides an opportunity for students to apply the skills and concepts learned in earlier courses. Pre: any two other PACE courses or consent.

PACE 629 Advanced Negotiation (3) Mastery of advanced negotiation skills for strategic dispute resolution, non-routine problem-solving, creating partnerships and alliances, and crafting optimal agreements. Students participate in simulations and acquire personal and professional skills vital for leadership. Graduate standing. Open to the following courses: 429, 447, 477, 647, 652, or 668; or PLAN 627; or COMG 455 or SOC 730; or LAW 508; or MGT 660.

PACE 647 Mediation: Theory and Practice (3) Combined lecture, discussion, and mediation simulations. Theory of ADR field. Theory of major different models of mediation, both in the U.S. and internationally. Application of mediation process to categories of disputes, family, workplace, and international. A-F only. Pre: graduate standing, or departmental approval.

PACE 650 Dispute Resolution System Design (3) Conflict prevention, management and resolution in the workplace. Design and implementation of effective systems integrating ADR and recent advances in dispute resolution methodology to government, health, nonprofit, educational, private sector and other institutions. Pre: 447 or 652 or MGT 660 or PLAN 627, or consent.

PACE 652 Conflict Management for Educators (3) Conflict resolution theory and practice for administrators, faculty and teachers in other institutions. K-12, community colleges and universities. Application and theory of negotiation, mediation, facilitation and hybrid ADR processes. Pre: EDEA 601 or EDEA 650, or consent. (Cross-listed as EDEA 652).

PACE 668 Facilitation: Facilitating Community and Organizational Change (3) Advanced conflict resolution course. Covers key issues in the prevention, management and resolution of multiparty conflicts. Combined lecture, discussion, and simulations. A-F only. Pre: graduate standing, or departmental approval. (Once a year)

PACE 690 Topics: Conflict Theory (3) Recent issues of policy and practice in peace and conflict management theory. Repeatable up to 12 credits. A-F only. Pre: graduate standing, or consent.

PACE 695 Conflict Resolution Practicum (V) Practice in conflict resolution skills. Open to candidates for Certificate in Conflict Resolution. Repeatable one time or up to three credits. A-F only. Pre: consent.

PACE 699 Directed Reading and Research (V) Repeatable up to 9 credits. A-F only. Pre: departmental approval or consent.

PACE 790 Advanced Topics: Conflict Theory (3) Advanced seminar covering issues of policy and practice in peace and conflict management theory. Repeatable one time. Graduate standing only. Pre: consent.
PHRM 599 Research in Pharmacology (V) Pharmacology research elective for medical students. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

PHRM 601 General Pharmacology (3) Pharmacodynamics, receptor theory, modeling, clinical trials and the FDA will be covered. Concepts in ADME/T and clinical research are also considered. Pre: consent.

PHRM 602 Systemic Pharmacology (9) Provides instruction at an organ system and functional level covering major organ and functional systems of the human body. Concepts in pharmacological research at the animal, organ system and whole human level will also be considered. Repeatable one time. Pre: consent.

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

PHRM 699 Directed Research (V) Repeatable unlimited times.

PHRM 700 Thesis Research (V) Repeatable unlimited times.

PHRM 800 Dissertation Research (V) Repeatable unlimited times.

Pharmacology (PHRM)

School of Medicine

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. Pre: mammalian physiology and dental hygiene major. HSL

PHRM 202 General Pharmacology (3) Similar to 201 but wider in scope of drugs discussed. Intended for undergraduates in the health sciences and related fields. Pre: mammalian physiology. DB

PHRM 499 Directed Reading and Research (V) Directed reading and research in experimental pharmacology. Repeatable unlimited times. Pre: consent.

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

PHRM 590 Selected Topics in Pharmacology (V) Elective for medical students in Pharmacology. Repeatable up to 12 credits. CR/NC only. Pre: MDED 551

PHRM 595 Principles of Pharmacology (1) Pharmacology elective course for medical students. MD students only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

PHIL 302 Social Philosophy (3) Problems and methods in examination of contemporary life, values, and institutions in light of traditional philosophical problems of freedom, justice, authority, equality. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 304 Metaphysics (3) Problems arising from attempts to categorize rationally what is, and what appears to be. Among others, topics may include universals and particulars, personal identity, freedom and determinism, and time. Pre: any course 100 or above in PHIL, or consent. DH

PHIL 305 Philosophy of Religion (3) Problems and methods. Nature of religious experience, alternatives to theism, existence of god, relation between faith and reason, nature of religious language. Pre: any course 100 or above in PHIL or REL, or consent. DH

PHIL 306 Philosophy of Art (3) Problems and methods in aesthetic valuation and in appreciation, creation, and criticism of artworks. Pre: any course 100 or above in PHIL or ARCH or ART or MUS or any DB course 100 or above; or consent. DH

PHIL 307 Theory of Knowledge (3) Problems and methods in epistemology. Nature of knowledge, its varieties, possibilities, and limitations. Pre: any course 100 or above in PHIL, or 200 or above with either DB or DP or DS designation; or consent. DH

PHIL 308 Philosophy of Science (3) Problems and methods. Domains of inquiry, methods of validation, and attendant moral concerns. Pre: any course 100 or above in PHIL, or 200 or above with either DB or DP designation; or consent. DH

PHIL 310 Ethics in Health Care (3) Ethical issues in application and organization of biomedical resources; professional responsibility, confidentiality, euthanasia, experimentation on human subjects, etc. Pre: any course 100 or above in PHIL or MED or NURS or with a DB designation; or consent. DH

PHIL 311 Philosophy and Aesthetics of Film (3) Aesthetics and ontology of film and video, based on readings in the philosophy of film and the viewing of a number of films per semester. Pre: one course in PHIL or THEA, drama or film; or consent. See department for list of approved courses.

PHIL 312 Ethics in Practice (3) Team-taught exploration of five contemporary ethical issues using a variety of philosophical approaches and methods. Pre: any 101 course or above in PHIL or above 100 in POLS or SOC; or consent. (Once a year)

PHIL 313 Philosophy and Evolution (3) Explores the ethical and epistemological implications of the theory of evolution. Pre: one course in PHIL or BIOL, or consent. (Alt. years)

PHIL 314 Critical Thinking: Pre-Medicine (3) Scientific and social perspectives on the nature of disease and their impact on medical practice. Exploration of these topics through reading, writing and critical inquiry. Pre: any course in PHIL, 100 or above; or any two BIOL, CHEM or PHYS courses; or consent.

PHIL 315 The Role of Models in Global Environmental Science (3) Introduction to philosophy of science for those with some background in the natural sciences. Special emphasis on issues arising from the construction and use of models. Pre: any course 200 or above in PHIL or any course 200 or above with either DB or DP or DS designation, or consent. (Alt. years: spring) (Cross-listed as OCN 315)

PHIL 316 Science, Technology, and Society (3) Investigation of some of the complex interconnections between science, technology, and society. Pre: any course 100 or above in PHIL or in a course with either DB or DP or DS designation; or consent. DH

PHIL 317 Critical Thinking: Pre-Law (3) Introduction to concepts and techniques for evaluating arguments with special emphasis on their application both to questions of law and to issues in jurisprudence. Pre: any course 100 or above in PHIL or POLS or SOC, or consent. DH

Key to symbols & abbreviations: see the first page of this section.
PHIL 318 Philosophy of Law (3) Historical and contemporary issues in law and legal theory. Law and morality; legal responsibility, justice, rights, punishment, judicial reasoning. Pre: any course 101 or above in PHIL or above 100 in BLAW or POLS or SOC, or consent. DH

PHIL 319 Ethical Issues in the Law (3) Exploration of ethical issues that have come before (mainly U.S.) courts, including but not confined to, medical and criminal justice ethics. Repeatable one time. A-F only. Pre: 101 or a course numbered 200 or above in PHIL or HSTI or ENG, or with a DS designation; or consent.

PHIL 320 American Philosophy (3) Survey of major philosophers and schools in development of American thought up to modern times. Pre: any course 100 or above in PHIL, consent. DH

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 of Buddhism. Pre: any course 100 or above in PHIL, CHN, JPN, PALI, SNSK, or TIB; or consent. (Cross-listed as ASIAN 360) DH

PHIL 370 Chinese Philosophy (3) Survey of important 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 390 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 JPN, or consent. DH

PHIL 411 Alpha Western Movements and Periods (3) (B) Greek; (C) late antiquity; (D) medieval; (E) Renaissance; (F) early modern; (G) British empiricism; (H) German idealism; (I) 19th century; (J) 20th century. Repeatable two times in different alphs, 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) Contemporary theories in semantics and syntax; problems of meaning, reference, speech acts, etc. Pre: any course 200 or above in PHIL or LING, or consent. DH

PHIL 438 Gender and Environmental Philosophy (3) Interdisciplinary approach to women’s perspectives and roles in human ecology. Pre: any course 200 or above in PHIL or WS or any course 200 or above with a DB or DP designation, or consent. (Cross-listed as WS 438) DH

PHIL 445 Symbolic Logic (3) Intermediate-level course covering proof techniques for classical, first-order predicate calculus, and an introduction to meta-theory. Pre: 110 or any course 200 or above in ICS or MATH; or consent. DH

PHIL 448 Individual Philosophers/Topics (3) Examination of work of a major Eastern or Western philosopher, or topic of philosophical concern. Repeatable three times. Pre: 100, 101, 102, 103, 211, 212, 213, or consent. DH

PHIL 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. DH

PHIL 493 Teaching Philosophy (3) Supervised work in elementary, middle, and high school classrooms, facilitating philosophical inquiry with students. Repeatable one time. Pre: 492 or consent. DH

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

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: 304.

PHIL 615 Studies in Philosophy of Religion (3) Key issues in theory 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 aesthetic theories. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 306.

PHIL 617 Studies in Epistemology (3) Key issues in contemporary philosophical debates about knowledge. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 307.

PHIL 622 Studies in Hermeneutics (3) Important debates concerning the methodology of textual interpretation. Pre: graduate standing or consent.

PHIL 630 History and Theory of Science (3) Exploration of problems at the intersection of historical studies of science as a process and philosophical analysis of basic concepts of the sciences. Pre: graduate standing or consent. Recommended: 308 or 316.

PHIL 670 Confucianism (3) Ethical, social, institutional problems in classical theory. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 671 Neo-Confucianism (3) Logic, epistemology, metaphysics, and ethics of major Chinese Neo-Confucian philosophers, 11th–16th century. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 672 Daoism (3) Critical examination and evaluation of major philosophical ideas in Lao Zi, Zhuang Zi, and the Neo-Daoists. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 699 Directed Research (V) Repeatable up to 30 credits. Pre: graduate standing and consent.

PHIL 700 Thesis Research (V) Repeatable up to six credits. Pre: master’s Plan A candidate and consent.

PHIL 720 Seminar on Individual Philosophers (3) The most significant texts of an important philosopher. Repeatable three times in the MA program; an additional four times in the PhD program. Pre: graduate standing or consent.

PHIL 725 Seminar in Philosophical Topics (3) Close study of a topic of important philosophical controversy. Repeatable two times in the MA program; an additional three times in the PhD program. Pre: graduate standing or consent.

PHIL 730 Seminar in Islamic Philosophy (3) Major philosophical problems in Islamic thought. Focus either on a specific topic or one author. Repeatable one time. Pre: graduate standing or consent. (Once a year)

PHIL 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 several closely related philosophical texts 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 two times with consent of instructor and Graduate Chair. Pre: graduate standing or consent. Recommended: 350.

PHIL 760 Seminar in Buddhist Philosophy (3) Major philosophical problems in the development of Buddhist thought during its formative period. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 360.

PHIL 770 Seminar in Chinese Philosophy (3) Fundamental issues, problems, movements, and schools of Chinese philosophy, such as classical Confucianism, Daoism, Legalism, Chinese logic, and Neo-Confucianism. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 771 Seminar in Yi Jing (3) Metaphysical, epistemological, ethical, and textual analysis of the Yi Jing and its claim as foundational work for classical Confucianism, Daoism, and Neo-Confucianism. Pre: graduate standing or consent.


PHIL 790 Seminar in Comparative Philosophy (3) Comparison of widely differing philosophical traditions. Specific topic changes each semester. Consult department for more information. Repeatable two times with consent. Pre: graduate standing or consent.

PHIL 800 Dissertation Research (V) Repeatable unlimited times.

Physics (PHYS) College of Natural Sciences

A grade of C (not C-) or better is required in all prerequisite courses. Credits toward the degree is given for either 151/151L or 170/170L and similarly for either 152/152L or 172/172L. However, the courses may come from different sequences.

PHYS 100 Survey of Physics (3) Mechanics, electricity and magnetism, waves, optics, atomic and nuclear physics. Only algebra and geometry used. For non-science majors. DP

PHYS 100L Survey of Physics Lab (1) (3 hr Lab) Hooke’s law, falling bodies, collisions, Boyle’s law.
PHYS 121 How Things Work: Physics for Everyday Life (3) Introduction to physics and science in everyday life. It considers objects from our daily environment, and focuses on the principles such as motion, forces, heat, magnetism, optics, and modern physics. A-F only. DP

PHYS 151 College Physics I (3) Non-calculus physics. Mechanics, wave motion, heat. Pre: MATH 140, or 215 or higher; or qualifying score on math placement exam. 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). DY

PHYS 152 College Physics II (3) Electricity, magnetism, optics, modern physics. Pre: 151. DP

PHYS 152L College Physics Lab II (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) or MATH 252A (or concurrent). MATH 216 may be substituted with consent. DP

PHYS 170L General Physics I Lab (1) (3-hr Lab) Similar to 151L but at 170 level. Pre: 170 (or concurrent); or consent. EP

PHYS 272 General Physics II (3) Electricity and magnetism and geometric optics. Pre: 151 or MATH 242 or MATH 252A. MATH 216 may be substituted with consent. Pre-requisite: 170L. DP

PHYS 272L General Physics II Lab (1) (1-3-hr Lab) Similar to 151L but at 170 level. Pre: 170 (or concurrent); or consent. EP

PHYS 274 General Physics III (3) Relativity, introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or MATH 243 (or concurrent) or MATH 253A (or concurrent); or consent. DP

PHYS 274L General Physics III Lab (1) (1-3-hr Lab) Experimenting 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). EP

PHYS 305 Computational 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 367 or 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 (Fourier optics). Specialized applications include Gaussian beams, laser resonators, pulse propagation, and nonlinear optics. Pre: 450 (or concurrent with a minimum grade of C) or EE 372 (or concurrent with a minimum grade of C-), or consent. (Cross-listed as NSCI 547) 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: printed circuit board design/fabrication; complex programmable logic design/verification; integrated circuit SPICE simulation. Detector fabrication and test emphasis during final project. Pre: 475 (or equivalent) or consent. (Spring only)

PHYS 480 Quantum Mechanics I (3) Wave mechanics. Schroedinger equation, angular momenta, potential problems. Pre: 274, 310, 550, 400 (or concurrent); or either MATH 244 or 253A; and either MATH 311 or 307; or consent. 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 Moshbauer effect. Numerical simulations of particular physics experiments are included. Pre: 274L and 480 (or concurrent), or consent. DY

PHYS 481 Quantum Mechanics II (3) Continuation of 480; atomic physics, scattering, perturbation theory. Pre: 480. DP

PHYS 481L Advanced Physics Lab (2) Advanced experiments including angular correlations in positronium annihilation, optical polarization phenomena, chaos, measurements of c and the muon lifetime, crystal diffraction and the Moshbauer 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 ASTR 300 (or concurrent), or consent.

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 in-service teachers, or consent. Repeatable one time. (Cross-listed as NSCI 505) DP

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: 470. DP

PHYS 650 Electrodynamics I (3) Potential theory. Maxwell’s equations, electromagnetic waves, boundary value problems. Pre: 450; and 600 (or concurrent), or MATH 402. (Alt. years)

PHYS 651 Electrodynamics II (3) Relativistic electrodynamics, radiation by charged particles. Pre: 450. DP

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. 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, nuclear, 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) Repeatable unlimited times. 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 (3) Relativistic wave equations and their solutions. Dirac’s theory of the electron, propagator techniques. Applications to quantum electrodynamics. Pre: 671. (Alt. years)

PHYS 773 Quantum Field Theory II (3) Local gauge invariance, Yang-Mills 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 patterns. Techniques of particle physics. Pre: 481 and 671. (Alt. years)

PHYS 778 Nuclear and Particle Physics II (3) Quantum chromodynamics; electroweak interactions; the standard model. 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. Repeatable unlimited times.

**Physiology (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-requisite: 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: should have an understanding of basic physiology concepts as presented in 141 or equivalent. 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: BIOL 171 and BIOL 172, or any PHYL course and either CHEM 161 (or higher) or any BIOC course; or consent. DB

**PHYL 301L Human Anatomy and Physiology Lab (1)** Laboratory study of human anatomy and physiology by means of models, histology slides, experiments, and demonstrations. Co-requisite: 301 or consent. DY

**PHYL 302 Human Anatomy and Physiology (4)** Continuation of 301. Pre: 301/301L or consent. DB

**PHYL 302L Human Anatomy and Physiology Lab (1)** Continuation of 301L. Pre: 301/301L, or consent. Co-requisite: 302. DY

**PHYL 401 Human Physiology: Organ Systems (4)** Basic function of the major organ systems in man. Covers cardiovascular, respiratory, renal, acid-base, and gastrointestinal physiology. Pre: 302 or equivalent with consent. DB

**PHYL 402 Human Physiology: Integrative Systems (4)** Senior-level course in integrative systems (central nervous system and endocrinology). Complements 401. Pre: 401 and either BIOC 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 ZOOI 430; or consent. DB

**PHYL 403L Environmental Physiology Lab (1)** Laboratory experience in measuring human physiological responses to environmental stress. Complements 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 basic 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.

**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 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 overview of major organ system physiology in humans, including (but not limited to) basic cell physiology, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and neurophysiology. A-F only. Pre: 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 610 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 Hawai‘i and the tropics. Open to nonmajors. A-F 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.

**PEPS 350 Invasive Pest Species (3)** Ecological and socioeconomic 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 Hawai‘i’s insects/arthropods. Classification to family level. A-F only. Pre: BOT 101 or ZOOI 101 or BIOL 171; or consent. DB

**PEPS 363L General Entomology Laboratory (1)** Laboratory in the biology and classification to family level of Hawai‘i’s insects and arthropods. A-F only. Pre: 363 (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. (Cross-listed as TPSS 371)

**PEPS 400 Plant Pest Diagnosis (3)** The art and science of the accurate diagnosis of important plant health problems for key plants and cultivated crops in various agroecosystems in Hawai‘i, the Pacific, and the global tropics. (Spring only)

**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 MBBE 402) DB

**PEPS 405 Plant Pathogens and Diseases (4)** (3 Lec, 1 3-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 410 Sustainable Soil and Plant Health Management (2)** Provides knowledge and understanding of soils, agroecology, and sustainable approaches for plant health management, and prepares students for applied research in various tropical cropping systems. A-F only. Pre: 210 or TPSS 220 or consent. (Alt. years: spring)

**PEPS 412 Environmental Biochemistry (3)** Biochemical and chemical principles of occurrence, distribution, bioactive 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 MBBE 412) DB

**PEPS 418 Turfgrass Pest Management (4)** Provides students with knowledge and real world experience on common turfgrass pests and management strategies in Hawai‘i, with emphasis on integrated pest management. Common cool-season turfgrass and pest management are also discussed. Repeatable unlimited times but credit earned one time only. A-F only. Pre: 210 or consent. (Fall only) (Cross-listed as TPSS 418)

**PEPS 421 Foundations of Pest Management (4)** (3 Lec, 1 3-hr Lab) Principles and concepts of

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*Key to symbols & abbreviations: see the first page of this section.*
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 Biocounter of Invasive Species (3) Biological control of arthropods, weeds, plant pathogens, and vertebrates. Pre: 363 or consent. DB

PEPS 430 Plant Disease Management (4) (3 Lec, 1 3-hr Lab) Diagnosis, epidemiology, and integrated management of important plant diseases and pathogens for key plants and cultivated crops in various agricultural systems in Florida, the Pacific, and the global tropics. Pre: 405. (Spring only)

PEPS 451 Environmental Law (3) Exploration of federal laws, regulations, and precedents that govern our interaction with the environment. Analysis of laws regulating air, water, toxic, pests, endangered species, and environmental justice. Pre: junior or senior standing.

PEPS 463 Urban Pest Management (3) (2 Lec, 1 3-hr Lab) Biology, ecology, and management of pest organisms associated with people, structures, and the urban environment. Pre: consent.

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 weed studies. 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 are 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 Capsstone (4) Integration and application of academic knowledge and critical skills emphasizing professional development, Directed Research, field study or 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 or consent.

PEPS 646 Plant-Bacterial Interactions (3) Diagnosis, molecular biology, genetics, and infection mechanisms of bacterial plant pathogens and symbioses. Pre: one of BIOC 481, MICR 351, MICR 475; or consent. (Cross-listed as MICR 646)

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 mechanics. Graduate standing only. Pre: 405 or MBBE 405, or MBBE 480, or MICR 351. (Every 2 years) (Cross-listed as MBBE 652)

PEPS 660 Seminar in Plant Pathology (1) Seminar on research and topics in plant pathology. Repeatable unlimited times. A-F only. Pre: graduate standing or consent.

PEPS 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 Phylogeography (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; and CHEM 272; or consent.

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 (1) Seminars on research topics and entomology. Repeatable unlimited times. Pre: graduate standing or consent.

PEPS 691 Special Topics (V) Study and discussion of significant topics and problems in plant and environmental protection sciences at an advanced level. Offered by visiting or existing faculty as a special course. Repeatable unlimited times. Pre: graduate standing or consent.

PEPS 695 Plan B Master's Project (3) Independent study for students working on a Plan B master's project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing in entomology or tropical plant pathology.

PEPS 699 Directed Research (V) Directed research, critical reviews in environmental protection sciences, entomology, or plant pathology. Repeatable unlimited times. CR/NC only.

PEPS 700 Thesis Research (V) Research for master's thesis. Repeatable unlimited times.


PEPS 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.

Key to symbols & abbreviations: see the first page of this section.
concepts and theories developed from an international relations perspective. Pr: sophomore standing or, or consent. DS

POLS 316 International Relations (3) Decision-making behavior of international actors; strategies of peacemaking. Pr: sophomore standing or, or consent. DS

POLS 317 International Law (3) Nature and function of international law in international politics. Pr: sophomore standing or, or consent. DS

POLS 318 Current Issues in International Law, Organization, and Culture (3) Principles, norms, cases, and theories of pollution, culture and organization in international politics. Pr: any 100 level POLS course or consent. DS

POLS 319 International Organization (3) International relations of governmental and nongovernmental organizations. Pr: sophomore standing or, or consent. DS

POLS 321 International Migration (3) Political-cultural economy of international migration: post-colonial populations, refugees, and immigrants. Pr: sophomore standing or, or consent. DS

POLS 322 American Foreign Policy (3) Purposes, methods, strengths, obstacles, prospects; factors affecting American foreign policy; impact abroad and at home. Pr: sophomore standing or, or consent. DS

POLS 323 Model United Nations (1) Simulation of United Nations organizations, especially General Assembly. Repeatable 4 times. Pr: 315 (or concurrent) or 319 (or concurrent), or instructor consent. DS

POLS 324 Global Environmental Politics (3) Evolution of international politics, law and decision-making on a variety of environmental concerns; from endangered species to pollution to climate change. Interaction of population, development, and environment in global governance. DS

POLS 325 Religion and Law in the U.S. (3) Survey 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. Pr: 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. Pr: any 100 level POLS course or course.

POLS 335 History of Political Thought (3) Theories, approaches, concepts, and issues developed or raised in history of political philosophy and thought. Pr: any 100- or 200-level POLS course, or consent. DS

POLS 337 American Political Theory (3) Origins and development of American political thought. Pr: any 100 level POLS course or course. DS

POLS 338 (Alpha) Topics in Political Theory (3) Significant works, historical continuities, themes, and issues in political theory. (B) classical political philosophy; (F) evolution and utopia; (G) contemporary political theory; (I) Marxist philosophy. Pr: 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.” Pr: any 300 level POLS or WS course; or consent. (Cross-listed as WS 439) DS

POLS 340 Korean Politics and Society Through Film (3) Examines modern Korean politics and society through films. Through movies and documentaries, students will learn major sociopolitical issues including military dictatorship, democratization, and globalization that Korea underwent for the last several decades. Repeatable one time. Sophomore standing or higher. A-F only. DS

POLS 341 The Politics of Media (3) Study of the political manipulation of aural and verbal images. Exercises to increase media literacy. Pr: 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. Pr: any 100 level POLS course, or consent. DS

POLS 343 The Politics of Film (3) Political, philosophical, and aesthetic elements of film; cinematic and cultural film genres; representative practices in films. Pr: any 100 level POLS course, or consent. DS

POLS 344 Nā Polītika ma ka Nīhau Hawai‘i - Politics in Hawaiian Language Media (3) Study of Hawaiian news media with emphasis on political content. Taught in Hawaiian. Pr: 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 power. Pr: sophomore standing or, 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 disability movement, activism and the development of policy and law. A-F only. Pr: sophomore standing or, 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. Pr: one of 339, AMST 310, AMST 316, AMST 318, 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. Pr: sophomore standing or, or consent.

POLS 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. Pr: sophomore standing or, 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. Pr: sophomore standing or, 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. Pr: 375 or consent.

POLS 377 Topics in Law and Politics (3) Current issues: recent research findings; practical research undertaken by student. Pr: sophomore standing or, or consent.

POLS 378 Topics in American Politics (3) Specific institutions and processes of the American governmental system. Pr: sophomore standing or, or consent.

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. Pr: sophomore standing or, or consent.

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; constitutional
to graduating seniors in political science, including substantial research project. Pre: 390 (or concurrent) or senior standing or consent. DS

POLS 408 Mānoa Undergraduate Congressional Fellowship Internship Seminar (6) Hawai‘i Undergraduate Political Internship’s Congressional Fellowship. Awards and the intern-ship experience in a Hawai‘i congressional office. Students review policy processes, House and Senate procedures and produce a final paper. Restricted to fellowship participants. Junior and senior standing only. A-F only. Co-requisite: 386.

POLS 436 Gender, Justice and Law (3) Exploration of landmark U.S. Supreme Court cases related to sex and gender. Topics may include sex discrimi-nation, sexual orientation discrimination, privacy, and reproductive freedom. Pre: any. At least 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 Sci-ence (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 designs; philosophy of science applied to political science. 

POLS 601 Political Analysis and Theory Build-ing (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 Topics in Methodology (3) Specific methodological techniques and practices introduced in 601 and 602. Pre: graduate standing or consent.

POLS 610 Political Theory and Analysis (3) Ma-jor 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 politi-cal tradition from Plato to Nietzsche. Repeatable one time.

POLS 612 Hawaiian Political Thought: Theory and Method/Na Mana’o Politiika Hawai‘i (3) Study of Hawai‘i Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: 303, HAW 402 and HAW 428; or consent. (Cross-listed as HAW 612)

POLS 615 (Alpha) Topics in Political Thought (3) Specific individuals, or particular issues and problems. (C) feminist theory. Pre: gradu-ate 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 635 (Alpha) Topics in International Rela-tions (5) (B) international relations and war; (E) in-ternational 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 narra-tives, 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 in Asia and Africa. (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 devise will be emphasized, as well American influence and penetration abroad. A-F only. Pre: graduate standing or consent. (Once a year)

POLS 650 Public Administrative Theory (3) Focus varies among theoretical, comparative and developmental approaches to 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; analy-ses of public law (including court decisions), other forms of dispute management, and judicial behavior and policy-making. Pre: 110.

POLS 665 (Alpha) Topics in Public Law and Judicial System (3) Recent issues and practices in public law; particular judicial systems. Pre: graduate standing or consent.

POLS 670 Introduction to Public Policy (3) Per-spectives on policy analysis; basic approaches to the study of public policy, political economy, and policy evaluation. (Cross-listed as PLAN 607)

POLS 672 Politics of the Future (3) Introduction to political futures studies; images of future, theories of social change, methods of social forecasting and designing preferred futures. Pre: graduate standing.

POLS 673 The Future of Political Systems (3) Normative and descriptive forecasts of political institu-tions, systems, subsystems, and behaviors. Design of preferred systems.

POLS 675 Topics in Public Policy (3) Particular political processes, specific political institutions, or particular policy area. Pre: graduate standing or consent.

POLS 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 685 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 stand-ing 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 those seeking internship experience. Repeatable one time. A-F only. Pre: 672 and 673 or consent for the alternative futures option; 620 or consent for the indigenous politics option; consent of advisor for all other options.

POLS 699 Directed Reading and Research (V) Repeatable unlimited times. Pre: consent.

POLS 700 Thesis Research (V) Repeatable unlimited times.

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 indig-enous 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 776 Indigenous Nations and the Prob-lems of Sovereignty (3) Examines intersections of sovereignty and indigeneity from comparative and critical perspectives. Engages indigenous studies of sovereignty and of alternative political frameworks. Repeatable one time. (Alt. years)

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 780 Seminar: Politics of Regions (3) Analysis of political development, international relations, decision-making processes, and systems of political thought in regions and subregions of the world. Repeatable.

POLS 800 Dissertation Research (V) Repeatable unlimited times.

Portuguese (PORT) College of Languages, Linguistics and Literature Students choosing Portuguese for the language require-ment 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) Conversa-tion, grammar and reading, HSL


PORT 201 Intermediate Portuguese (3) Reading, conversation, writing, laboratory drill. Pre: 102. HSL

PORT 202 Intermediate Portuguese (3) Continua-tion of 201. Pre: 201. HSL

PORT 303 Conversation (3) Intensive practice in spoken Portuguese, focusing on the preparation and completion of oral tasks and presentations. 40% or more of the grade is based on 3-4 oral communica-tion presentations. Pre: 202.

PORT 460 Fourth-Level Portuguese Abroad (V)
Intensive formal instruction at the fourth-year level in Portuguese language, linguistics, culture, civilization, film, or literature in a Portuguese-speaking country. Repeatable one time. Pre: 360.

Psychiatry (PSTY)
School of Medicine
PSTY 499 Directed Reading/Research (V)
Individualized directed readings and/or research in mental health and psychiatry under the supervision of an instructor. Open to non-majors. Repeatable up to four times. A-F only. Pre: consent.
PSTY 531 7-Week Psychiatry Clerkship (10)
7-week basic psychiatry clerkship. Pre: third-year standing.
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. Pre: third-year standing and concurrent registration in PSTY 532.
PSTY 545 (Alpha) Electives in Psychiatry (V)
Senior medical student elective providing advanced instruction on the theory and methods of mental health research as well as supervised participation in an assigned research project in the Department of Psychiatry. (B) adult inpatient PSTY; (C) child PSTY; (D) forensic PSTY; (E) journal editing; (F) forensic PSTY aspects of SURG; (G) sub-internship in adult PSTY; (H) substance abuse; (J) PSTY aspects of rehab medicine; (K) PSTY aspects of SURG; (M) PSTY consult liaison; (N) post-traumatic stress disorder; (O) examual elective in PSTY; (P) 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 595 Philosophy & Human Suffering (1)
To see how various philosophies and religions have tackled the question, "why is there suffering in the world?" Read short excerpts from "classic" texts and discuss in a welcoming atmosphere and draw own conclusions. Medical students only. CR/NC only. (Fall only)
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, 70-hour seminars are explorations of current issues in their respective areas.

GENERAL PSYCHOLOGY (X0X)
PSY 100 Survey of Psychology (3)
An overview of the field: psychophysiology, perception, learning, cognition, motivation, personality, social psychology. DS
PSY 201 Unit Method Instruction (3)
Principles, techniques, issues, and philosophy. Laboratory provides working experience with this instruction technique. Pre: 100 and written consent.
PSY 202 Psychology of Gender (3) Survey of topics in psychology relevant to gender and its impact on the lived experience and 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) DS
PSY 407 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/or 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 Teaching 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 409 Melodramas of Psychology (3) Methods used in psychological research; observational, correlational, and experimental types of design.
PSY 700 Thesis Research (V) Research for master's thesis. Maximum of 6 credit hours. Not repeatable for credit toward master's degree.
PSY 701 Seminar in General Psychology (3)
PSY 702 Seminar in History and Theory of Psychology (3)

PSYCHOMETRICS (XIX)
PSY 212 Survey of Research Methods (4) (3 Lee, 1-2 hr Lab) Survey of standard methods and related conceptual issues employed in psychological research. Both experimental and non-experimental methods will be reviewed. Pre: 100. 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) DS
PSY 612 Applied Regression and Analysis of Variance (3) Introduction to linear statistical models as principle of data analysis. Topics include multiple regression models with continuous and categorical predictors. ANOVA with multiple factors, ANOVA with repeated measures, and ANCOVA. Pre: 610 or EDEP 601 or PSY 610, (with a grade of B or higher), or consent. (Cross-listed as EDEP 604)
PSY 613 Structural Equation Modeling (3) Theories and applications to test models with manifest and latent variables. Topics include path analysis, factor analysis, and latent variable analysis. Pre: 612, EDEP 604, or consent. (Cross-listed as EDEP 605)
PSY 614 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)
PSY 616 Measurement in Education and Social Sciences (3) Test theories and applications in education and social sciences. Topics include the true score model, generalizability theory; validity; test-retest; item response theory; and applications in research. Class requires knowledge in ANOVA and regression. (Cross-listed as EDEP 616)
PSY 617 Advanced Psychometrics (3) Theories and applications of modern psychometrics. Topics include unidimensional and multidimensional models of item response theory, detecting biased items, measurement invariance, scaling methods, and current issues in psychometrics. Pre: 616, EDEP 616, or consent. (Cross-listed as EDEP 626)

PSY 618 Categorical Data Analysis (3) Theories and methods for data analysis with categorical and discrete variables. Topics include contingency tables; logistic regression; log-linear models; and introduction to generalized linear models. (Cross-listed as EDEP 618)
PSY 619 Multilevel Modeling for Cross-Sectional and Longitudinal Data (3) Theories and applications of multilevel model to analyze cross-sectional and longitudinal data in education and social sciences. Pre: 612 or EDEP 604 (with a minimum grade of B or higher), or consent. (Cross-listed as EDEP 612)
PSY 719 Research in Psychometrics (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. Pre: consent.

EXPERIMENTAL PSYCHOLOGY (XX2)
PSY 220 Introduction to Behavioral Psychology (3) Outline of basic learning principles. A general, unified approach to study of human personality and behavior. Based upon a learning conception; various areas of psychology and the other social sciences are treated. Pre: 100. DS
PSY 225 Statistical Techniques (3) Frequency distributions; graphic methods; central tendency; variability; correlation; reliability; tests of significance. Pre: 100. DS
PSY 322 Learning and Motivation (3) Theoretical interpretations; survey of major theorists and contemporary 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 Cognition (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) Repeatable unlimited times.
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 (XX3)
PSY 230 Introduction to Psychobiology (3) Survey of study of behavioral and physiological processes from a natural sciences viewpoint. Evolution, ethological analysis of behavior genetics, neural mechanisms, drugs and behavior, biological development. Pre: 100. DB
PSY 331 Behavioral Neuroscience (3) Coverage of the neural, developmental and mechanistic bases of learning, memory and cognition, motivation and regulatory behavior and mental disorders. A-F only. Pre: 230 or consent. DB

Key to symbols & abbreviations: see the first page of this section.
and differences in interpersonal relations. Pre: 100. DB

PSY 349 Physiological Psychology (3) Relation of central and peripheral nervous systems to behavior. Pre: 240 or FAMR 230. DS

PSY 352 Psychology of Human Sexuality (3) Psychosocial aspects of human sexual relationships. Social psychology of emotional and physiological arousal, interpersonal attraction, and societal regulation of intimate relationships. Pre: 100. DS

PSY 459 Social Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. Pre: 250 or consent. DS

PSY 650 Social Psychology (3) Theories and research in social cognition and behavior. Pre: 250 or consent. 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. Pre: 250 or consent. DS

PSY 654 Psychology and Social Issues (3) Conflict, dissent, community issues, problems; social change and its relation to mental disorder. Pre: 250 or consent. DS

PSY 655 Applied Social Psychology (3) Problems in use of social psychology principles in human affairs; multidisciplinary considerations. Pre: 250 or consent. DS

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, interpersonal attraction, mate selection, and antecedents and consequences of intimate relationships. Pre: consent. A-F only. (Spring only)

PSY 751 Seminar in Social Psychology (3) Repeatable unlimited times. Pre: consent. DS

PSY 759 Research in Social Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

PERSONALITY/TRANSPERSONAL PSYCHOLOGY (XAX)

PSY 260 Psychology of Personality (3) Scientific study of personality, its meaning, assessment, development, relation to cultural-social determinants. Pre: 100. DS

PSY 361 Transpersonal Psychology (3) Psychological study of transpersonal human capacities, potentialities, awareness, and growth. Pre: 100. DS

PSY 469 Personality: Advanced Topics (3) Coverage in-depth of some area of theory and research in personality or transpersonal psychology. Repeatable to six credit hours. Pre: 100. DS

PSY 660 Personality Theory and Research (3) Methods of measurement, antecedents, structure, dynamics, situational determinants of individual reactions. Evaluation of theories and related research. Pre: 260. DS

PSY 763 Seminar in Transpersonal Psychology (3) Repeatable unlimited times.

PSY 764 Seminar in Humanistic Psychology (3) Pre: 250 or consent. DS

PSY 769 Research in Personality (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times. Pre: 250 or consent. DS

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. 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 Communication in Helping Relationships (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised practice, video lab. Pre: one of 100 and COMG 151, COMG 251 or COMG 301. (Cross-listed as COMG 490) DS

PSY 478 Teaching Personal Development (Su) Supervised experience in leading a seminar in personal development. Pre: 170 and 12 additional credits in PSY and written consent. DS

PSY 479 Advanced Topics in Adjustment/Treatment/Prevention (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) I diographic 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 711 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) Repeatable unlimited times.

PSY 774 Seminar in Clinical Psychology (V) Repeatable unlimited times.

PSY 775 Seminar in Psychological Therapies (3) Repeatable unlimited times.

PSY 776 Health Psychology: Behavioral and Biological Bases (3) Psychological and biological bases of health psychology and illness. 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. Pre: consent.

PSY 779 Research in Clinical Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable 30 times. Pre: consent.
COMMUNITY AND CULTURAL PSYCHOLOGY (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. DS

PSY 385 Consumer Behavior (3) Analysis of consumer behavior and motivation; principles of learning, personality, perception, and group influence, with emphasis upon mass communication effects. Pre: BUS 312 or consent. (Cross-listed as MKT 311) 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, consultation, and community action agencies. Pre: consent.

PSY 781 Community Psychology Seminar (3) Repeatable unlimited times.

PSY 789 Community Psychology Research (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

RESEARCH (X9X)

PSY 499 Directed Reading or Research (V) Repeatable. Pre: 100 and consent of instructor and department chair.

PSY 699 Directed Reading or Research (V) Repeatable unlimited times. Pre: consent.

Public Administration (PUBA)

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 traditions, 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 (7) 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 administration students 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. (Cross-listed as CEE 620)

PUBA 621 The Political Environment of Public Organizations (3) Seminar on the role of public managers in shaping public opinion and public policy. Using evidence from theory and practice presents the implications of the interplay of leadership and management roles within a political context. Pre: graduate standing or consent.

PUBA 622 Strategies of Change: Leaders and Leadership (3) Examines 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 followship, and positive change. A-F only.

PUBA 623 Organizational Communication (3) Communication as applied to formal organizations; assessments of strengths and weaknesses of organizational communications systems.

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 level, from international policy transfer to major intercultural task interaction processes such as negotiation, planning, and relationship management. Graduate standing only. A-F only.

PUBA 630 Nonprofit Management Fundamentals (3) Development and management of a nonprofit corporation, from mission and scope of nonprofit organizations; organizational structures and functions; resource and volunteer development; and major management issues. A-F only Pre: graduate standing or consent.

PUBA 635 Managing Major Aspects of the Nonprofit Sector (4) (3 Lec, 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 or those wishing to enter it. A-F only. (Fall only)

PUBA 636 Nonprofit Management Practices and Tools (3) Skills and tools needed by nonprofit managers. Topics may include grantwriting, strategic planning, business practices, program evaluation, and advocacy. A-F only. Pre: 630 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 shape the opportunities and constraints for comparison and the transfer of knowledge and experience. A-F only. Pre: graduate standing or departmental approval.

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.

PUBA 662 Applied Policy Analysis (3) Explores significant contemporary policy issues relating to public administration and public service. Develops analytic techniques and models of public policy-making processes, and looks at how social forces and political and economic pressures influence policy orientations.

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 them. 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.

PUBA 665 Collaborative Public Management (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.

PUBA 667 Special Topics (3) Topics of current interest in the field of public service and public administration, taught by regular and visiting faculty. Repeatable for different topics up to six credit hours. A-F only. Pre: consent.

PUBA 690 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 691 Certificate 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. PUBA graduate certificate students only. A-F only.

PUBA 699 Directed Reading (V) Repeatable unlimited times.

PUBA 700 Thesis Research (V) Repeatable unlimited times.

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 major core courses by incorporating theoretical, analytical, and practical 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 301 Governing, Politics, and Public Policy (3) Analysis of the major processes that translate citizen preferences into public policy. A-F only.

PPC 330 Survey of Public Policy and Analysis (3) Students will learn about the policy-making process, the results of policy decisions and how public policy is assessed, analyzed, and responded to. Also discusses important policy issues that currently fill the political landscape. Junior standing or higher. A-F only.

PPC 340 Energy Technologies for Addressing Climate Change, Economic, Policy and Security Issues (3) Interdisciplinary course designed to describe the inter-relationships and dynamic interactions between energy systems, the environment (climate) policy, security, and economics. Repeatable one time. A-F only.

PPC 495 Topics in Public Policy (3) Seminar on current issues in U.S. or international government policy. Topics vary and may include energy, long-term care, sustainability, etc. Repeatable unlimited times. A-F only. Junior standing or higher.

PPC 499 Directed Readings or Research (V) Requires the sponsorship of a faculty member. Together they will agree on the study topic and the work to be accomplished. Depending on the scope of the project, credits range from 1-3. Needs instructor consent. Repeatable two times up to six credits. Senior standing or higher. A-F only.

PPC 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.

PPC 699 Directed Readings or Research (V) Requires the sponsorship of a faculty member. Together they will agree on the study topic and the work to be accomplished. Depending on the scope of the project, credits range from 1-3. Needs instructor consent. Repeatable two times up to six credits. Senior standing or higher. A-F only.

Key to symbols & abbreviations: see the first page of this section.
PH 201 Introduction to Public Health (3)
Introduces public health concepts with an emphasis on principles and tools for population health, disease prevention, health professions and healthcare systems, public health professions and systems. A-F only.

PH 202 Public Health Issues in Hawai‘i (3) Application of general public health concepts and tools with broader public health issues as they relate to the State of Hawai‘i. Pre: 201.

PH 203 Seminar in Global Public Health (3) Introduction to the basic principles of global PH. Topics include the application of these principles to global PH issues, exploration of links between health, economic, and social status, health disparities and global interventions. A-F only. (Spring only)

PH 301 Seminar in Public Health Issues (3) 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.

PH 305 Native Hawaiian Health Determinants (3) Seminar to work with faculty in applying evidence-based knowledge on social determinants of health in the formation of research, policy, and program development for improving population health and reducing health disparities for Native Hawaiians. Junior standing or higher. A-F only. Pre: 201 and 202. (Spring only)

PH 310 Introduction to Epidemiology (3) Lecture/discussion on the fundamental principles of epidemiology, exposure and disease, threats to health and EPI methods for prevention, control, and treatment. A-F only. (Spring only)

PH 340 Public Health and the Environment (3) Examines a variety of issues associated with environmental effects on disease incidence, morbidity, and mortality in relation to public health prevention strategies. Sophomore standing and above.

PH 341 Public Health Biology and Pathophysiology (3) Explores the biological basis of human disease and the role public health measures play in reducing both the extent and impact of chronic and acute diseases on individuals and society. A-F only. Junior standing or higher. Pre: completion of at least one course in the natural or biological sciences (with a minimum grade of B-) DB

PH 410 Advanced Epidemiology (3) Students will gain a deeper understanding of the core concepts used in epidemiologic research and practice. Upon completion, students will have the knowledge and skills necessary to conduct an epidemiologic study. Junior standing or higher. A-F only. Pre: 201 and 310, and one of the following: ECON 321 or EDEP 429 or NREM 310 or SOCS 225 or PSY 225.


PH 420 Health Education and Health Promotion (3) Focus on the application of social and behavioral theory in health education, and how health promotion programs are constructed for various populations with an emphasis on cultural diversity and social determinants of health. Sophomore standing or higher. A-F only. (Fall only)

PH 430 Health Policy and Management (3) Examines the role that health policy and management plays in population-based public health practice, including the delivery, quality, costs, and the structure, process, and outcomes of health services delivery. Sophomore standing or higher. A-F only. (Spring only)

PH 480 Application of Public Health Principles in Research and Practice (3) Introduction to a diverse range of public health projects and associated methods while working to develop an applied learning project proposal. Junior standing or higher. A-F only. Pre: 201 and 310, and one of the following: 320 or 410 or 420 or 430.

PH 485 Public Health Applied Learning Experience (3) Allows students to execute an independent, mentor-supervised, applied learning project as implementation of skills learned in previous public health coursework. Applied project is a required component of the public health undergraduate degree program. Pre: 480.

PH 489 Public Health Undergraduate Capstone Seminar (3) Integration of public health knowledge, skills, and practice acquired during the public health undergraduate degree. Students will also reflect on, finalize, and present the health knowledge and learning experiences projects. Senior standing and higher. A-F only. Pre: 480 and 485.

PH 492 (Alpha) Current Issues and Topics in Public Health (V) Current and emerging issues and varying topics related to public health. (B) biostatistics; (E) epidemiology and disease prevention, control, and management; (S) social and behavioral health sciences; (T) public health. Repeatable up to six credits with different alphs. Open to nonsmores. Sophomore standing and above. A-F only. Pre: 201.

PH 499 Directed Reading/Research (V) Repeatable up to six credits. PH majors only. Junior standing or higher.

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

PH 600 Introduction to Public Health (2) Focus will provide a broad overview of the field of public health and orientation to overarching issues in the field. A-F only. (Fall only)

PH 602 Introduction to Health Services (3) Overview of the conceptual, ethical, and political context for health care delivery. It explores current trends, practices and issues in the delivery of health care services. Repeatable one time.

PH 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, pathological, and molecular bases of public health; genetics, immunology, ethics; disease prevention, control, and management. (Once a year) (Cross-listed as CMB 350)

PH 623 Social Science and Public Health (3) Individual and community health; implications for public health practice; individual and social change processes.

PH 626 Health Economics (3) Focus on the application of social and behavioral theory in health education, and how health promotion programs are constructed for various populations with an emphasis on cultural diversity and social determinants of health. Sophomore standing or higher. A-F only. (Once a year)

PH 630 Cultural Competency in Health Care (3) Presents both analytical and practical approaches to cultural competency domains, concepts, models, frameworks, patterns and communication that occur in cross-cultural healthcare situations. A-F only.

PH 635 Indigenous Health Seminar (2) Examines public health through an Indigenous lens, integrates competencies across all public health disciplines, and will apply them in context of working for and with Indigenous communities to improve health and wellness. PH majors or consent. Graduate students only. A-F only. (Fall only)

PH 640 Cultural Competency in Health Care (3) Focus on the application of social and behavioral theory in health education, and how health promotion programs are constructed for various populations with an emphasis on cultural diversity and social determinants of health. Sophomore standing or higher. A-F only. (Fall only)

PH 641 Introduction to Health Policy (3) Lecture/discussion on historical and current public health policies; the role of stakeholders in health policy-making and advocacy; using health policy frameworks for conducting policy analysis. Group activities apply the concepts presented in class. A-F only. Pre: PH 201.

PH 646 Grant Writing in Public Health (1) Lecture/discussion on grant writing with public health focus. Includes basic components of grant proposals, assessing appropriate funding opportunities, data collection, and the funder’s perspective. Students will prepare a brief foundation grant proposal. A-F only. (Once a year)

PH 647 Analytic Approaches to MCH (3) Application of analytic methods to the identification of health problems in children and women of reproductive age. Evidence-based approach in MCH. Repeatable one time.


PH 649 Needs Assessment (3) Knowledge and skills acquisition in conducting needs assessment in public health practice.

PH 650 Ecological Epidemiology (2) Application of population biology, pathogen/host life history, and population genetics to infectious disease epidemiology, including micro- and macroparasites, and implications to disease control and prevention of strategies. A-F only. Pre: consent. (Alt. years: spring) (Cross-listed as TRMD 650)

PH 651 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 GHS 651 and SOC 651)

PH 652 Interdisciplinary Seminar (1) Topics such as contemporary issues in global health and population studies, international health programs, demographic methods, global economy and health, human rights and humanitarian assistance, social justice, global environmental changes and health. Pre: consent. (Cross-listed as GHS 652)

PH 653 Biostatistics I (3) Introduction to statistical methods for public health sciences. Probability, experimental design, t tests and analysis of variance, 2X2 contingency tables, linear regression, introduction to life tables.

PH 656 Biostatistics II (3) Poisson distribution, Fisher’s exact test, contrasts in ANOVA, two-way ANOVA, multiple linear regression and analysis of covariance, path analysis, logistic regression, method of maximum likelihood, likelihood ratio tests. Pre: 655, completion of one semester of calculus; or consent.

PH 658 Computer Applications in Public Health (3) Applications of computers to problems common to public health. Emphasis on data analysis and processing using existing computer programs.

PH 659 Methods of Demographic Analysis (3) Statistical evaluation and analysis of population.
data; data sources; population growth; composition; standardization of rates; mortality and the life table; nuptiality and fertility; distribution, migration, and urbanization; projections and stable population theory. (Cross-listed as GHS 659 and SOC 659)

PH 660 Current Topics in Community Health (2) Critique of published articles in community health as they relate to public health. Skill building in community health development techniques. Emphasis on exchange of ideas and alternative approaches. Strengthening group approaches to solve community health problems. A-F only.

PH 663 Principles of Epidemiology I (3) Introduction to epidemiologic principles and methods. Topics covered include: outbreak investigation, measures of morbidity and mortality, measurements of risk, clinical variability, screening, measurement of error, sampling, statistical significance, study design, and association and causation.

PH 664 Principles of Epidemiology II (3) Lecture/discussion on: design and interpretation of experimental and observational studies; causation and casual inference; biases in study design; random error and statistical role in epidemiology; and epidemiological data analysis. Pre: 655 and 663, or consent.

PH 665 Concepts in Immunology and Immuno-pathogenesis (2) Immunological concepts relating to infectious diseases and their pathophysiologic basis. Repeatable one time. A-F only. Pre: MICR 461 (or equivalent) or consent. (Cross-listed as TRMD 604)

PH 666 Seminar in Infectious Disease Control (3) Strategies for controlling important infectious diseases in the Pacific area. Emphasis on epidemiology, ecology, and public health principles. Pre: 663 (or concurrent) and one semester in microbiology, or consent.

PH 667 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: TRMD 604 and MICR 551, or consent. (Cross-listed as TRMD 605)

PH 669 Epidemiological Study Design Critique (2) Critique of study design using published public health literature. Emphasis on exchange of ideas, alternative approaches; stresses epidemiology as science of public health. Repeatable. A-F only. Pre: 663 or concurrent.

PH 671 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: 647 or 737, or consent. (Cross-listed as SW 674)

PH 672 Leading and Managing Health Programs (3) Assess how to organize community partnerships to create and communicate a shared vision for a changing future; discuss solutions to organizational and community-level problems; and develop strategies to reach public health goals. A-F only. Pre: 600 or consent.

PH 673 Health Ethics, Law and Politics (3) Review theories and case studies concerning health care ethics, law and politics. Topics include health care quality, key health care policymakers, and the intersecting issues of policy and law with medicine, public health, and ethics. A-F only. (Once a year)

PH 674 Advanced Native Hawaiian Health Determinants (3) Applications of evidence-based knowledge about the social determinants of health in the formation of research, policy, and program development for improving population health and reducing health disparities for Native Hawaiians. A-F only.

PH 675 Community Engaged Research and Practice (2) Explores collaborative and engaged approaches with communities in public health research and practice. With a focus on Indigenous Peoples’ health, we delve into Indigenous knowledge and empowerment in evaluation, needs assessment, intervention, and health promotion. PH majors or consent. Graduate students only. Pre: 655 and 673. (Fall only)

PH 677 Global Health Management (3) Provides theories, knowledge and skills required to improve executive capacity in managing people and projects in an ethical and cultural context, and organizational capacity in performance, design, strategic planning, and change management.PH majors only. A-F only. (Cross-listed as GHS 677)

PH 680 Health Emergencies in Large Populations (3) Health Emergencies in Large Populations is run by the Center for Excellence in Disaster Management and Humanitarian Assistance and the Red Cross. It provides knowledge, practical skills, and networking for global health practitioners. A-F only.

PH 681 Environmental Determinants of Health (3) Environmental factors in personal and community health; implications for public health practice. Consideration of major issues from local, U.S., and global perspectives in the development of CBPR, and the challenges in implementing CBPR approaches. Format includes lectures, discussions, readings, writing assignments, and a fieldwork project. DPH majors only. A-F only.

PH 682 Supplemental and Nutritional Approaches in Disease Prevention and Treatment (2) Examines a variety of issues associated with nutritional and supplemental approaches to reduce disease incidence, morbidity, and mortality in relation to public health prevention strategies. PH majors or consent. Graduate students only. (Fall only)

PH 689 Nutritional Epidemiology (3) Dietary, biochemical, anthropometric and clinical methods used for evaluating nutrition and diet in the etiology and epidemiology of disease. Pre: 663 and FSNH 685, or consent. (Cross-listed as FSNH 689)

PH 690 Global Health Challenges (3) Addresses critical, contemporary, and transnational issues best addressed by cooperative international action. Health issues are examiners of intersecting effects of limited resources, socioeconomics, politics, and environmental change. A-F only. (Once a year) (Cross-listed as GHS 690)

PH 691 Fundamentals of Environmental Epidemiology (2) Examines the complex relationship between environmental contaminants and human health. Emphasis on environmental epidemiology study design, environmental exposure monitoring and risk assessment, disease and environmental exposure mapping, and spatial data analysis and modeling with GIS. A-F maximize motivation to reach public health goals. A-F only. Pre: 600 or consent.

PH 692 Clinical Epidemiology (3) Combined lecture-discussion on health measurement and use of epidemiologic principles to questions applicable at both individual and population levels on diagnosis, screening, prognosis, and efficacy of therapeutic and preventive interventions. Pre: 664 or consent. (Fall only)

PH 696 Continuing Education in Public Health (1) Seminar designed to provide practical, community-focused, continuing education for the practicing public health professional. PH majors or consent. Emphasis on public health principles to address practical public health problems is stressed. Weekly discussions and reports will cover a variety of relevant public health topics. Repeatable unlimited times. A-F only.

PH 699 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

PH 700 Thesis Research (V) Repeatable unlimited times. Pre: consent.

PH 701 Health Communication (3) Skills-oriented course introduces the basic structure of health communication strategies in different settings, selected elements of communication theory, the development of health communication, practical approaches to training in motivational counseling skills. Pre: 663 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 correlational studies; Lab work will focus on the use of SPSS to analyze data for applied research problems. A-F only. Pre: 663 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, readings, discussions, writing assignments, and a fieldwork project. DPH majors only. A-F only.

PH 728 Indigenous Applied Research Methods (3) (2 hr Lec, 1 hr Computer Lab) Health disparities research methodologies and current topics in Indigenous health research. Focus on statistical techniques for small data sets using quantitative and qualitative methods. PH majors only. A-F only. Pre: 655 and 663.

PH 737 Policies/Programs in MCH Services (3) Development and organization of health services for mothers and children—review and analysis of policy and events, legislation and programs; current issues. Pre: 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/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 neurogenerative 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 (3) Lecture/discussion providing an introduction to the epidemiology of neurological and 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 project. Emphasis will be placed on collecting and analyzing evaluation data. A-F only. (Spring only)

PH 770 (Alpha) Doctoral Seminar in Translation-Research (2) Required for students in the DrPH program. (B) domestic and global health disparities; (C) research methods in health disparities; (D) evidence-based policy and health disparities; (E) topics in health disparities and policy. Repeatable up to 8 credits. Each alpha can only be taken once. A-F only, Pre: 602 and 623 and 655 and 663 and 681, or departmental approval.

PH 771 Teaching Practicum (V) Provide doctoral students with theoretical and practical teaching and course development experiences under the guidance of a faculty mentor. Students will have a portfolio documenting their accomplishments. Students standing in PH only. A-F only. Pre: 602 and 623 and 655 and 663 and 681 and 770(Apha), or departmental approval.

PH 772 Research Practicum (V) Hands-on research experience with a faculty mentor. Meet in small groups to discuss issues related to research in public health. Final product will be submission of a publishable quality paper. Graduate standing in PH only. A-F only, Pre: 602 and 623 and 655 and 663 and 681 and 770(Apha), or departmental approval.

PH 773 Leading Health Organizations (3) Reviews theories, knowledge, and practical skills that improve capacity to provide effective leadership in health organizations, organize community partnerships, communicate a shared vision, manage quality and address organizational challenges to reach public health goals. DrPH standing only, Graduate standing only. A-F only, Pre: 602 and 623 and 655 and 663 and 681. (Alt. years)

PH 774 Managing Health Organizations (3) Reviews theories, knowledge, and skills that build managerial capacity. Explores health executive roles in planning, organizing, implementing, and evaluating along with organizational design, strategic planning, change processes, quality improvement, and minimizing risk. DrPH majors only. Graduate standing only. A-F only. Pre: 602 and 623 and 655 and 663 and 681. (Alt. years)

PH 781 Environmental Health Lab Methods (2) 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 techniques for studying environmental pathogens and toxic pollutants. A-F only. (Once a year)

PH 788 Seminar in Public Health Sciences (V) Topics related to recent developments in major areas; student and faculty research activities. Sections: (1) biostatistics; (2) environmental health; (3) epidemiology; (4) public health nutrition. Repeatable unlimited times.

PH 789 Integrative Seminar (2) Integrative seminar in public health required as part of the student capstone experience to bring together key aspects of their courses, competencies, and practicum. A-F only. Pre: completed PH field practicum and consent.

PH 791 Advanced Public Health Practice (3) Observation, study, and supervised practical work in student’s area of emphasis. Pre: public health degree candidate and consent.

PH 792 (Alpha) Current Issues and Topics in Public Health (V) Current and emerging issues and topics related to public health. (B) biostatistics; (D) environmental health; (E) epidemiology; (H) health policy and management; (I) Native Hawaiian and Indigenous Health; (S) social and behavioral health sciences; (U) public health. Repeatable unlimited times. PH majors only for (D) and (I).

PH 793 Special Practicum/Project (V) Supervised practical training beyond the required practicum in an area of particular interest. Provides additional opportunity to synthesize, integrate, and apply practical skills and knowledge in a public health work environment. Repeatable one time. Pre: 791 and a minimum of 6 credit hours of PH core courses, or consent.

PH 794 (Alpha) Exploration in Public Health (V) Investigation of emerging fields of inquiry in public health. (B) biostatistics; (D) environmental health; (E) epidemiology; (H) health policy and management; (I) Native Hawaiian and Indigenous health; (S) social and behavioral health sciences; (U) public health. Repeatable unlimited times. PH majors only.

PH 800 Dissertation Research (V) Pre: consent.

Real Estate (RE)

Shidler College of Business

RE 300 Principles of Real Estate (3) Principles affecting the allocation and utilization of real estate resources, including legal, physical, economic elements; valuation; market analysis; finance, investments, and public and private externalities affecting the allocation and utilization of real estate resources.

RE 310 Real Estate and Environmental Law (3) Property rights, land tenure, agency, contracts and negotiation, and financial transactions and escrows, mortgage instruments, fair housing, state and federal environmental policy.

RE 320 Real Estate Finance and Investment (3) Financial and investment techniques used to evaluate real property and real estate security investments.

RE 330 Real Estate Appraisal/Analysis (3) Analysis of real property, including feasibility analysis, market analysis, income property capitalization, and general real estate valuation techniques.

RE 351 Tourism Destination Development (3) Examination of the interrelationships of social, economic, and physical aspects of total resort development, with emphasis on physical development of tourist centers and resort areas. Pre: TIM 101.

RE 390 Current Topics in Real Estate Analysis (3) Consideration of various special concepts and problems in real estate. Repeatable unlimited times.

RE 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor. Repeatable unlimited times.

RE 674 Real Estate Investment Analysis (3) Development of strategic business plans for the optimization of a firm's real property assets. Includes facilities utilization audits, contingency planning, and the impact of new technologies.

Religion (REL)

College of Arts and Humanities

REL 150 Introduction to the World’s Major Religions (3) Buddhism, Christianity, Confucianism, Hinduism, Islam, Judaism, Shinto, Taoism and indigenous traditions of Hawai‘i and/or Oceania. FG

REL 151 Religion and the Meaning of Existence (3) Basic ideas and issues in contemporary religious thought about the meaning of existence. DH

REL 200 Understanding the Old Testament (Hebrew Bible) (3) Examines the Old Testament (Hebrew Bible) as an expression of the non-literate, oral tradition, history, and thought of ancient Israel and as a sacred text within later Judaism and Christianity. DH

REL 201 Understanding the New Testament (3) Origin and development of early Christian message as set forth in the New Testament; special attention to Jesus and Paul. DH

REL 202 Understanding Indian Religions (3) Historical survey of the teachings and practices of major religious traditions of India. DH

REL 203 Understanding Chinese Religions (3) Taoist, Confucian, Buddhist and folk practices in their social and historical context. Repeatable one time. DH

REL 204 Understanding Japanese Religions (3) Broad survey, with primary focus on Shinto, Buddhism, and modern sectarian movements, analyzed in relation to social and cultural themes of major historical periods. DH

REL 205 Understanding Hawaiian Religion (3) Major teachings and practices from ancient times to present, their cultural influence; analysis of religious texts; relation to other traditions of Oceania and to Christianity. DH

REL 207 Understanding Buddhism (3) Survey of major forms and practices. DH

REL 208 Understanding Judaism (3) Survey from origin to modern times; emphasis on Jewish thought in Talmudic and medieval periods. DH

REL 209 Understanding Islam (3) Historical survey of the beliefs and practices of Islam as a world religion, including the prophet Muhammad, scriptures, philosophy and science, theology, law, major sectarian movements, relations with other religious traditions, and fundamentalism. (Alt. years) DH

REL 210 Understanding Christianity (3) History of ideas concentrating on events, persons, and issues with the greatest impact on the evolution of Christianity. DH

REL 300 The Study of Religion (3) Definitions and functions of religion; methodologies by which it is studied; relationship to other areas of human culture. Pre: 150 or consent. DH

REL 301 Biblical Hebrew I (3) Orthography and structure of Biblical Hebrew, history and development of Hebrew as the sacred language of Judaism, overview of religious and historical development of the Hebrew Bible. Pre: sophomore standing or consent. (Fall only) Cross-listed as LLEA 301.

REL 302 Biblical Hebrew II (3) Reading of selected prose passages from the Hebrew Bible; analysis of literary forms, paying special attention to stories which have played an important role in the
development of the Abrahamic religions. Minimum C- grade required for prerequisites. Pre: 301/LLEA 301. (Spring only) (Cross-listed as LLEA 302)

REL 303 Creation and Evolution (3) An exploration of interactions between science and religion with a focus on cosmogonies. Pre: 150 or consent. DH

REL 308 Zen (Ch’-an) Buddhist Masters (3) Study of lives, teaching practices, and works of Zen masters in China, Japan, Korea, and the West. Pre: one of 150, 203, 204, 207; or consent. DH

REL 310 Global Christianity (3) Christianity as a transcultural religion, through the study of Christian art, literature, ritual, and theology in diverse cultures; including the Near East, Latin America, and the Pacific. Pre: 150, 201, or 210; or consent. (Once a year) DH

REL 333 Cults and New Religions (3) Study of cults and new religious movements in America, the Pacific, and East Asia; examining types, causes, and functions of these movements. Pre: 150 or consent. DH

REL 348 Religion, Politics, and Society (3) Exploration of the diverse approaches and perspectives that American religious groups embrace with respect to some of the more controversial and diverse elements of contemporary American life. Pre: 150 or 151, or consent. DH

REL 351 Christian Ethics in Modern Life (3) The meaning of Christian faith for the moral life with reference to contemporary moral issues. Pre: 150 or 151, or consent. DH

REL 352 Sufism: Mystical Traditions of Islam (3) Introduction to the history, literature, and worldview of Sufism. Students will encounter the following topics in relation to Islamic mysticism: asceticism, monothemonism, philosophy, love, union, sainthood, ecstatic experience, and spiritual uses of art. Pre: 209 or 383 or PHIL 330 or HIST 354, or consent. (Once a year) DH

REL 353 Witches and Witchcraft (3) Persecution of witches, witchcraft in Europe, 1300–1700, examined as crisis of church and theology; origins, effects on church and society. Pre: one of 201, HIST 151, HIST 152, PSY 100, or consent. DH

REL 354 Islam in History (3) Examination of the historical connections between Islam and other civilizations will focus on the role of Islam in world history. Pre: 150 or 209 or consent. DH

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

REL 361 Love, Sex, and Religion (3) Love and sex as themes in religions of Asia and the West. Pre: 150 or consent. DH

REL 363 Religion and Art (3) The uses of art in religion are studied with historical examples. Pre: 150 or consent. DH

REL 371 Prophecies of the Last Days (3) In-depth look at ancient Judeo-Christian apocalyptic texts and the communities in which they originated, followed by a survey of the medieval and modern day heirs of apocalyptic traditions. Pre: 150 or consent. DH

REL 383 Mysticism East and West (3) Mystical traditions of the West from desert monasticism to Renaissance mystics compared with those of South and East Asia. Pre: one of 150, 202, 203, 204; or consent. DH

REL 390 Hawaiian Gods: Pele, Kamapua’a (3) The traditions and practices related to two major indigenous gods will be studied by the interpretation and analysis of primary texts. Pre: 205 or consent. DH

REL 394 On Death and Dying (3) Aspects of death and dying; relation to our culture and society, to understanding of each other and of ourselves. Pre: 150 or 151 or consent. DH

REL 399 Directed Reading (3) Prec: one 200-level REL course and consent.

REL 409 Life and Teachings of Jesus (3) Critical study of synoptic gospels and of extra-Biblical sources. Pre: 201 or 210, or consent. DH

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

REL 431 Health/Medicine in Religion (3) Issues of health and disease in the light of religious beliefs and practices. Pre: 150 or consent. DH

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

REL 444 Spiritual Ecology (3) Lectures and seminars provide a cross-cultural survey of the relationships between religions, environment and environmentalism. Pre: junior standing or consent. (Alt. years) (Cross-listed as ANTH 444) DS

REL 445 Sacred Places (3) Lectures and seminars provide a cross-cultural survey of sites which societies recognize as sacred and their cultural, ecological and conservation significance. Pre: junior standing or consent. (Alt. years) (Cross-listed as ANTH 445) DS

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 202, 203, 204, 207, 306; or consent. DH

REL 476 Daoism: Philosophy and Religion (3) Seminar on religious Taoism, its historical development and its role in the present-day context. Pre: consent. DH

REL 478 New World Rituals and Ideologies (3) Study of cross-cultural patterns in ritual behaviors and creativity of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), An- dean Christianity, spiritual conquest, conceptions of death, etc. Sophomore standing or higher. Minimum C- required grade for prerequisites. Pre: LIS 360, or consent. (Fall only) (Cross-listed as ANTH 478 and LAIS 478) 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. Prec: 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 hours specified for individual courses, prerequisites for all courses 500 and above are graduate standing and consent.

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

REL 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Prec: master’s Plan B candidate with consent.

REL 600 History and Theory of the Study of Religion (3) Survey of development of history of religions; application of methodologies from anthropology, history, philosophy, political science, psychology, and sociology.

REL 625 Applied Methods in the Study of Religion (3) Practicum in methods of research, argument, and discourse in scholarly writing about selected topics in religious studies. Repeatable one time. A-F only. Pre: 600 and restricted to graduate students in Religion only; or consent.

REL 630 Practicum in Field Research in Religion (3) Independent field study of an Asian or Polynesian religion at an 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. Prec: 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 662 (Alpha) Seminar on South Asian Religions (3) Selected historical, thematic, and textual research topics in Indian religions: (B) Indian religions; (D) Indian Buddhism. Repeatable up to nine credits.

REL 663 (Alpha) Seminar in Polynesian Religions (3) Selected historical, thematic, and textual research topics in Polynesian and Hawaiian religious traditions: (B) Polynesian religions; (C) Hawaiian religion. Repeatable up to nine credits for (B) and (C).

REL 664 Seminar in Global Christianities (3) Examines topics in global Christianities, the conjunctures leading to Christianity as a worldwide religion, instantiations of Christianities throughout the centuries, and the trans-historical, theological, and socio-political connections existing between adherents and communities. Repeatable two times. Graduate standing only. A-F only. Pre: 600 (with a minimum grade of B) or consent.

REL 680 (Alpha) Pedagogy in Religion (3) Theory, preparation, and practice in the teaching of religious studies at the community college level: (B) teaching religion; (C) teaching religion practicum. 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 preannounced. Repeatable one time. Pre: 600 or consent. (Alt. years) DH

REL 699 Directed Reading and Research (V) Repeatable unlimited times.


Reproductive Biology (REPR)

School of Medicine

The minimum grade required for undergraduate prerequisites is a D or better, and graduate prerequisites is a C (not C-) or better.

REPR 499 Directed Reading/Research (V) Repeatable unlimited times.

REPR 611 Seminar in Biomedical Sciences (1) Presentation and discussion of current research topics.
in biomedical sciences. Repeatable nine times. Pre: consent. (Cross-listed as CMH 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. Pre: consent. (Cross-listed as CMH 699)

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)** Conversation of 101. Pre: 101 or consent. HSL.

**RUS 201 Intermediate Russian (3)** Reading, conversation, grammar, composition. Pre: 102 or consent. HSL.

**RUS 202 Intermediate Russian (4)** Conversation of 201. Pre: 201 or consent. HSL.

**RUS 209 Russian Phonetics (3)** Basic theory of Russian sound system; practice in pronunciation, intonation, and fluency. Pre: 102 or 201 (or concurrent).

**RUS 260 Intermediate Russian Abroad (V)** Intensive course of formal instruction on the second-level year in Russian language and culture in Russia. Pre: 102. HSL.


**RUS 304 Advanced Russian (3)** Continuation of 303.

**RUS 306 Russian Structure (3)** Advanced grammar; complexities of standard contemporary Russian; word formation and verb system. Pre: 202 or consent.

**RUS 311 Readings in Russian Civilization and Literature (3)** Mid-level readings in Russian civilization and literature of edited and adapted texts. Pre: 202. DL.

**RUS 312 Readings in Russian Civilization and Literature (3)** Continuation of 311. Pre: 311. DL.

**RUS 360 Intensive Third-Level Russian Abroad (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 or up to six credits. A-F only. Pre: 202 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. DL.

**RUS 441 Russian Short Story (3)** Origin and development from 18th to 20th century. Pre: three years of Russian language or consent. DL.

**RUS 451 Topics in 19th- and 20th-Century Russian Literature (3)** Focus on 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, Chekhov, 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.

**Samoan (SAM)**

**College of Languages, Linguistics and Literature**

**SAM 101 Elementary Samoan (4)** Listening, speaking, reading, writing skills. Structural points introduced inductively. History and culture. Meets four hours weekly. HSL.

**SAM 102 Elementary Samoan (4)** Continuation of 101. Pre: 101 or consent. HSL.

**SAM 201 Intermediate Samoan (4)** Continuation of 102. Meets four hours weekly, three of four hours devoted to drill and practice. Pre: 102. HSL.

**SAM 202 Intermediate Samoan (4)** Continuation of 201. Pre: 201 or consent. HSL.

**SAM 227 Overview of Samoan Literature in English (3)** Survey of major writers of Samoan literature in English; lectures, discussions, short paper. DL.

**SAM 301 Third-Level Samoan: Traditional Culture (3)** Continuation of 202. Advanced reading and composition with development of language structure integrated in a variety of communicative and creative activities based on selected traditional cultural topics. Meets three times weekly; additional lab work. Pre: 202 or consent.

**SAM 302 Third-Level Samoan: Contemporary Culture (3)** Continuation of 202. Advanced reading and composition with development of language structure integrated in a variety of communicative and creative activities based on selected contemporary cultural topics. Pre: 202 or consent.

**SAM 321 Samoan Conversation: Traditional Contexts (3)** Systematic practice on various topics for control of spoken Samoan in traditional contexts. Pre: 202 or equivalent; or consent.

**SAM 322 Samoan Conversation: Contemporary Contexts (3)** Systematic practice on various topics for control of spoken Samoan in modern contexts. Pre: 202 or equivalent; or consent.

**SAM 421 Samoan Ceremonial Speech (3)** Development of oratory skills in Samoan ceremonial speech. Emphasis on institutionalized applications such as the kava ceremony and formal speechmaking. Pre: 302 or 322, or consent.

**SAM 422 Samoan Ceremonial Speech (3)** Continuation of 421. Pre: 421 or consent.

**SAM 431 Samoan Oral Traditions (3)** Historical survey and analysis of the oral traditions and genealogies of Samoa with special emphasis on the relationship of these traditions with Samoan ceremonial traditions. Pre: 101 or consent. DL.

**SAM 432 Samoan Oral Traditions II (3)** Continuation of 431. Pre: 431 or consent. DL.

**SAM 452 Structure of Samoan (3)** Study of modern Samoan grammar including some sociolinguistic background. Pre: 202 or LING 102, or consent.

**SAM 461 Traditional Samoan Literature (3)** A survey of the major genres of traditional Samoan literature. Taught in the Samoan language. Pre: 302 or consent. DL.

**Sanskrit (SNSK)**

**College of Languages, Linguistics and Literature**

**SNSK 181 Introduction to Sanskrit (4)** Introduction to basic Sanskrit grammar; reading and analysis of progressively difficult classical texts. HSL.

**SNSK 182 Introduction to Sanskrit (4)** Continuation of 181. HSL.

**SNSK 281 Intermediate Sanskrit (4)** Continuation of 182. Reading and analysis of classical texts with review of grammar. Pre: 182. HSL.

**SNSK 282 Intermediate Sanskrit (4)** Continuation of 281. HSL.

**SNSK 381 Third-Level Sanskrit (3)** Continuation of 282. Reading and analysis of various classical texts. Pre: 283.

**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.

**Second Language Studies (SLS)**

**College of Languages, Linguistics and Literature**

Courses below 380 are not applicable toward the MA in Second Language Studies. The minimum grade required for undergraduate prerequisites is C (not C-), and the minimum for graduate prerequisites is B (not B-).

**SLS 150 Learning Languages and Communicating in a Globalized World (3)** Lecture/discussion on strategies for enhancing second language learning in the context of a pluricultural-multilingual globalized world; addresses personal identity as influenced by languages; studies language-related employment, international mobility, and cross-cultural relationships. DS

**SLS 280 Bilingualism: Cognition and Culture (3)** Introduction to bi-/multilingualism as a phenomenon at the level of society and as a characteristic of individual speakers; discussion of recent media reports and popular myths about bilingualism in relation to research-based evidence. DS

**SLS 302 Second Language Learning (3)** Theoretical foundations for the learning and teaching of second/foreign languages. Includes an emphasis on instruction in writing. Pre: upper division standing.

**SLS 303 Second Language Teaching (3)** Survey of methodology; basic concepts and practices. Pre: 302 (or concurrent).

**SLS 312 Techniques in Second Language Teaching: Reading and Writing (3)** Methods and materials. Issues in teaching; survey of available

Key to symbols & abbreviations: see the first page of this section.
SLS 313 Techniques in Second Language Teaching: Listening and Speaking (3) Methods and materials. Issues in teaching; survey of available materials and practice in their adaptation. Pre: 302 (or concurrent).

SLS 380 Bilingual Education (3) Survey and analysis of current thinking and practices in bilingual/bicultural education; special emphasis on ESL/EFL. Includes an emphasis on instruction and feedback in oral communication. Pre: 302 (or concurrent).

SLS 418 Instructional Media (3) Theoretical foundation and practical applications of using electronic and multimedia audio in second language teaching. Pre: 303 (with minimum grade of C), or 600 (with minimum grade of B or concurrent); or consent.

SLS 430Pidgin 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 (or concurrent), or LING 102, or 600 (or concurrent); or consent.

SLS 441 Language Concepts for Second Language Learning and Teaching (3) Language analysis—phonology, syntax, semantics, discourse for teaching second languages. Pre: one of 302 (or concurrent), LING 102, LING 320, or 600 (or concurrent); or consent.

SLS 460 English Phonology (3) Basic course in English phonetics and phonology; emphasis on areas of interest to language teachers. Pre: 302 (or concurrent); DH

SLS 480 (Alpha) Topics in Second Language Studies (3) Variable topics in special areas of second language studies: (E) second language learning; (N) second language analysis; (P) second language pedagogy; (R) second language research; (U) second language use. Pre: 302 or concurrent; or LING 102 (or concurrent); or consent.

SLS 490 Second Language Testing (3) Measurement and evaluation of achievement and proficiency in second language learning. Pre: 302 (or concurrent), 441, LING 102, or 600 (or concurrent).

SLS 499 Directed Reading/Research (V) For interdisciplinaty 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, interpersonel relationships in language teaching. Pre: 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: consent.


SLS 618 Language and Learning Technologies (3) A wide range of emerging technologies for language learning and research will be explored. Online/faceto-face discussions and hands-on experiential learning are integrated with learner’s goals, best practices, and theoretical foundations. Pre: consent. (Once a year)

SLS 620 Second Language Reading (3) Survey of research in reading process; teaching methodology; psycholinguistic investigations; comparison of reading in first and second languages. Pre: consent.

SLS 630 Second Language Program Development (3) Designing, implementing, and evaluating language programs; systems-based approach to program and curriculum development. Pre: consent.

SLS 640 English Grammar (3) Descriptive English grammar in relation to second language learning and teaching.

SLS 642 Comparative Grammar and Second 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 401.

SLS 650 Sociolinguistic Techniques (3) Survey of theories and research on second language learning by children and adults, learning naturalistically and in formal settings. Relationships are explored between SLA research and language teaching. Pre: 441 or consent.

SLS 660 Sociolinguistics and Second Languages (3) Theoretical and applied aspects of language, culture, and society, and research methods in sociolinguistics, as they relate to second and foreign language issues. Pre: consent.

SLS 670 Second Language Quantitative Research (3) Quantitative research methods; design of research studies; techniques in collecting data; statistical inference; and analysis and interpretation of data. Pre: 490 and graduate standing; or consent.

SLS 671 Research in Language Teaching (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: consent.

SLS 673 Applied Psycholinguistics and Second Language Acquisition (3) Theory and research in psycholinguistics as related to second language perception, production, acquisition, and instruction. Pre: 441 or LING 422, or consent.

SLS 674 Survey Research Methods in Second Language Studies (3) Hands-on experience in language survey research including planning and creating survey instruments (both interviews and questionnaires); administering, compiling and analyzing survey data (quantitatively and qualitatively), and reporting the results. Pre: consent. (Once a year)

SLS 675 Second Language Qualitative Research (3) Philosophical and theoretical approaches, methodology, and ethics in second language qualitative research. Pre: 660 (or concurrent) or consent.

SLS 676 Interpretive Qualitative Inquiry (3) Explores a range of qualitative inquiry methods and theories. Through a project-based approach, students will develop and carry out inquiry relevant to their own interests, immediate learning/teaching needs, and long term professional goals. Pre: 660 (or concurrent) or consent.

SLS 678 Discourse Analysis in Second Language Research (3) Survey of approaches to discourse; microanalytic qualitative research; theory and methodology. Pre: 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); consent for (N) and (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: advancement to candidacy and consent.

SLS 699 Directed Reading/Research (V) Individual reading in various fields of ESL. CR/NC only. Repeatable unlimited times. Pre: consent of graduate chair and instructor.

SLS 700 Thesis Research (V) Individual reading in various fields of ESL. Repeatable unlimited times. CR/NC only. Pre: consent of graduate chair and instructor.


SLS 775 Seminar in Second Language Qualitative Research (3) Qualitative research in second language and multilingual contexts. Repeatable unlimited times. Pre: consent.

SLS 799 Apprenticeship in Teaching (V) An experienced-based introduction to college-level teaching; graduate students serve as teacher to professor; 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: mandatory 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 this course attractive.

SOCS 150 Street Science: Evaluating and Applying Evidence in Daily Life (3) Develops necessary tools for effective reasoning and problem-solving through use and application of analytic techniques, including question formation, understanding/interpreting data presented in the public sphere, and evaluating the validity of sources. A-F only.

SOCS 180 Introduction to International and Global Studies (3) Introduces undergraduate students to the major political, social, economic, cultural, technological, and historical dimensions of globalization. Special attention will be paid to globalization process that have impacted Hawai’i and the Asia-Pacific region. A-F only. FGB

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

Lab required. Pre: any 100 level social science course or consent. 

SOCS 250 Social Science Enquiry (3) Survey of inquiry methods in social sciences with an emphasis on the development of skills of enquiry, including critical thinking, evidence gathering and evaluation, reasoning, and argumentation. Pre: any 100 level social science course or consent. 

SOCS 385 Service Learning (1) Intended for students undertaking the service learning option in another course in the College of Social Sciences. Discussions on student’s experiences, types of learning occurring, and issues encountered in service learning activities in the community. Repeatable two times. CR/NC only. 

SOCS 496 Social Studies for Teachers (3) Integrates social sciences and history into a coherent framework for teaching middle and secondary school social studies courses on Hawai‘i, the U.S., and the world. Repeatable one time. Pre: HIST 151 and HIST 152, or consent. 


SOCS 735 Ocean Policy Seminar (2) Interdisciplinary approach to problems relating to humans and their interactions with the world’s oceans and coasts. Theme changes each semester. Repeatable eight times. (Cross-listed as OEST 735)

Social Work (SW)

School of Social Work

SW 200 The Field of Social Work (3) Orientation to the profession of social work; historical development, values and philosophy, scope and aims. 

SW 302 General Social Work Practice I (3) Orientation to practice principles, concepts, values, knowledge base, and their application. Pre: 200 (complete with C or better) and majors only. 

SW 303 General Social Work Practice II (3) Introduction to practice skills with individuals, families, groups, and communities. Pre: 302 (complete with C or better) and majors only. Co-requisite: 391. 

SW 325 History of Social Welfare (3) Historical developments and implications of social welfare activities, institutions, and policies and European background into social welfare developments in selected non-European countries. Recommended: 200. 

SW 326 Social Welfare as a Social Institution (3) Study of U.S. social welfare institutions and policies as an expression of societal response to human needs; interrelationship of American value system to goals, objectives, and policies of social security programs; focus on examination of Hawai‘i’s social service programs. Pre: 325, DS. 

SW 360 Human Development and Behavior for Social Work Practice (3) Examination of social and cultural variables such as human development and behavior; use of knowledge in these areas by social work practitioners. Recommended: 200. DS. 

SW 361 Sociocultural Content for Social Work Practice (3) Examination of ethnicity, class, and sex as theoretical frameworks of social and cultural variables such as human development and behavior for social work practice. Pre: 360 with a grade of C or better. Recommended: 200. DS. 

SW 380 Topics in Social Welfare (V) An examination of current trends in the field of social welfare. DS. 

SW 391 Junior Practicum (3) Introduction to field instruction; application of social work knowledge, skills, and values to field experience. CR/NC only. Pre: 302, 325, 360 (or concurrent), 360, and 361 (or concurrent) complete with C or better; and majors only. Co-requisite: 303. 

SW 402 General Social Work Practice III (3) Use of problem-solving process in practice with individuals, families, groups, and communities. Pre: 303, 326, and 361 complete with C or better; and majors only. Co-requisite: 440 and 490. 

SW 403 General Social Work Practice IV (3) Examination of resource allocation and practice models; identification and analysis of issues related to practice. A significant portion of class time is dedicated to writing instruction congruent with professional expectations. Pre: 402 (C or better) and majors only. Co-requisite: 491. 

SW 440 Research Development in Social Welfare (3) Introduction to and application of language of research, theoretical concepts underlying advancement of knowledge, practical steps in research. Pre: completion of required level SW courses (i.e. 302, 303, 325, 326, 360, 361, and 391) with C or better. Co-requisite: 402 and 490. DS. 

SW 475 Social Services with Children (3) Study of current social services for children in the U.S. with focus on familiarization of child welfare programs and services in 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: 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 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 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 ethnocultures, social classes, and client 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) Prerequisite 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. A-F only. Pre: 606. 

SW 610 Multivariate Methods (3) Examination and critical analysis of contemporary statistical models and their application in social work practice. Topics include multiple regression analysis, analysis of variance, and analysis of covariance. Multiple discriminant analysis, canonical correlation, and principal components analysis are discussed. 

SW 616 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 620 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 development over the life span. A-F only. Pre: 659. (Spring only) 

SW 663 Treatment of Chemical Dependency (3) An 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 development 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 intervention, and parent/child interaction. Pre: graduate standing. 

SW 674 Community and Public Health Practice (3) Community organization and develop-
ment 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 forensic social work, immigrants and refugees, and leadership in human services. Meets seminar requirement. Repeatable one time in different semesters. Pre: graduate standing.

SW 690 Practicum (F) 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 (F) 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 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. Repeatable unlimited times. Pre: consent.

SW 700 Thesis Research (V) Independent research under supervision of a thesis committee. Includes formal proposal and defense of finished research. Repeatable unlimited times.

SW 707 Methods of Group Psychotherapy (F) Designed specifically to train students in the theory and practice of leading psychotherapy groups; 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 (F) Focuses on interdisciplinary strategies with older adults: individual, family, and group therapy; selective treatment strategies; 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 (F) Advanced practice course for students specializing in social work with children and families. Designed to provide students with an in-depth understanding of the theoretical formulations and therapeutic techniques for practice in the field of family and child welfare. Focuses 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 Families (F) Designed for students in the child and family concentration and builds upon past knowledge and skills 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 student case presentations in a consultation format. Meets seminar requirement. Pre: 717.

SW 722 Social Work Practice in Health Care (F) Didactic and experiential learning activity focuses on the major role functions of the social worker in the health field including assessment, contracting, 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 (F) Theories of health, illness, and health care systems are examined. Media used to illustrate concepts, principles, and measurement theory; design and measurement issues and problems in cross-cultural research. Pre: PhD candidate in social welfare or consent.

SW 752 Therapeutic Strategies with the Older Adult (F) Designed for social work students specializing in social work practice with the aged and their families. Examines normative and pathological aging and its impact on physical processes, intellectual functions, and personality. Emphasis placed on the development of specialized knowledge and skills for assessment, intervention, and evaluation of a variety of issues and needs common in later life. Discussions on the applicability of certain interventions with the older adult and the family, along with ethnic-cultural and gender considerations. Pre: completion of foundation courses.

SW 724 Seminar in Social Work Practice in Mental Health (F) Preparations for students for social work practice in mental health settings. As the first in the concentration, it focuses primarily on minor or short-term mental dysfunctioning (e.g., reactive depression, anxiety). Based on conceptual foundations including cultural implications of mental health, human ecology, life cycle events, strengths assessments, and research. Includes a seminar component which involves student case presentations and consultations. Pre: completion of foundation courses.

SW 725 Social Work Practice in Mental Health (F) Preparations for students for social work practice in mental health settings. As the first in the concentration, it focuses primarily on minor or short-term mental dysfunctioning (e.g., reactive depression, anxiety). Based on conceptual foundations including cultural implications of mental health, human ecology, life cycle events, strengths assessments, and research. Includes a seminar component which involves student case presentations and consultations. Pre: completion of foundation courses.

SW 727 Seminar in Social Work with the Aged (F) Designed for social work students specializing in social work practice with the aged and their families. Examines normative and pathological aging and its impact on physical processes, intellectual functions, and personality. Emphasis placed on the development of specialized knowledge and skills for assessment, intervention, and evaluation of a variety of issues and needs common in later life. Discussions on the applicability of certain interventions with the older adult and the family, along with ethnic-cultural and gender considerations. Pre: completion of foundation courses.

SW 728 Seminar in Social Work with the Aged (F) Designed for social work students specializing in social work practice with the aged and their families. Examines normative and pathological aging and its impact on physical processes, intellectual functions, and personality. Emphasis placed on the development of specialized knowledge and skills for assessment, intervention, and evaluation of a variety of issues and needs common in later life. Discussions on the applicability of certain interventions with the older adult and the family, along with ethnic-cultural and gender considerations. Pre: completion of foundation courses.

SW 731 Social Policy Analysis (F) Students pursue in-depth a specific topic in the areas of social planning, social policy analysis, evaluation of social programs, administration, supervision, and consultation. Selectively a comparative perspective is introduced and case studies used to illustrate concepts, principles, and techniques, with implications for practice. Meets seminar requirement. Pre: 630 or consent.

SW 737 Social Work and the Law (F) Knowledge of judicial systems and law relevant to social work practice in corrections, child-family welfare, health, and mental health. Skills for effective participation in the legal process are acquired in moot court and in practice for testifying. Pre: graduate standing.

SW 741 Review of Research in Social Work (F) 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 Individual or Group Research Project—Plan B (V) Independent research (group of two to seven students; 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 (F) Focuses on developing 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 (F) Empirical research methodology with emphasis on design principles and measurement 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 (F) Theories 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 Dissertation Seminar (F) Research design, data collection, data analysis, and interpretation; development of major thesis proposal. Pre: classified student in PhD in social welfare program or consent.

SW 774 Cultural Factors in Work with Hawaiians (S) Hawaiian culture. Focuses on the culture and examines possible approaches to working with Hawaiians and part-Hawaiians. Special emphasis on supports in the Hawaiian system that may promote maximal functioning for those Hawaiians experiencing problems in today’s society. Meets seminar requirement. A-F only. Pre: graduate standing.

SW 776 Seminar on Women and Health (F) Women’s health and the role of women health professionals. Current literature and research regarding attitudes, roles, rights, and health care. Pre: graduate standing or consent. (Cross-listed as NURS 744)

SW 790 Second-Year Practicum (F) Instruction in the field is continued. The practicum of the second year provides an opportunity for the student to test out concepts, principles, theories, and alternate approaches in actual practice settings. Pre: 691.

SW 791 Second-Year Practicum (F) Same as 790.

SW 797 Advanced Social Work Practice Analysis and Change (F) Builds on 650 and emphasizes a more thorough and comprehensive examination of major policies, programs, and populations central to a concentration (Health, Mental Health, Gerontological, Child and Family). Focuses on research on the relationship between social policy, research, and social work practice. SW majors only. A-F only. Pre: 606 and 607; 630 and 631; 640 and 650; 659 and 660; 690 and 691.

SW 800 Dissertation Research (V) Repeatable one time.

Sociology (SOC) College of Social Sciences

Southwark 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 (S) Basic social relationships, social structures, and processes. DS

SOC 214 Introduction to Race and Ethnic Relations (F) Race and ethnic relations in world perspective: social, economic, and political problems associated with perception, existence, and accommodation of these groups within the wider society. (Cross-listed as ES 214) DS

SOC 218 Introduction to Social Problems (F) Theoretical and substantive survey of the nature and

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

Courses 497
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 alienation and deviance of youth. Juvenile corrections as institutionalized societal responses. DS
SOC 251 Introduction to Sociology of the Family (3) Family patterns, mate selection, parent-child interaction, socialization of roles, legal sanctions, trends in organization, functions. DS
SOC 300 Principles of Sociological Inquiry (4) (3 Lec, 2 50-min Lab) Basic methods of sociology for production and analysis of data. Foundations for understanding research and for advanced courses in methods and statistics. DS
SOC 300A Principles of Sociological Inquiry (4) (3 Lec, 2 50-min Lab) Basic methods of sociology for production and analysis of data. Foundations for understanding research and for advanced courses in methods and statistics. Restricted to students in the honors program and required for students taking the honors track in sociology. A-F only. DS
SOC 301 Survey of Urban Sociology (3) 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; social forces that affect health. 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 332 Survey of Sociology Law (3) Law as a political enforcement of the social order; how it is organized and operated; determinants of effectiveness; ways it adapts to and facilitates changing social conditions. DS
SOC 333 Survey of Criminology (3) Concepts used in crime, law enforcement, criminal justice, and corrections. Types of criminal behavior; costs and effects of control. DS
SOC 335 Survey of Drugs and Society (3) Use of mood- and mind-altering drugs in America among adults, youth, and cross-culturally. Illicit drug culture, psychedelics, and perception; social norms and deviant behavior. DS
SOC 336 Deviant Behavior and Social Control (3) Interrelations of deviance, criminology, juvenile delinquency, corrections, social control, sociology of law. Key concepts, theories. DS
SOC 341 Survey of Social Psychology (3) Major principles; 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; 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 class, status, 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) Relationships between law, politics, and society will be explored. Emphasis is placed on several dimensions of legitimacy: legal “indeterminacy” and some of the many things that law does for us and to us; law’s response to violence; the connections between law and social change; access to the law and its sociological dimensions; how/why law fails and what happens when it does. A-F only. Pre: 100 or any 200-level SOC course, or a 100 level 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 GHS 412) DS
SOC 413 Analysis in Economy and Society (3) Study of the dominant trend of economic change and its impact on society; globalization of economic activities and transformation of industrial society to postindustrial one; corporate restructuring and downsizing and shrinkage, low wages and employment and income distribution; gender relations in workplaces; the impact of globalization on the newly industrializing countries. Pre: 300 or consent. DS
SOC 415 Technology and Society (3) Nature of technology, social forces that affect its adoption; impact on society; innovation. DS
SOC 418 Women and Work (3) Gender and 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. Pre: 300, or WS 151 or any 200- or 300-level WS course; or consent. ((Cross-listed as WS 435) DS
SOC 441 Social Structural Analysis of 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 perspective in activities aimed at prevention and treatment of violence, and cross-cultural perspectives. Pre: 300, WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 452) 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
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 course, or consent. (Cross-listed as ES 456) DS
SOC 457 Sociology of the Arts (3) Relation of art to society; role of artist, audience, critic, patron, mu-
seum; Western and other societies; attitudes toward new styles. DS
SOC 458 Analysis in Sports and Society (3) Critical perspectives on sports and society. Topics include power and inequality; mobility, status, and economics; youth development; globalization; gender; and violence in sports and the wider society. Pre: 300 and 321. (Spring only) DS
SOC 459 Popular Culture (3) Popular culture as manifested in film, sports, TV, comics, magazines, etc.; relation to sociological theories and studies. DS
SOC 475 Analysis in Survey Research (3) Survey research design and analysis, including theory selection instruments, 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 multiracial 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) Repeatable unlimited times. Pre: 300 and consent of instructor. 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 can be awarded.
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 construction, theory construction, and choice of research strategies.
SOC 607 Seminar in Methods of Content Analysis (3) Content analysis combines quantitative and qualitative methods to analyze text systematically. Covers sampling and case selection; manual and computer-aided 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)
SOC 609 Seminar Qualitative Research (3) Advanced seminar on conducting fieldwork in natural social settings with emphasis on qualitative techniques and analysis, 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 in representative works in sociology from the 19th to the 20th centuries, 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 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 systems, health service organizations, health and welfare policy and perceptions, data 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. Pre: graduate standing. (Cross-listed as AMST 638)
SOC 651 Introduction to Human Population (3) Comparative analysis of qualitative and quantitative aspects of population; factors affecting size, distribution, and composition; impact of population size and composition on society. (Cross-listed as GHP5 651 and PH 651)
SOC 659 Methods of Demographic Analysis (3) Statistical evaluation and analysis of population data; data sources; population growth; composition; standardization of rates; mortality and the life table; nuptiality and fertility; distribution, migration, urbanization; projections and stable population theory. (Cross-listed as GHP5 659 and PH 659)
SOC 660 Teaching Seminar (3) Examines research on teaching, learning, and ethics, as well as practical skills for teaching at the university level. Syllabi and teaching philosophies are developed, which are useful for the academic job market. Graduate standing only.
SOC 701 Seminar in Evaluation Research (3) Research design, data collection, field problems and analysis in the evaluation of social programs. Examples from criminal justice, corrections, drug treatment, mental health, urban, and public health.
SOC 705 Advanced Statistics (3) Dealing with advanced statistical methods beyond multiple linear regression, such as logit, event history analysis, and multi-level analysis. Emphasis is on applications of the techniques to social science research. Repeatable one time.
SOC 706 Cultural Analysis (3) Contemporary issues in cultural sociology, covering key theoretical perspectives, analytic methods, and substantive areas for empirical research. A-F only.
SOC 711 Seminar in Sociology of Knowledge (3) Sociological theory applied to bases of knowledge in everyday life, professional communities, and the sciences. Research and contributions of sociologists; ethnomet hodology; construction of social structure, culture, and consciousness. Repeatable one time.
SOC 715 Seminar in Current Issues in Sociology (3) Substantive areas that are of current interest and the focus of research, but not addressed in other courses. Repeatable two times.
SOC 716 Seminar in Medical Sociology (3) Application of theoretical paradigms and methodologies to the examination of selected research topics in the field of medical sociology. Repeatable one time. Pre: 615 or consent.
SOC 719 Comparative Family and Gender (3) Discusses the major perspectives on family and gender relations and examines related empirical research. Emphasis is on the cross-cultural comparisons across the U.S. and Asia in the context of globalizing economies and cultures. A-F only. (Al. years) (Cross-listed as GHPS 719)
SOC 720 Comparative Study of East Asia (3) Comparative analysis of social organization, social processes, and change of both capitalist and communist countries of East Asia, with each other and other areas of the world. Pre: 611 or consent.
SOC 721 Social Change—Pacific Islands (3) Analysis of social change; transformation from subsistence societies to commodified, wage-labor societies with participation in world economy.
SOC 723 Seminar in Modern Chinese Society (3) Developmental policies, social change, and impact on modern Chinese social institutions. Includes China, Hong Kong, and Taiwan. May include social and demographic change, population, social stratification, gender, and family problems. Repeatable one time.
SOC 725 Seminar in Race Relations (3) Comparative view of how “races” and “ethnic” groups develop and function. Sociological theories of race relations, assimilation, acculturation, and pluralism.
SOC 730 Conflict Analysis/Resolution (3) Seminar on the analysis of conflict resolution. Faculty from law, planning, political science and guest practitioners will present multidisciplinary analysis and intervention strategies on contemporary conflicts. A-F only. Pre: graduate standing or consent.
SOC 741 Seminar in Social Structure and the Individual (3) Intensive study and individual research 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 two times.
SOC 751 Development in Asia (3) Intensive study and individual research 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 two times.
SOC 751 Development in Asia (3) Intensive study and individual research 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 two times.
SOC 751 Development in Asia (3) Intensive study and individual research 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 two times.
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SOC 751 Development in Asia (3) Intensive study and individual research 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 two times.
SPAN 351 Spanish Cultural Perspectives (3) Survey of the history and cultures of Spain. Pre: 301 or 310, or consent. DH

SPAN 352 (Alpha) Latin American Cultural Perspectives (3) Survey of the history and cultures of Latin America. (B) Pre-Columbian and Colonial periods; (C) Independent nation and current issues. Repeatable one time for other topics, but not for the same topic. Pre: 301 or 310, or consent. DH

SPAN 358 Third-Level Spanish Abroad (3) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 302 or 259 or equivalent.

SPAN 359 Third-Level Spanish Abroad (3) Continuation of 358.

SPAN 360 Intensive Third-Level Spanish Abroad (3) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 302 or equivalent.

SPAN 361 Masterworks of Spanish Literature (3) Reading and discussion of representative works of Spanish literature: origins to 18th century. Pre: 301 or 310, or consent. DH

SPAN 362 Masterworks of Spanish Literature (3) Reading and discussion of representative works of Spanish literature: 18th century to present. Pre: 301 or 310, or consent. DL

SPAN 371 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature: Colonial period through Romanticism. Pre: 301 or 310, or consent. DL

SPAN 372 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature: Modernism to the present. Pre: 301 or 310, or consent. DL

SPAN 373 (Alpha) Latin American Literature (3) Reading and discussion of representative works of Spanish-American literature: Romanticism to the present. Pre: 301 or 310, or consent. DL

SPAN 374 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times. A-F only. Pre: 301 (or concurrent), consent and departmental approval.

SPAN 400 Spanish Language in Society (3) Explores issues in Spanish language in society (media, communication, advertising, government, technology). Introduces and examines current sociolinguistic and sociopolitical issues. Pre: 303 or consent.

SPAN 403 Advanced Composition and Conversation (3) Advanced practice; emphasis on building active vocabulary. Pre: 302 or concurrent.

SPAN 404 Spanish-English Translation (3) Factors in the art of translation. Practice in translating material from Spanish to English and the reverse. Pre: 305 or concurrent.

SPAN 451 Historical Spanish Linguistics (3) Evolution of Spanish from Latin; modern social and geographical dialects. Pre: 302 or 330, or consent.

SPAN 452 Introduction to Spanish Linguistics (3) Analysis of morphology, syntax, and semantics. Pre: 302 or 330, or consent.

SPAN 458 Fourth-Level Spanish Abroad (3) Intensive course of full-time formal instruction on the fourth-year level in Spanish linguistics, civilization, culture, and literature in a Spanish-speaking country. Pre: 302, 303, 358, 359, or 360.

SPAN 459 Fourth-Level Spanish Abroad (3) Continuation of 458.

SPAN 460 Intensive Fourth-Level Spanish Abroad (V) Intensive course of formal instruction on the fourth-year level in Spanish Language and culture in a Spanish-speaking country. Per semester programs only. Pre: 360 or equivalent.

SPAN 461 Spanish Neoclassicism/Romanticism (3) Representative works from Spanish Neoclassicism (18th century) and Romanticism (19th century). Genres: theater, poetry, essay, novel. Pre: 361 or 362, or consent. DL
to the PB-SPED in severability program. A minimum grade of B- is required for all prerequisite courses prior to beginning program courses. All field course work requires candidates to obtain current TB clearance, background check, and liability insurance.

SPED 201 Disability and Diversity (3) Explores the changing disability experience (from "stereotype" to "normalization") as depicted in film, literature and dialogue with persons with disabilities in the Pacific region. 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 individuals with disabilities, their families and professionals to understand the culture of disability. A-F only. DS

SPED 315 Field Training – Blended ECE (4) Students spend 15 hours per week in settings appropriate to concurrently enrolled classes; supervision provided by participating teacher and college supervisor. Repeatable two times. A-F only. Pre: 304 and ITE 415 (with a minimum grade of B-), or consent. (Cross-listed as ITE 315)

SPED 332 Young Children with Communication Needs (3) Communication development of infants and young children through age 8, with and without disabilities. Assessment and intervention to support the development of communication skills in inclusive community and school environments. A-F only. Pre: FAMR 331 (with a minimum grade of B-) or consent.

SPED 390 (Alpha) Student Teaching in Special Education (V) Full-time supervised experience in school (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only. Pre: 400 (with a minimum grade of B-) and requirements for registration listed under "student teaching," Co-requisite: 391B for (B); 391C for (C); 391D for (D).

SPED 391 (Alpha) Seminar for Student Teachers in Special Education (V) Seminar relating current educational theories with experiences. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only. Pre: requirements for registration listed under "student teaching." Co-requisite: 391B for (B); 391C for (C); 391D for (D).

SPED 392 Student Teaching in Special Education Modified (V) Modified student teaching for students from another institution completing student teaching at UH or for students who have prior 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. A-F only.

SPED 414 Practicum In Special Education (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 strategies for students who are gifted and talented, including consideration of roles, expectancies for learning, and organizational procedures. Pre: 414 or consent.

SPED 421 (Alpha) Strategies for Reading Difficulties (V) Overview of methods, programs, and strategies for reading instruction designed to improve the performance of elementary students, grades K-6, who experience difficulties in reading acquisition, fluency, and comprehension. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only.

SPED 425 (Alpha) Partnerships with Families and Professionals (V) Knowledge and skills for relating effectively with families and professionals on behalf of the children and youth with and without disabilities. Coverage of the context in which family members and school personnel interact. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only.

SPED 443 Disability and Diversity in Physical Activity (4) (3 Sec, 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 elementary 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 ITE 444)

SPED 445 Educating Exceptional Students in Regular Classrooms–Secondary (3) Teaching secondary students with disabilities and those who are gifted/talented. Meeting academic/social needs, classroom management, motivation, peer interaction, collaboration 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) or permission, (or concurrent) or consent. (Cross-listed as EDCS 451)

SPED 452 Preschool Children–Special Needs (3) Examination of application of current research and practices for serving preschool children with special needs. Pre: FAMR 250 (or concurrent), or consent.

SPED 461 (Alpha) Assessment, Planning, and Instruction for Students with Mild/Moderate Disabilities (3) Techniques in the assessment, planning, and instructional process appropriate for students with mild/moderate disabilities. Stress on program development to facilitate inclusion of students with disabilities into general education environment. (B) elementary/special education; (C) early childhood elementary/special education; (D) unclassified. A-F only. Pre: 304 (with a minimum grade of B).

SPED 462 (Alpha) 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 severe disabilities into general education setting. (B) elementary/special education; (C) early childhood elementary/special education; (D) unclassified. A-F only. Pre: 304 (with a minimum grade of B).

SPED 480 (Alpha) Technology for Children with Disabilities (V) Overview of technologies for children with disabilities, including, but not limited to: toys, low and high tech augmentative communication systems, software, computers and alternative input devices (keyboards, switches, trackballs, touch windows), and multimedia technologies to promote discovery and independence for children with disabilities and their families. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable one time per alpha. A-F only.

SPED 485 (Alpha) Classroom Organization and Management (3) Knowledge and skills related to basic organizational management of an inclusive classroom, including scheduling, grouping, and stress and time management. Techniques of applied behavior management, emphasizing behavior change and practical implementation of learning principles. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. A-F only. Pre: 304 (with a minimum grade of B).

SPED 486 Theoretical Basis for Teaching Special-Needs Students (3) Survey of biophysical, behavioral, social/ecological, psychodynamic/psychosocial, socio-cultural, cognitive/developmental, counter-theoretical approaches to teaching exceptional students. Opportunity for the development and/or strengthening of one’s own theoretical frame 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 these students. A-F only. Pre: consent of instructor or department chair.

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

SPED 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-Pcert program emphasis (mild/moderate or severe/autism). Supervision provided by participating teacher and/or college supervisor. Repeatable two times. Post-Baccalaureate in Special Education only. A-F only. Pre: 304 or 412.

SPED 527 Student Teaching in Special Education-Post Baccalaureate Programs (6) Supervised student teaching with a master teacher in PreK-12 educational settings appropriate to SPED-Pcert program emphasis (mild/moderate, severe/autism); minimum 280 hours in minimum 11 weeks supervision by master teacher and university supervisor. Repeatable one time. Pre: consent of instructor or department chair.

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-Pcert program 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; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/special needs; (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 nine times. CR/NC only. Pre: teaching or related work experience.

SPED 582 (Alpha) Practicum in Special Education (Q) 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; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/special needs; (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 nine times. CR/NC only. Pre: teaching or related work experience.

Key to symbols & abbreviations: see the first page of this section.
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–C) General SPED; (F–G) secondary programming/SPED; (H–I) bilingual/multicultural/ special needs; (J–K) severe disabilities; (M–N) early childhood/special needs; (O–P) career/vocational/ special needs; (Q–R) computer/special needs; (S–T) arts/special needs; (U–W) computer training/special needs; (X–Y) cohort/college/special needs; (Z) Ho'okahi. Repeatable five times. CR/NC only. Pre: teaching or related work experience.

SPED 590 Internship, Special Education (6) Supervised field activities involving the programming and instruction of special-needs students within teacher training programs in Hawai'i and the Pacific Basin. Pre: consent.

SPED 600 Foundations of Exceptionality (3) Theoretical, legal and multicultural foundations for assessing, teaching and developing individual service plans across the lifespan for persons with disabilities. Pre: consent.

SPED 601 Technology for Diverse Learners: Access, Accommodations, and Universal Design (3) Strategies for using assistive technologies, multimedia technology, and telecommunications to design engaging learning environments that promote inclusions and give voice to diverse learners. Emerging technologies for access, accommodations, and universal design are explored. Pre: one of 480, ETEC 414, or ETEC 442.

SPED 602 Special Education Law and Compliance (3) Examination of the federal, state, and local government roles in special education with special emphasis on case law and regulatory law. Focus on understanding special education law necessary in providing services to students with disabilities in a variety of placements. Appropriate for special education teachers, administrators, or related service providers. Pre: consent.

SPED 603 Principles of Behavior (3) Principles and laws governing behavior and methods that can be used to accomplish educationally relevant changes in student performance. Emphasis on the conceptual basis for changing behavior and use of technologies for changing behavior in school and community settings. Pre: consent.

SPED 605 Collaboration in School and Community Settings (3) Collaboration skills necessary to function as team members and to ensure the success of students with disabilities in inclusive school and community settings. Pre: consent.

SPED 606 Language Development for Deaf Children (3) General theories of first and second language development applied to development of ASL and English in deaf children. Relationship of theory to educational practice. Taught in ASL and English. Repeatable one time. A-F only. Pre: admission into Deaf Education program or consent. (Alt. years)

SPED 607 Audiology and Spoken English for Deaf Students (3) Developmental principles of audiology and speech (i.e., spoken English) will be used to examine assessment procedures and intervention strategies appropriate to deaf students in a variety of educational placements. Classroom applications will be presented. Taught in ASL and English. Repeatable one time. A-F only. Pre: admission into Deaf Education Program or consent. (Alt. years)

SPED 608 Literacy Development for Deaf Students (3) General theories of language-based language development and recognition of language-related learning problems of deaf students; strategies for teaching reading and writing to deaf students. Repeatable one time. A-F only. Pre: 461 and 606, or consent. (Alt. years)

SPED 609 Seminar in Bilingual Deaf Education (3) Study of issues, trends and methods in ASL/English bilingual education for deaf students. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 610 Advanced Assessment and Curriculum Development–Deaf (3) Assessment methods and techniques used with deaf students that emphasize the bond between curriculum-based assessment and curriculum-based programming through planning and programming appropriate intervention content areas based on ongoing diagnostic assessment. Taught in ASL and English. Repeatable one time. A-F only. Pre: 607 or consent. (Alt. years)

SPED 611 Methods and Strategies for Students with Mild/Moderate Disabilities (3) Techniques for providing effective instruction including best instructional practice, lesson planning, teacher-directed and student-mediated instructional strategies, and curricular approaches for working with students with mild/moderate disabilities. A-F only. Pre: 304 or consent.

SPED 612 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. Pre: 461 or consent.

SPED 614 Assessment and Instruction—Severe Disabilities and Autism (3) Basic principles of assessment, instruction, and curriculum development; application of formal 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. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 615 Family-Centered Approaches in Deaf Education (1) Prepare teachers to deliver family-centered home-based services to families of deaf children using the SKI-HI model. Course will be taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 616 Collaboration—Working with Deaf Students in Inclusive Settings (3) Collaboration skills for working with general education teachers, specialists, paraprofessionals, families and community members to support the success of deaf students in inclusive settings. Taught in ASL and English. Repeatable one time. A-F only. Pre: 606, 607 and 608; or consent. (Alt. years)

SPED 617 Transition Strategies for Deaf Students (1) Collaborative model for facilitating the transition of deaf and hard-of-hearing students to develop appropriate transition plans 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, and completion of SPED core required. Repeatable one time. A-F only. Pre: 609 or consent. (Alt. years)

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 arts curriculum (listening, speaking, 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 English literature translated into American Sign Language (ASL) including discussion of ASL language 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 623 Assessment and Intervention (3) Issues in social development, self-determination, and social skills competence training for children and youth with disabilities; experience in group social skills training and development of individualized programs. Pre: Either 485 or 630, and either 611 or 614 or consent.

SPED 624 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. Pre: consent.

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 and completion of SPED core required. Repeatable one time. Pre: consent.

SPED 628 Internship (3) Supervised education/community experiences with special needs populations (MR, LD, SED, SMH); preschool through postsecondary settings. Completion of SPED core required; 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 Activity (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and exceptionalities; and how these influence instruction, engagement, and behavior in physical activity settings across the lifespan. A-F only. Pre: consent. (Cross-listed as KRS 634)

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. A-F only. 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
(S) 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 (S) Study and development of applied research topics in special education. Repeatable two times. Pre: consent.

SPED 652 Transition/Supported Employment (S) Transition planning for youth with disabilities in preparation for post-scholastic development as adults in private and public sector businesses. A-F only. Pre: consent.

SPED 688 Research Practicum in Special Education (S) 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 (S) 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) Individually directed reading/research. Repeatable unlimited times. Pre: consent of instructor and department chair.


SPED 705 Seminar in Exceptionalities (S) Current and historical topics, issues, and trends in the field of exceptionalities. Repeatable with different content. Pre: consent.

SPED 706 Doctoral Internship (S) Supervised internship (minimum 18 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 (S) 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 (S) 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 (S) 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.

Surgery (SURG)

School of Medicine


SURG 532 Surgery Longitudinal Clerkship (5) A clinically based, year-long, introductory in general surgery and selected subspecialties. Outpatient-conducted one day per week for six months in a community-based, ambulatory care facility. Inpatient-conducted for four weeks in an acute-care hospital facility. Repeatable one time.

SURG 541 Emergency Medical Care (6) Clinical experience in medical, surgical, and psychiatric problems requiring urgent care. Pre: 531 and fourth-year standing.

SURG 545 (Alpha) Electives in Surgery (V) Advanced clinical experience in: (B) urology; (C) ophthalmology and otorhinolaryngology; (E) plastic surgery; (F) neurosurgery; (G) orthopaedics; (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; (X) transplant surgery. Repeatable one time for all except (U); repeatable two times for (U) and (X). Medical students only for (U) and (X). 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 103 First Year Tahitian I (3) Basic core skills of listening, speaking and grammar of spoken Tahitian in a condensed format. Meets three 50-minute sessions weekly. HLS.

TAHT 104 First Year Tahitian II (3) Basic core skills of listening, speaking and grammar of spoken Tahitian in a condensed format. Meets three 50-minute sessions weekly. Pre: 103 or consent. HLS.

TAHT 203 Second Year Tahitian I (3) Intermediate core skills of listening, speaking and knowledge of grammar for spoken Tahitian in a condensed format. Meets three 50-minute sessions weekly. Pre: 104 or consent. HLS.

TAHT 204 Second Year Tahitian II (3) Intermediate core skills of listening, speaking and knowledge of grammar for spoken Tahitian in a condensed format. Meets three 50-minute sessions weekly. Pre: 203 or consent. HLS.

TAHT 301 Third-Level Tahitian (3) Continuation of 202. Conversation, advanced reading, composition. Pre: 204 or consent.

TAHT 302 Third-Level Tahitian (3) Continuation of 301. Pre: 301 or consent.

TAHT 358 Third-Level Tahitian Abroad (3) Full-time formal instruction at the University of French Polynesia in Tahiti. Third-year level in Tahitian language and culture. Pre: consent.

TAHT 359 Third-Level Tahitian Abroad (3) Continuation of 358. Pre: 301 or 358; and consent.

TAHT 401 Fourth-Level Tahitian (3) Continuation of 302. Advanced conversation, reading, and writing with focus on modern formal and colloquial Tahitian styles. The language in the realms of storytelling, radio, folklore, traditional and modern writing. Survey of modern and classical language. Pre: 302 or consent.

TAHT 402 Fourth-Level Tahitian (3) Continuation of 401. Pre: 401 or consent.

TAHT 458 Fourth-Level Tahitian Abroad (3) Full-time formal instruction at the University of French Polynesia in Tahiti. Fourth-year level in Tahitian language and culture. Pre: 302 and consent.

TAHT 459 Fourth-Level Tahitian Abroad (3) Continuation of 458. Pre: 401 or 458, and consent.

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

THAI 101 Introduction to World Drama and Theatre (3) (2 Lec., 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

THAI 200 Alpha (Beginning) Beginning Theatrical Practice (1) Beginning workshop experience in the practical application of theatrical 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 majors only or consent. DL

THAI 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

THAI 214 Development of the Sound Film (3) Growth and changes in aesthetics of the sound film from 1929 to present; films by Renne, Welles, Eisenstein, etc. Pre: 201. (Alt years) DH

5 hours a week, regular on-line lab work and review of on-line audio visual materials. Pre: 102 or consent. HLS.

THAI 202 Second-Level Thai II (4) Continuation of 201. Pre: 201 or consent. HLS.

THAI 212 Intensive Intermediate Thai (10) HLS.

THAI 301 Third-Level Thai I (3) Continuation of 202. Advanced conversation and reading, emphasis on modern written texts. Lab work. Pre: 202 or equivalent or consent.

THAI 302 Third-Level Thai II (3) Continuation of 301. Pre: 301 or equivalent.

THAI 303 Accelerated Third-Level Thai (6) Continuation of 202. Meets six hours a week. Advanced conversation and reading, emphasis on modern written texts. Lab work. Pre: 202 or equivalent.

THAI 401 Fourth-Level Thai I (3) Continuation of 302/303. Advanced conversation and reading of specialized, scholarly texts. Pre: 302 or 303 or equivalent.

THAI 402 Fourth-Level Thai II (3) Continuation of 401. Pre: 401 or consent.


THAI 415 Thai Language in the Media (3) Development of reading and aural comprehension of authentic Thai language in print and broadcast media through reading Thai newspapers, viewing and listening to Thai television and radio programs. Oral and written reports. Repeatable one time. Pre: 402, 404 (or equivalent), or consent.

THAI 451 Structure of Thai (3) Introduction to information structure of Thai as a basis for developing reading skills. Analysis of rhetorical, sentence, and word structure from different types of written texts. Pre: 402 or consent. DH

THAI 452 Structure of Thai (3) Continuation of 451. Pre: 451 or consent. DH

THAI 461 (Alpha) Readings in Thai Contemporary Prose Literature: the Short Story (3) Selected readings in Thai short stories from early 1930s to present. Oral and written reviews (B) 1930-1960; (C) 1970-present. Repeatable one time with consent. Pre: 402 or consent. DL

THAI 462 (Alpha) Readings in Thai Contemporary Prose Literature: the Novel (3) Selected readings in Thai novels from early 1930s to present. Oral and written reviews. (B) 1950–1960; (C) 1970–present. Repeatable one time with consent. Pre: 402, 461(B) or 461(C), or consent. DL

Theater (THEA)

College of Arts and Humanities

THEA 101 Introduction to World Drama and Theatre (3) (2 Lec., 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) Beginning Theatrical Practice (1) Beginning workshop experience in the practical application of theatrical 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 majors only or consent. DL

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 Renen, Welles, Eisenstein, etc. Pre: 201. (Alt years) DH
THEA 220 Beginning Voice and Movement (3)
Introduction to vocal and movement techniques to increase self-awareness and potential for self-expression. Repeatable one time. Pre: consent. DA
THEA 221 Acting I: Introduction to Performance (3)
Concentration on voice, relaxation, body awareness, and freedom from self-consciousness through theater 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 building and understanding of characterization of roles through working on scenes from major modern and contemporary plays. Repeatable one time with consent. Pre: 221. DA
THEA 224 Pidgin/HCE Drama (3)
Introduction to Hawaiian Creole English (HCE) multicultural comedy and drama in Hawai‘i. Emphasis on acting exercises, local dialects, and the performance of Pidgin/HCE plays. Repeatable one time with consent. (Alt. years) DA
THEA 240 Introduction to Theater Production (3) (3 Lec, 1-3 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. DA
THEA 241L Film Production Process (3) Entry-level course details three phases of the production process for film and video projects: pre-production, production, and post-production. A-F only. Pre: consent. DA
THEA 245 Design Principles for Performance (3)
Introduction to technical design principles as applied to theatre. Will introduce the language and tools of visual literacy and visual communications via individual projects and collaboration. Repeatable two times. (Cross-listed as DNCE 245) DA
THEA 311 World Theater I: Script Analysis (3)
Script analysis methods for world drama. Required of all majors. Pre: 101 or 221 or 240 or consent. DL
THEA 312 World Theater II: Myth to Drama (3)
Myth and ritual into drama, 1000 BCE–1700 CE. Development of secular drama from sacred and ritual beginnings to dramatic theatre for all majors. Pre: 311 and 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 composition or consent. (Alt. years) DA
THEA 321 Acting III: Monologue/Audition Techniques (3) Focus on the individual student: preparation of material from all genres and styles with emphasis on line reading and responsiveness to direction. Repeatable one time with consent. Pre: 222 and consent. DA
THEA 322 Acting IV: Method Acting (3) Further exploration of character development through exercises and scene study. Class presentation of scenes for criticism and review. Repeatable one time with consent. Pre: 222 and consent. DA
THEA 323 Film/TV Acting (3) Acting techniques for film and TV production. Students appear in scenes from TV and film scripts. Repeatable one time. Pre: 101 or 221 or 240 or consent. DA
THEA 324 Advanced Film/TV Acting (3) Advanced acting techniques for film and TV production. Taping/filming of scenes and full-length scripts. Repeatable one time. Pre: 323 and consent. DA
THEA 325 Introduction to Asian Acting Styles (3) Principles of acting based on traditional Asian models. Voice, movement exercises. Pre: 222. DA
THEA 334 Taiji (‘Tai Chi) for Actors I (3)
Basic Taijiquan (‘Tai Chi Ch’uan) movement training. Repeatable two times. Pre: sophomore standing or higher, or consent. (Cross-listed as DNCE 334) DA
THEA 335 Taiji Round Form for Actors (3) Introduction to basic Asian movement skills through learning the taiji round form, a fast and more fluid version of the full 108 taiji sequence of forms. Open to non-majors. Repeatable two times. Pre: sophomore standing or higher, or consent. DA
THEA 343 (Alpha) Topics in Theatre Production (3) Workshop in principles, techniques, and application of contemporary theatre production practices: (B) entertainment electrics: lighting, sound, special effects, projections, and related areas; (C) technical production: technical direction, technical design, construction, rigging, and related areas; (D) scenic and prop production: drafting, model-making, scenic art, painting, craftsmanship, and related areas. Repeatable one time for different alphabets, each alpha can be taken one time. Pre: any course in THEA or DNCE, or production experience; or consent. (Alt. years) DA
THEA 345 Lighting I: Beginning Lighting Design (3) Basic principles of lighting design and associated technologies. Includes functions and properties of light, lighting and control equipment, lighting procedures, and drafting of paperwork techniques. Pre: 240 or DNCE 250, or consent. (Only one year) DA
THEA 353 Scene I: Beginning scenic Design (3) Workshop introducing the basic principles and approaches of scenic design for theatre and dance, with emphasis on the creative process. Pre: a course in THEA or DNCE and production experience, or consent. (Consent required for production experience option) (Cross-listed as DNCE 353) DA
THEA 354 Introduction to Costume Construction (4) Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as DNCE 354) DA
THEA 356 Costumes I: Beginning Costume Design (3) Basic principles and approaches to costume design for theatre and dance. Visual communication methods, creative process, historical research, and organizational practices. Repeatable one time. Pre: 240, DNCE 250, or consent. (Cross-listed as DNCE 356) DA
THEA 357 Stage Makeup Workshop (3) Theory and practice; corrective and three-dimensional makeup, modeling with paint; beards, mustaches. Repeatable one time. Pre: consent. DA
THEA 380 Beginning Directing (3) Basic practical course in how to direct a play. Students will direct scenes. Pre: upper division theater majors or consent. DA
THEA 400 (Alpha) Advanced Theater Practicum (1) Advanced workshop experience in the practical application of theater skills. (B) acting; (C) stagecraft; (D) costume; (E) theater management. Repeatable up to four credits per alpha. Pre: audition and performance of role in a Department of Theatre and Dance production for (B); consent for (C) and (D); theatre majors only or consent for (E). DA
THEA 411 World Theater III: Elite and Popular (3) Ethical issues in drama and production, interplay between elite and popular forms and the impact of colonialism, 1500-1900. Required of all majors. Pre: 312 and consent. (Alt. years) DL
THEA 412 World Theater IV: Modern (3) Primalism in modern theatre, 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 theater 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) Training in proper and dynamic use of the voice for the actor. (B) Western traditions; (C) Asian traditions. Repeatable two times. Pre: 220 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 231B, 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 424 Hawaiian Acting Workshop (3)
Training in skills and techniques for selected traditional Hawaiian performance forms and Hawaiian medium theatre. Emphasis on movement and vocal technique. Repeatable one time. Pre: 222 or consent. DA
THEA 426 South/Southeast Asian Acting Workshop (3) Training in skills and techniques for selected traditional southern and southeast Asian acting forms. Emphasis on movement and vocal techniques. Repeatable one time. A-F only. Pre: 222 or consent. (Alt. years) DA
THEA 427 Chinese Acting Workshop (V) Training in skills and techniques for selected traditional Chinese theater forms. Emphasis on movement and vocal technique. Repeatable to six credits. Pre: 222 or consent. (Alt. years) DA
THEA 428 Japanese Acting Workshop (V) Training in skills and techniques for selected traditional Japanese theater forms. Emphasis on movement and vocal technique. Repeatable to six credits. Pre: 222 or consent. (Alt. years) DA
THEA 439 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. DA
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 (‘Tai Chi) for Actors II (3)
Intermediate-level Taijiquan (‘Tai Chi Ch’uan) movement training. Repeatable two times. Pre: 334 or consent. (Cross-listed as DNCE 434) DA
THEA 435 Movement for Actors (3) Training actors to discover experientially the sources of movement; to teach skills for analyzing movement for its mechanical, anatomical, spatial, and dynamic content; and 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 movement for the three levels 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

Key to symbols & abbreviations: see the first page of this section.
THEA 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: one of 435, DANCE 435, one semester of a 100-level dance technique class, or consent. (Alt. years) (Cross-listed as DANCE 438) DA
THEA 439 Musical Theater Dance Forms (3) Theatrical dance forms used in 20th-century musical theatre. Pre: 100 level or above dance technique class. 421, or consent. (Alt. years) (Cross-listed as DANCE 439) DA
THEA 445 Lighting II: Intermediate Lighting Design (3) Workshop in intermediate techniques and skills of lighting design; storytelling, analysis, research, investigation, questioning, problem solving and the execution of successful design projects. Pre: 345. DA
THEA 446 Topics in Costume Construction (3) Costume production techniques, both Western and Asian, for theatre and dance. Topic rotation includes: understructures and armatures, patterning, tailoring, dyeing, finishing, location, millinery and crafts, within the context of current industry practice. Repeatable two times. Pre: 354, 356, or consent. (Cross-listed as DANCE 446) 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: 343 or consent. (Once a year) THEA 453 Scenic/Scenic Design (3) Workshop in advanced techniques and skills of scenic design; model making, rendering, and drafting. Pre: 355 or consent. DA
THEA 456 Costumes II: Intermediate Costume Design (3) Advanced costume design for theatre and dance. Introduction to collaborative process in costume. Intensive work on rendering skills, applied to various design problems. Cost analysis and organizational techniques. Pre: one of 354, 356 or consent. (Cross-listed as DANCE 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, Hawaii, Fiji, Samoa, 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. DH
THEA 468 Drama and Theater of Hawai‘i (3) Survey of indigenous theatre forms of Hawai‘i, Native Hawaiian, and other ethnic playwrights, and contemporary multicultural landscape of drama and theatre in Hawai‘i. Junior standing or higher. Pre: 101 (with a minimum grade of B); or consent. (Alt. years: fall) DH
THEA 470 Creative Drama (3) Dramatic activities for young people. For teachers, group workers, recreation majors, and others dealing with children. Supervised field experiences. Pre: junior standing or consent. DA
THEA 474 Theater for Young Audiences (3) Theories and principles of formal theater for young audiences. Study of and practice in the selection, direction, and production of plays. Pre: junior standing or higher, or consent. DA
THEA 475 Puppetry for Young Children (3) Methods of constructing puppets and stages with and for children 3 to 8 years of age. Use of puppets in the creative arts. Fieldwork. Pre: junior standing or consent. DA
THEA 476 Puppetry (3) History and scope of puppetry. Construction and presentation of puppets for adult and child audiences. Repeatable one time. Pre: junior standing or above, or consent. DA
THEA 477 Masks and Giant Puppets (3) History, construction, and performance techniques for masks and large puppets. For professional directors, and others working with students aged 10 to 18 and adults. Pre: junior standing or above, or consent. DA
THEA 480 Intermediate Directing (3) Workshop; students direct 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. DA
THEA 491 (Alpha) Topics in Drama and Theater (3) (B) Qigong (Ch‘i 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 580 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)
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 614 (Alpha) Topics in Dramaturgy (3) (B) the role of dramaturg; covers the history, theory, and practice; (C) dramaturgy workshop; accompanies specific Kenneth Theatre productions. Repeatable one time per alpha. Pre: consent. (Alt. years)
THEA 615 Performance Theory (3) Introduction to key texts and concepts of performance studies. Pre: consent.
THEA 616 Script Analysis (3) Study of dramatic texts in a seminar format; analysis of Western and Asian classical to post-modern plays. Pre: 312 or consent.
THEA 617 Seminar in Performance Studies (3) Special topics. Repeatable up to two times when topics change. Pre: 615 or consent. (Cross-listed as DANCE 617) THEA 618 Digital Multimedia Tools for Performance Research (3) Dance, Theatre, Music Majors only. A-F only. Repeatable one time. Pre: consent.
THEA 620 Advanced Voice for the Actor (3) Training at advanced level in speaking and vocal skills and techniques in preparation for a solo performance. Repeatable one time. A-F only. Pre: 420 or consent. (Alt. years)
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 arts into the actor’s repertoire. Exploration of application to contemporary Asian and non-Asian texts. Workshop format. Repeatable one time. Pre: consent.
THEA 634 Taiji Weapons for Actors (3) Advanced level Taiji Quan (T‘ai Chi Ch‘uan) weapons training. Repeatable two times. Pre: 334 or 434, or consent.
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: 343 or 445 or consent.
THEA 645 Lighting III: Advanced Lighting Design (3) Workshop dealing with special topics in the theatrical lighting design and related skills. Repeatable two times. THEA, or DANCE majors only. Pre: 445. THEA 650 Professional Advancement in Entertainment Design (1) Directed study designed to help MFA candidates in Design acquire the tools helpful in obtaining current employment. Portfolios, resumes, and related application tools will be developed along with other necessary skills. Must be current MFA candidate in theatre. Repeatable six times. THEA majors only. Pre: consent.
THEA 653 Scenic III: Advanced Scenic Design (3) Workshop dealing with special topics in scenic design, related skills, and portfolio preparation. Repeatable two times with consent. Pre: 453 or consent. (Alt. years) THEA 656 Costumes III: Advanced 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 678 (Alpha) Topics in Theatre for Young Audiences (3) Creative movement, 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 theater course, or consent.
THEA 682 Graduate Workshop in Directing (3) Direction of scenes and one-act plays. Pre-requisite 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, organizing, and scheduling. Repeatable one time with consent.
THEA 684 Theatre Governance (3) Governs the economic and managerial skills for starting a professional and/or non-profit theater company or performing arts organization; artistic directorship, board development, non-profit legalities, season planning, fundraising, budgeting, publicity, international activities, etc. Pre: 600 or consent.
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. HSL

TONG 102 Beginning Tongan (4) Continuation of 101. Pre: 101 or consent. HSL

TONG 201 Intermediate Tongan (4) Listening, speaking, reading, and writing skills. History and culture. Meets four (4) hours weekly. Pre: 102 or consent. HSL

TONG 202 Intermediate Tongan (4) Continuation of 201. Pre: 201 or consent. HSL

Translation and Interpretation (TI)
College of Languages, Linguistics and Literature

Some courses require a language exam before being allowed to enroll. Please check the website at cits.hawaii.edu for current course offerings 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 intercultural, lexical, and terminological problems of practice; various community interpreting situations and techniques. Repeatable one time.

TI 407 Court Interpreting II (3) Combined lecture/discussion/practice. Continuation of 405 Court Interpreting, 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, communication and treatment, as well as interpreting skills. Students must have 402 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. (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. Focus on the ability to orally translate information from a written text. Emphasis on improving linguistic (discourse analysis) and communicative (public speaking) skills. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: 451 or senior or graduate standing and pass CITS screening exam. Co-requisite for translation students: 402, 414, and 422. Co-requisite for interpretation students: 402, 432, and 442.

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, 413, 421.

TI 414 (Alpha) Technical Translation into Second Language (3) Translation of nonfiction texts into a Second Language. Training process, methodology, and techniques. Web-based. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: a previous translation course, or consent.

TI 421 Research Tools and Technological Aids for Translation (3) Word processing, graphics, spreadsheet, database management, and communication programs for professional practice. Reference and bibliographic searches. Traditional and nontraditional resources. Repeatable one time. Pre: senior or graduate standing and pass CITS screening exam. Co-requisite: 401 and 411.

TI 422 Computer-Assisted Translation (3) (1 Lec, 1.5-3 hr Lab) Use of computer as aids in the translation process. Basic desktop publishing and technical writing. Computer aids for terminology studies and glossary building. Repeatable one time. Pre: 421, or graduate standing, and pass CITS screening exam. Co-requisite: 402, 412, 452.

TI 425 Japanese Translation (3) Training in techniques of translating Japanese into English. Pre: consent. (Cross-listed as JPN 425)

TI 432 (Alpha) Consecutive Interpretation (3) Extensive note-taking and skills for simultaneous reading in a bilingual context. Focuses on the translation of numbers, acronyms, initials, and economic and financial information. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: 431, senior or graduate standing, and pass CITS screening exam. Co-requisite: 402, 442, and 452.

TI 442 (Alpha) Simultaneous Interpretation (3) Simultaneous interpretation of speeches. Focus on the study of formulaic and frozen language changes in a contextually used technical vocabulary. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time. Pre: 441, senior or graduate standing, and pass CITS screening exam. Co-requisite: 402, 452, and 442.

TI 452 (Alpha) Sight Translation (3) Basic course. Focus on the ability to orally translate information from a written text. Emphasis on improving linguistic (discourse analysis) and communicative (public speaking) skills. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time.

TI 499 Directed Reading/Study (V) Basic course. Focus on the ability to orally translate information from a written text. Emphasis on improving linguistic (discourse analysis) and communicative (public speaking) skills. (J) Japanese; (K) Korean; (M) Mandarin; (S) Spanish; (O) other. Repeatable one time.

Travel Industry Management (TIM)
School of Travel Industry Management

Students should check with the department for grade requirements for prerequisites.

TIM 099 International Exchange Programs (V) UH Mānoa School of Travel Industry Management majors participating in approved international exchange programs. CR/NC only.

TIM 100 Internship I (2) Introduction to travel industry. Discussion of 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 comprising tourism.

TIM 102 Food and World Cultures (3) An integrated cross-cultural approach to the study of foods and cultures. Examine history, concepts, principles of cultures and cuisines, the background of food traditions including habitat, social status, religious beliefs, gender, and other environmental considerations. A-F only. FGB

TIM 200 Internship II (2) A minimum of four hundred hours of travel industry experience. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM major, 100, and 101.

TIM 300 Internship III (2) A minimum of four hundred hours of travel industry experience. Position must be different from TIM 200 position and a more responsible nature or in a different organization. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM major and 200.

TIM 301 Legal Environment of the Travel Industry (3) Origin, development, and principles of common, statutory, constitutional, international, and
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) DS
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: TIM 101, DS
TIM 324 Geography of Global Tourism (3) Tourist landscape in relation to resources, spatial patterns of supply and demand, impacts of 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 327 Travel Distribution Management (3) History, development, operations, and management of travel distribution organizations including: travel agents, tour operators and wholesalers, specialty channels, meeting planners, incentive houses, travel associations, and other destination management organizations. Organization and economics of the distribution of travel products through destination databases and electronic commerce. Pre: 302.
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: 313.
TIM 353 Air Transportation Management (3) Marketing, management and strategies used by airlines, airports, catering, and aircraft manufacturers. 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, etc. 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 the travel industry. Emphasis varies depending on locus of instruction and instructor. Students may not earn credit for 365 and BUS 313. Pre: either ECON 120 or ECON 130. TIM 366 TIM Study Abroad (5) Study abroad instructional experience emphasizing international travel, tourism and hospitality-related topics at accredited, accredited programs. Content varies depending on locus of instruction and instructor. Course qualifies as either a TIM or general elective with pre-approval or department. 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) tourism development; (N) transportation development; (O) industry management education; (P) travel industry management technology; (Q) meetings, incentives, conventions, and exhibition management. Repeatable five times with consent.
TIM 390 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 consent of dean’s office and instructor based upon 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 significant portion of class time is dedicated to writing instruction, which will enhance and improve students’ writing skills. (B) executive internship; (C) community service internship. Restricted to majors. CR/NC only. Pre: 200 and consent.
TIM 402 Resort Mixed Use Development (3) Critical and essential aspects of developing and 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: 314 or 302 and 314. Recommended: 333 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, forecasting, financial analysis, and economic analysis. Pre: 101, ACC 202, and ECON 130.
TIM 415 Nature-Based Tourism Management (3) Principles of nature-based tourism, including a survey of impacts, objectives, and management systems. Junior standing or higher. Pre: 101 or 324/GEOG 324. (Cross-listed as GEOG 415) DS
TIM 431 Strategic Management for the Travel/ Hospitality Industry (3) Strategic management in the travel/hospitality industry. Case study analysis, discussion and written reports, covering strategies, management problems and industry issues. Emphasis on writing instruction. A-F only. Pre: 301, 302, 303, 304, 305 and graduating senior.
TIM 442 Advanced Topics in Air Transportation (3) Advanced level in terms of air transportation, including management, economics, strategy, regulation, operating performance, fleet management, and network management. Pre: 353 (undergraduate) or consent (graduate).
TIM 469 (Alpha) Advanced Topics in Travel Industry Management (V) (C) advanced hotel management; (D) advanced tourism management; (I) advanced travel industry management; (J) advanced hospitality management; (K) advanced restaurant management;
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 facility supervision. Requires proposal prepared by student and approved by supervising 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)

College of Tropical Agriculture and Human Resources (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)

TRMD 431 Principles of Medical Parasitology (2) Epidemiology, pathogenesis, immunobiology and diagnostic aspects of human parasitic infections; principles of host-pathogen interactions; public health aspects of parasitic infections. Repeatable one time. A-F only. Pre: TRMD 515 with a grade of B or higher or equivalent. (Spring only)

TRMD 499 Reading and Research (V) Directed research and reading in current or historical literature. A-F only. Pre: consent. (Alt. years: spring)

TRMD 539 Topics in Tropical Medicine (3) Principles of nature-based tourism, including a survey of impacts, objectives, planning, and management systems. Junior standing or higher. Pre: 101 or 324/GEOS 415 or (Alt. years: fall) 351 or equivalent; or consent. (Cross-listed as GEOG 415)

TRMD 545 Topics in Tropical Medicine and Infectious Diseases (V) Elective for medical students; (B) infectious diseases; (C) parasitology; (D) epidemiology; (E) immunology. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Spring only)

TRMD 559 Selected Topics in Infectious Diseases (I) 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 590 Selected Topics in Tropical Medicine and Infectious Diseases (V) Elective for medical students in Tropical Medicine and Infectious Diseases. Repeatable up to 12 credits. Medical students only. CR/NC only. Pre: consent.

TRMD 595 (Alpha) Selected Topics in Infectious Diseases (I) 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 601 Tropical Medicine Journal Club (1) Students gain experience in the presentation and discussion of topics of current interest in the fields of tropical medicine and infectious diseases. Repeatable unlimited times. Graduate students only.

TRMD 602 Laboratory Methods in Tropical Medicine (2) Microbiologic methods and techniques for identification of specific viruses, bacterial, and parasitic organisms including specimen handling, culturing, and laboratory safety. Repeatable one time. Graduate standing only. A-F only. (Fall only)

TRMD 603 Infectious Disease Microbiology I: Medical Parasitology (3) Epidemiology, pathogenesis, immunobiology and diagnostic aspects of human parasitic infections; principles of host-pathogen interactions; public health aspects of parasitic infections. Repeatable one time. A-F only. Pre: MICR 351 or equivalent. (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: MICR 461 or consent. (Cross-listed as PH 665)

TRMD 605 Infectious Disease Micro II (3) Will cover different families of animal viruses of importance to human 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 MICR 351, or consent. (Cross-listed as PH 667)

TRMD 606 Tropical Medicine Laboratory Rotations (V) Practical experience in the use of equipment and procedures in infectious disease and immunology research; introduction to research in tropical medicine, epidemiology, and infectious diseases. Pre: 604 or consent, or concurrent.

TRMD 607 Neurovirology (1) Seminar on neuro-invasive viruses giving basic virulence factors of viruses causing nervous system diseases and discussing recent advances in the research field of neurovirology. Pre: MICR 351 or equivalent; or consent. (Fall only)

TRMD 608 Infectious Disease Microbiology III (3) Basic structure, physiology, epidemiology, and genetics of pathogenic 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 consent. (Spring only)

TRMD 609 Advances In Medical Immunology (3) Presentations/discussions of current literature concerning recent advances in immunology relevant to disease and to disease processes. Pre: consent. (Alt. years: spring)

TRMD 610 Infection and Immunity (3) Combined lecture/discussion of interactions of pathogens with the innate and acquired immune systems. Topics will include the role of novel receptors in pathogen recognition, host defense, and anti-microbial resistance. A-F only. Pre: 604, MICR 461, or consent. (Alt. years: fall)

TRMD 650 Ecological Epidemiology (2) Applications of population biology, pathogen/host life history, and population genetics to infectious disease epidemiology, including micro- and macroparasites, 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 perspective to examine the interactive responses between infectious agents and the immune system. Topics will include natural selection, life history evolution, population genetics of bacteria and virus, 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 bioinformatic tools used in genomics, including sequence assembly, search algorithms, alignment, phylogenetics, and molecular evolution/epidemiology. Focus will be on infectious disease examples. Open to nonmajors. A-F only. Pre: MICR 351 or 605 (or concurrent) or consent. (Alt. years: spring)

TRMD 654 Advances in HIV/AIDS (2) History of HIV biology, basic virology, epidemiology, HIV pathogenesis and immunology, clinical features, and co-morbidities. Treatment and prevention of HIV/AIDS, including research on diagnosis and treatment, cultural competence, genetics, pathophysiology, drug and vaccine development. Repeatable unlimited times. A-F only. Pre: 604 and 605, or consent. (Fall only)
TPSS 655 Principles of Biostatistics (3) Lecture/lab on basic probability and statistical concepts for students in the biomedical sciences. Methodologies to include t-test, correlation, linear regression, analysis of variance, contingency table analysis, logistic regression, survival analysis, and non-parametrics. A-F only. Prev: algebra and one semester of calculus or consent. (Fall semester)

TPSS 671 Advanced Medical Parasitology (2) Consideration of ultrastructure, physiology, biochemistry, in-vitro cultivation, and host-parasite relationship of parasites of medical importance. A-F only. Prev: consent. (Alt. years: fall)

TPSS 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. Prev: 605 or equivalent, or consent. (Alt. years: fall)

TPSS 673 Advanced Medical Bacteriology (2) Role of bacteria in infectious diseases, with emphasis on clinical aspects and identification of etiological agents. Prev: 605 or equivalent, or consent.

TPSS 675 Epidemiology of Tropical Infectious Diseases (3) Epidemiology of infectious diseases as it relates to tropical medicine. Lecture/seminar format. A-F only. Prev: TRMD graduate standing or consent. (Spring only)

TPSS 690 Seminar in Tropical Medicine and Public Health (I) Weekly discussion and reports on current issues in tropical medicine and/ or public health. Repeatable unlimited times. (Cross-listed as PH 755)

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. Prev: graduate standing in TRMD.


TPSS 700 Thesis Research (V) Research for master’s thesis. Approval of department faculty required. Repeatable unlimited times.

TPSS 705 Special Topics in Tropical Medicine (V) Advanced instruction in frontiers of tropical medicine and public health. Repeatable unlimited times. (Cross-listed as PH 776)

TPSS 800 Dissertation Research (V) Research for doctoral thesis. Approval of department faculty is required. Repeatable unlimited times.

Tropical Plant and Soil Sciences (TPSS)

College of Tropical Agriculture and Human Resources

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, fruit juices); (C) herbs, spices, and flavoring (selection of examples to be determined); (D) tropical fruits (assortment offered depends on availability during semester); (E) ornamental plants (flowers, houseplants, popular landscape plants, bonsai, ethnic ornamentals). Does not count towards TPSS major. Prev: consent. DB

TPSS 200 Tropical Crop Science (3) Relation of plants, nutrients, and environment, cultural practices to tropical crop production. DB

TPSS 220 Organic Food Crop Production (2) Combined lecture/lab on the theory and practice of certified organic food production. Field visits to organic farms/markets included. Open to nonmajors. (Fall only) DY

TPSS 300 Tropical Production Systems (4) (3 Lec, 1 3-hr Lab) Comparisons and contrasts of crop management systems, techniques, and technologies in protected and open field production of tropical crops. Prev: 200 or consent. DB

TPSS 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. Minimum prequisite grade of C or consent. Prev: CHEM 161 and 161L, or consent. (Fall only) (Cross-listed as NREM 304) DP DY

TPSS 311 Current Topics in Plant Science (1) Undergraduate seminar that provides the presentation and discussion of topics of current relevance to students preparing for careers in plant-related sciences. Oral focus designation. A-F only. Prev: 200 or NREM 210, or consent. (Cross-listed as NREM 311)

TPSS 322 Marketing Perishable Products (3) Problems, agencies, functions, costs, prices, regulations affecting marketing; proposed improvement. Prev: ECON 130, NREM 220; or consent. (Alt. years) DS

TPSS 336 Renewable Energy and Society (3) Combined lecture/discussion regarding the ability of renewable energy technologies to meet local, national, and global energy demands and their potential impacts on the environment and society. Prev: consent.

TPSS 341 Accounting and Financial Analysis (3) Principles and methods of agricultural accounting. Preparing and interpreting financial statements. Sources of capital, fixed and variable costs, cash management, estate planning. Repeatable one time. A-F only. Prev: 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. Prev: 200 and 369; or consent. DB

TPSS 351 Enterprise Management (3) Introduction of practical concepts and methods used in business management. Introduce broad range of business strategies. Understand the critical role of each strategy plays. Facilitate student’s practice of analytical and critical thinking through case studies. (Cross-listed as NREM 351)

TPSS 352 Landscape Architecture History, Theory, and Practice (3) Surveying the development of landscape and its art form in 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 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 creative effective landscape graphics. Prev: consent. (Alt. years) (Cross-listed as ARCH 353) DA

TPSS 354 Tropical Landscape Planting Design Studio (3) Students will develop basic skills of residential landscape graphic and design processes in order to clearly articulate the ability to think, analyze, and design a visual solution in the proper scale. Repeatable one time. A-F only. (Alt. years) (Cross-listed as ARCH 354) DA

TPSS 364 Horticultural Practices (2) (1 Lec, 1 3-hr Lab) Techniques of culture and management of horticulture crops. Prev: 200 (or concurrent). DB

TPSS 369 Ornamental Plant Materials (3) (2 Lec, 1 3-hr Lab) Identification, origin, use, and cultural requirement of trees, shrubs, vines, and groundcovers used in Hawaiian landscapes. Prev: 200 or consent. DB

TPSS 371 Genetically Modified Application to Landscape (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. (Cross-listed as PEPS 371)

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 will be stressed. Prev: 300 or consent. DB

TPSS 402 Flower and Foliage Crop Production (4) Biology and production of cut flowers, blooming potted plants, foliage plants under field and protected cultivation in Hawai‘i and globally. Prev: 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 fruit crops, with emphasis on small scale commercial production in Hawai‘i. Prev: 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. Prev: 200 or consent.

TPSS 409 Cultural Biogeography (3) Co-evolution of human societies and plants over the last 10,000 years. Foraging, farming and urban societies; spread and modification of selected plants; issues of preservation of genetic resources and traditional plant knowledge. The form and function of gardens. Prev: 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. Prev: 200 or BIOL 171 or NREM 210, or consent. (Alt. years)

TPSS 418 Turfgrass Pest Management (4) Provides students with knowledge and real world experience on common turfgrass pests and management strategies in Hawai‘i, with emphasis on integrated pest management. Common cool-season turfgrass and pest management are also discussed. Repeatable unlimited times but credit only. A-F only. Prev: PEP 210 or consent. (Fall only) (Cross-listed as PEPS 418)

TPSS 420 Plant Propagation (3) (2 Lec, 1 3-hr Lab) Theoretical and applied aspects of seed and vegetative propagation technology involving fruits, flowers, vegetables, and landscape plants. Prev: 200 or consent. DB

TPSS 421 Tropical Seed Science (3) (2 Lec, 1 3-hr Lab) Principles of seed science, seed physiology, seed production, and genetic modification. Hawai‘i’s seed industry and biotechnology. A-F only. Prev: 200 or consent. DB

TPSS 429 Spreadsheet Modeling for Business and Economic Analysis (3) Introduction to quantitative decision-making methods for effective agribusiness management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution, and interpretation and presentation of results. Prev: 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 Nursery Management (3) (2 Lec, 1 3-hr Lab) Management practices in production and operation of commercial nurseries in Hawai‘i. Prev: 200 and 364; or consent. DB

TPSS 435 Environmental Soil Chemistry (3) Study of soil chemical processes such as weathering, adsorption, precipitation, and ion exchange; causes of soil acidity, alkalinity, and salinity; reactions between soils and fertilizers, pesticides, or heavy metals. Management strategies to minimize environmental contamination by nitrates, phosphates, and trace elements such as As, Pb, and Se. A-F only. Prev: 304 or consent. (Fall only) DB

TPSS 440 Tissue Culture/Transformation (3) (2 Lec, 1 3-hr Lab) Application of plant tissue culture for plant scientists; study of the growth and development of plant tissues in culture as influenced by chemical and environmental factors, and the regeneration of plants following plant transformation by
Building of community. Examines public policies impacting housing, land use, and community development and ways they can be improved. Pre: 310 or consent. DS

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

PLAN 600 Public Policy and Planning Theory (3) Designed to a) impart a historic and comparative perspective on the evolution of urban and regional planning in public policy; b) explore the spatial and built environments of community, planning and policy; c) assess the justifications for planning and differing processes of planning in the U.S. and Asia-Pacific with a focus on the role of the planner in policy formulation and implementation. A-F only. Repeatable two times.

PLAN 601 Planning Methods (3) Basic methods in planning including problem definition, research design, survey research, statistics and computer applications. Repeatable one time. Pre: one of ECON 321, GEOG 380, or SOC 476.

PLAN 602 Advanced Planning Theory (3) Advanced planning theory for PhD students (others by petition) to prepare for careers in planning education and/or high-level practice. Covers key contemporary planning policy issues and themes from the perspective of values, explanations of the real world, policy alternatives and implementation. Students must have passed 600 or equivalent (by petition) with a B or better. Repeatable one time. Pre: 600 or consent.

PLAN 603 Economic Analysis for Urban Planning and Policy (3) Reviews and builds skills in applying basic theories and principles of urban and regional economics in contemporary U.S., Hawai‘i and Asia-Pacific. Repeatable one time. Pre: consent.

PLAN 604 Qualitative Methods in Planning (3) Provides a general introduction to qualitative research methods for planning and planning research. Includes data collection methods (focus groups, interviews, participant observation, and participatory action research) and various analytic methods and approaches. Graduate standing only. Pre: 601.

PLAN 605 Planning Models (3) Allocation, decision, derivation, and forecasting models used in the analysis of demographic, economic, land use, and transportation phenomena in urban and regional planning. Repeatable one time. Pre: one of ECON 321, GEOG 380, or SOC 476; or consent.

PLAN 606 Comparative Planning Histories (3) Provides students with an overview of the history of urban and regional planning in the U.S., Europe, and Asia, and the role that planning has played in shaping contemporary urban settlements. Graduate standing only. A-F only.

PLAN 607 Introduction to Public Policy (3) Perspectives on policy analysis; basic approaches to the study of public policy, political economy, and policy evaluation. (Cross-listed as POLS 670)

PLAN 608 Politics and Development: China (3) Consists of three parts: 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, POLS 308, or POLS 341; or consent. (Cross-listed as ASAN 608 and POLS 645C)

COMMUNITY PLANNING AND SOCIAL POLICY

PLAN 610 Community Planning and Social Policy (3) Social issues and conditions; consequences of social policy 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. Pre: 610 or consent.

PLAN 616 Community-Based Planning (3) Planning and programmatic aspects of community-based development projects. East-West and local planning perspectives on participatory development and intentional communities. Pre: 600 (or concurrent).

PLAN 618 Community Economic Development (3) Community-based economic development approaches and methods explored with an emphasis on low income communities. Repeatable one time. Pre: consent. Recommended: 616 and/or 631 in Asian selected Asian capitals. Pre: 310, 600, or ASAN 312. (Cross-listed as ASAN 636)

PLAN 637 Environment and Development (3) Theories and practice of development; how changing development paradigms shape different ideas concerning the environment and the management of natural resources; emerging debates in development and environment in post-modern era. (Cross-listed as GEOG 637)

PLAN 638 Asian Development and Urbanization (3) Theories of development and sustainability in- development, impacts of globalization and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development. Pre: (630 or ASAN 600) with a B of above. (Cross-listed as ASAN 639 and GEOG 638)

PLAN 639 Community-based Natural Resource Management (3) Concepts and theories of community, resource access, and governance. Practical challenges to CBNR in contemporary political economy. Pre: 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. Pre: 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, sustainability. Pre: 640 (or concurrent) or consent.

PLAN 642 Planning Urban Infrastructure (3) Capital budgeting, project planning, and financing for large-scale urban infrastructure. Pre: 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. Pre: 640 or consent.

PLAN 647 Urban and Regional Planning for Sustainability (3) Focus on ideology, conceptual models, accounting frameworks, appropriate technologies, and indicators of planning for sustainability. Central and local policies, plans, and best practices in various countries and settings will be covered. Repeatable one time. Graduate students only. A-F only. (Alt. years)

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. Pre: 600 and 601, or consent.

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

RESEARCH AND PLANNING METHODS

PLAN 650 Research Design Seminar (3) Research design and preparation of their projects. Normally taken after admission to candidacy in MURP. Pre: consent.

PLAN 652 Policy Implementation and Program Evaluation (3) Implementation and evaluation in public policy analysis; philosophical and methodological issues; impact of policies and plans; use of evaluation research in program implementation. Pre: 601 or consent.

Key to symbols & abbreviations: see the first page of this section.
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. Pre: graduate standing or consent.

PLAN 655 Planning Research Methods (3) Advanced methods and deterministic and stochastic models used in urban and regional planning. Pre: 601, 605; or consent.

PLAN 661 Collaboration Between Sectors (3) Examine theories and practices of multisector collaboration (public, private, nonprofit). The use of collaboration as an alternative way of solving public problems.

PLAN 670 Interdisciplinary Seminar in Disaster Management and Humanitarian Assistance (3) Provides a background for understanding the diverse components of this dynamic and expanding field. Pre 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. Pre: 670 or consent. (Once a year) (Cross-listed as GG 604)

PLAN 672 Humanitarian Assistance: Principles, Practices and Politics (3) Combined lecture/discussion aimed at understanding the theoretical basis and working structure of humanitarian assistance programs and international responses to natural and human-induced disasters. Pre: 670 or consent. (Once a year)

PLAN 673 Information Systems for Disaster Management and Humanitarian Assistance (3) Combined lecture/discussion 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. Pre: 670 or consent. (Once a year)

PLAN 674 Disaster Recovery: Theory and Practice (3) How do communities recover from disaster? Provides students with an overview of research on disaster recovery and an understanding of how planners, policy makers, and ordinary citizens rebuild communities, cities, and nations following catastrophic events. A-F only. Graduate standing only.

PLAN 675 Preservation: Theory and Practice (3) History and philosophy of historic preservation movement. Analysis of values and assumptions, methodologies and tactics, implications for society and public policy. (Cross-listed as AMST 675 and ARCH 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. Pre: graduate standing or consent. (Cross-listed as AMST 676 and ANTH 676)

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

PLAN 678 Site Planning (3) Fundamental principles that guide site planning, including planning and design determinants of the site taking into account its regional context, site-specific characteristics and applicable codes, ordinances, and standards. PLAN majors only. (Fall only)

PLAN 699 Directed Reading and Research (V) Repeatable unlimited times. Pre: consent of instructor and department chair.

PLAN 700 Thesis Research (V) Limited to MURP students under Plan A. Repeatable unlimited times. Pre: consent.

PLAN 721 Homeland Security: Terrorism (3) Combined lecture/discussion in disaster management and humanitarian assistance track focusing on developing a multidisciplinary understanding of international terrorism and anti-terrorism planning and response. Pre: 670 or consent. (Once a year)

SEMINARS AND PRACTICE

PLAN 740 Seminar in Planning Theory (3) Special topics in theory, history, analysis. Pre: 600 or consent.

PLAN 741 Seminar in Planning Practice (3) Project planning, programming, and similar topics. Pre: 600 and 601, or consent.

PLAN 751 Planning Practicum (6) Team experience in defining and addressing a current planning problem; identification, substantive review, research design, preparation, and presentation. Topic varies. Limited to 10 students. Pre: 600, 601; and consent.

PLAN 752 Directed Project (V) Individual project in analysis, plan preparation and evaluation, and policy/program evaluation. Pre: 600, 601; and consent.

PLAN 754 Urban Design Studio (6) Group experience in defining urban and regional design problems and potentials, developing and evaluating alternative formulations for strategies for implementation. Pre: 640 or consent.


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 Intermediate Vietnamese (4) Continuation of 101. Pre: 101 or consent. HSL

VIET 201 Intermediate Vietnamese (4) Continuation of 201. 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: 202 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. Pre: 301 or equivalent.

VIET 402 Fourth-Level Vietnamese (3) Continuation of 401. Pre: 401 or consent.

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

VIET 461 Introduction to Vietnamese Literature (3) Selected readings in major genres; emphasis on analysis. Modern literature. Pre: 402 or consent. DL

VIET 699 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

Women’s Studies (WS)

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. DS

WS 151A Introduction to Women’s Studies (3) Introduction to feminist interdisciplinary analysis from global and critical perspectives; relationships between women and men from Asia-Pacific, Hawaiian, and other cultures. Focus on gender, race, class, sexual dynamics, and women’s negotiations with institutional dynamics. Honors students only. A-F only. Pre: departmental approval.

WS 175 History of Gender, Sex, and Sexuality in Global Perspectives to 1500 CE (3) Explores how gender, sex, and sexuality become key elements in human society from prehistory to 1500 CE. Examines ancient world civilizations from multiple perspectives stressing issues and forces still influential today. A-F only. (Fall only) FGA

WS 176 History of Gender, Sex and Sexuality in Global Perspective, 1500 CE to the Present (3) Explores how gender, sex, and sexuality become key elements in human society from 1500 CE to present. Examines world 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 culture and its visual expression through appearance. Analysis of role, identity, conformity, and deviation in human appearance. Open to nonmajors. (Cross-listed as FDM 200) DS

WS 202 Psychology of Gender (3) Survey of topics in psychology relevant to women’s lives: socialization of gender, mental health, violence against women, achievement motivation, lifespan issues, domestic violence. A-F only. Pre: 151 or PSY 100. (Cross-listed as PSY 202) DS

WS 230 Gender and Sport (3) Explores the influence of gender in sport from cultural, psychosocial, and political perspectives. Examines women’s and men’s role 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 female literary tradition. Pre: one of ENG 100A, 101, or ELI 100; or consent. DL

WS 257 Sexual Identity in Literature (3) Selected themes in major works of various types, cultures, periods. Requires a minimum of 3,000 words of writing. Pre: one of ENG 100A, 101, or ELI 100. DL

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. DS

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 365) DS

WS 306 Indigenous Women’s Health (3) Examines issues of indigenous women’s health pre and post colonial in Hawai‘i, Asia, and the Pacific regions. A-F only. Pre: one of 151, 202, 305; or HWST 107, HWST 270 or HWST 285; or consent. DS

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) DS
WS 315 Sex and Gender (3) Cross-cultural theories and perceptions of sex difference; linkage between biology and cultural constructions of gender; relationship of gender ideology to women's status. Pre: ANTH 152 (or concurrent). (Cross-listed as ANTH 315) DS
WS 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 200- or 300-level course, or SOC 100 or any 200-level SOC course; or consent. (Cross-listed as SOC 318) DS
WS 339 South Asian Migrants: Culture and Politics (3) Historical and contemporary experiences of South Asian migrants in North America, Pacific, Caribbean, and/or African diaspora; causes and patterns of migration, inter-ethnic relations policies; role of race, gender, culture in community, identity formation. A-F only. Pre: one ES or WS course in the 100, 200 or above. Consent. (Once a year) (Cross-listed as ES 339) DS
WS 345 20th-Century Literature by Women (3) Twentieth-century women writers and their works: novels, short stories, poems, autobiographies. Inter-relations of gender and literature. Pre: one of 151, 175, 176, 245; or consent.
WS 346 20th-Century Chinese Women Writers (3) A survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Traces a genealogy of women’s writing from the early 1920s up until now through novels, poetry, drama, and film. Pre: one DH 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) DB
WS 351 Women, Ideas, and Society (3) Status of women in American society today in light of the cultural, historical, and philosophical forces that have produced it. Pre: HIST 151 and HIST 152; or consent. DH
WS 356 Women and Religion (3) Examining roles of, and attitudes toward, women in major religious traditions through autobiographies, films, and primary texts. Pre: 151 or ANTH 152 or REL 150. (Cross-listed as REL 356) DH
WS 360 Pacific/Asian/Women in Hawai’i (3) Adaptive strategies of Hawaiian, Chinese, Japanese, Korean, Filipino, Samoan, and Southeast Asian women in Hawai’i. Cross-cultural, anthropological and historical analysis. Pre: any ANTH, SOC, or WS course. (Cross-listed as ES 365) DS
WS 361 Seminar: Women and International Development (3) Topics: Women’s role, status, work and treatment in the Third World; economic development, changing work/family roles, agriculture and business, improvement/deterioration in gender equity across the Third World; global feminization of poverty. Open to nonmajors. Pre: a 100 level 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 educational, economic, and governmental systems. Recommended for Sociology majors. 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 representative texts for the study of literary constructions of gender and sexuality. Pre: one ENG DL course or consent. (Cross-listed as ENGL 381) 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 WS course; 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; grassroots feminist and race/ethnic activism in the mainland and Hawai’i. A-F only. Pre: 151 ES or other Social Science Core. (Cross-listed as ES 390) DS
WS 392 Sexualities (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 a focus on 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) Explores 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)
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 sociopolitical 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; race and gender differentials in wages, training, working conditions and unemployment; historical trends and future directions. Pre: one 300-level WS or ES 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 424 Gender, Sexuality, and Cyberspace (3) Students learn how gender and sexuality are constructed online and produce a website to post their analysis and contribute to knowledge production about gender and sexuality in cyberspace. A-F only. 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. DB
WS 434 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 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, privacy, and reproductive freedom. A-F only. Pre: one of 151, 175, 176, 202, 360, 381, or consent. (Cross-listed as AMST 436 and POLS 436) DS
WS 437 Gender and Violence (3) Interdisciplinary course will examine western constructs of gender violence and its correlates in relation to ethnicity, class, sexuality, nation, and empire. Repeatable 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 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, sexuality, desire. Pre: any course 300 level WS or POLS course, or consent. (Cross-listed as POLS 339) DS
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 the role of gender theory and feminist politics in feminist research. Pre: one of 151 or consent. (Once a year) DS
WS 444 Gender and Consumption in a Global World (3) Students learn theories of the global economy, histories of consumerism, constructions of gendered public spaces, and how the cultural production of consumers and consumer culture functions in the process of globalization. A-F only. DH
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 film, music, and art) with 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 perspective in activities aimed at prevention and treatment of violence, and cross cultural perspectives. Pre: 151 or any 200- or 300-level WS course, SOC 300; or consent. (Cross-listed as SOC 446) DS
WS 452 Marriage and Family: Feminist Perspectives (3) Sex roles, socialization, and family formation, 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 EDCS 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 America nation and empire. 19th and 20th centuries. A-F only. Pre: one of 151, 175, 176, or 202; or consent. DS

Key to symbols & abbreviations: see the first page of this section.
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 318, AMST 373, AMST 455, or POLS 339; or consent. (Cross-listed as AMST 438 and POLS 372) DS

WS 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. class, religion, ethnicity). Pre: any WS course or ASAN 201 or ASAN 202, or consent. (Cross-listed as ASAN 463) DS

WS 465 Science, Sex, and Reproduction (3) Explores anthropology’s critical analysis of approaches to reproductive health and procreation, primarily in developing countries. Examines sex and reproduction as sites of intervention from public health, development, and biomedical specialists, while also considering local strategies. A-F only. Junior standing or higher. Pre: 151 or ANTH 425. (Alt. years: Fall) (Cross-listed as ANTH 465) DS

WS 481 Women and Film (3) Exploration of film as a philosophical and artistic form in the context of the gender, race, and sexuality. Pre: one of 151, 175, and THEA 201; or consent. DH

WS 483 Studies in Literature and Sexuality and Gender (3) Explores problems and issues in the construction and representation of sexuality and gender in specific genres, social and cultural contexts, thematic or figurative 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 ASAN 492 and 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.

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. A-F only. Pre: 151 and one 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 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 pursuing the Graduate Certificate to the Women’s Studies faculty and their areas of research, and to initiate student’s graduate studies in the field. Repeatable one time. Pre: classified graduate status (or status pending) and consent. DS

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-articulations of women’s voice; deconstructing gender. (Cross-listed as POLS 615C) DS

WS 620 Feminism and Its "Others" (3) Relationship between feminist and other sites of critical insight and scholarship that have contributed to creating anticolonial, antiracist, antihomophobic theory, method and action. Questions the legacy of feminist coalition practices and engages the ongoing transformations 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. Draws from their work to consider the implications of structuring social policy research that is feminist in values and impact. Repeatable one time. A-F only. Pre: graduate standing, no waiver.

WS 647 Gender and Law (V) Examines the ways in which international law and domestic legal systems address the rights of women, gender roles, and gender identity. Uses comparative approach with an emphasis on case studies from the Asia-Pacific region. (Cross-listed as LAW 547)

WS 650 Research in Feminist Studies: Capstone Experience (2) Provides 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 EALL 465; or consent from CHN 612 or consent for (T). (Cross-listed as CHN 753 (Alpha))

ZOOL 306 Ethology (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 390L Vertebrate Zoology Lab (2) (3-hr Lab) Laboratory to accompany 320. Pre: BIOL 172 and BIOL 172L. Co-requisite: 320. DY

ZOOL 340L Parasitology Lab (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 407. 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 407. DY


ZOOL 430L Animal Physiology 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 407. DY

ZOOL 432 Comparative Physiology (3) Physical-chemical cellular mechanisms underlying function of organ systems: general principles inerfable 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 theories; examples from current experimental and analytical literature. For students in biological sciences. Pre: BIOL 265 and MATH 205 or MATH 215 or MATH 241; or consent. DB

ZOOL 439L Animal Ecology Lab (2) (1-4 hr Lab) Introduction to methodology, experience in characterizing populations and communities. Pre: BIOL 265. DY

ZOOL 442 Introduction to Neuroscience (3) Nerve cells, their signaling capabilities and the developmental organization of nervous systems, both invertebrate and vertebrate, for sensory reception, in-
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; endemism and evolution 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 Systematic Ichthyology Lab (1) (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: 465DY

ZOOL 466 Fisheries Science (3) General characteristics of fisheries; harvesting methods; principles and technology 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: 470L. DB

ZOOL 470L 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: 470L. (Alt. years) DY


ZOOL 475L Biology of the Invertebrates Lab (2) (2 3-hr Lab) Pre: BIOL 172 and CHEM 161, or consent. Co-requisite: 475DY

ZOOL 480 Evolutionary Biology (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 490 (Alpha) Seminar in Zoology (1) Reports on research, reviews of literature, or research experiences. Required of students majoring in zoology, or required of students majoring in zoology and entomology. (B) general zoology; (D) animal behavior; (E) ecology; (F) physiology; (G) developmental biology; (H) marine biology. Pre: 306 or equivalent or consent. (Cross-listed as BOT 490) DB

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).

ZOOL 608 Fish Behavior and Sensory Biology (2) Lectures, readings and presentations on sensory systems and behavior of fishes. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608L. (Alt. years)

ZOOL 608L Fish Behavior and Sensory Biology Laboratory (1) Laboratory study of fish sensory systems and behavior. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608L. (Alt. years)

ZOOL 610 Topics in Development and Reproductive Biology (V) Discussion and survey of literature on specific topics; some field and lab work may be required. Repeatable three times.

ZOOL 619 Seminar on Science Teaching (2) Effective teaching methods, organization of courses, lectures, laboratory exercises; development and evaluation of examinations; computers and audio-visual aids. Open to graduate students in various science disciplines. Repeatable one time. (Cross-listed as NSCI 619)

ZOOL 620 Marine Ecology (3) Principles of ecology of marine biota and environment. Pre: graduate standing in zoology, oceanography, or botany; or consent.

ZOOL 623 Quantitative Field Ecology (3) (1 Lec, 1 1-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)

ZOOL 631 Biometry (4) (3 Lec, 1 2-hr Discussion) Basic statistical methods: design of studies; data exploration; probability; distributions; parametric and nonparametric one-sample, two-sample, multi-sample, regression, and correlation analyses; frequency tables. Pre: MATH 215 or 216 or 241 or 251A or NREM 203 or equivalent; or consent.

ZOOL 632 Advanced Biometry (4) (3 Lec, 1 2-hr Discussion) Multivariate statistical methods: multiple regression and correlation; multway anova; general linear models; repeated measures and multivariate anova; loglinear analysis and logistic regression. Pre: 631 or consent.

ZOOL 642 Cellular Neurophysiology (3) Biological and membrane mechanisms of conduction, synaptic transmission, and other electrical responses of nerve cells. Pre: consent. (Alt. years: spring)

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

ZOOL 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, 454, 456, or 492. (Cross-listed as BOT 690 and NREM 690)

ZOOL 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.

ZOOL 699 Directed Research (V) Directed research and reading in various fields of zoology. Repeatable unlimited times.

ZOOL 700 Thesis Research (V) Repeatable unlimited times.

ZOOL 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.

ZOOL 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.

ZOOL 714 Topics in Animal Behavior (V) Lecture-discussion of selected topics. Repeatable three times. Pre: consent.

ZOOL 718 Topics in Animal Physiology (V) Selected problems in environmental physiology, electrophysics, or neurophysiology. Basic concepts and measurements of function at the organismic or cellular level. Repeatable three times.

ZOOL 719 Topics in Systematics and Evolution (V) Selected problems of current or historic interest. Repeatable three times. Pre: consent.

ZOOL 739 Topics in Ecology (V) Advanced topics in ecology; discussion of literature and in depth survey of specific areas. Repeatable three times up to nine credits. Pre: graduate standing and consent.

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

ZOOL 780 Foundations of Evolution and Ecology I (4) Graduate level introduction to evolution and ecology emphasizing foundational literature, modern models and inference, and major questions in evolution and ecology. Topics include population ecology, community ecology, the genetics of populations, systematics, and speciation. ZOOL majors only (or approval). (Alt. years: fall)

ZOOL 781 Foundations of Evolution and Ecology II (4) Graduate level introduction to evolution and ecology emphasizing foundational literature, modern models and inference, and major questions in evolution and ecology. This is the second semester continuation of 780. ZOOL majors only (or approval). (Alt. years: spring)

ZOOL 800 Dissertation Research (V) Repeatable unlimited times.