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


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

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

ACM 312 Cinematography (3) Project-oriented. Must have access to manually controlled still camera. ACM majors only. A-F only. Pre: 255 and consent. DH

ACM 315 Narrative Game Design (3) Storytelling through computer games. Effect of interactivity on narrative. Interactive plot structures, conceptual design, design, artwork, audio, cinematography, two-and/or 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 and B or better in 255 and ART 113, or consent. DH

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, controlled with the illusion of life. ACM majors only. A-F only. Pre: 215 and 216 and 310 and 316.

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, and 310 and 316.

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 animation. ACM majors only. A-F only. Pre: 215 and 255 and ART 113, or consent.

ACM 325 Visual Effects (3) Study of the art and techniques of sound and visual effects in post production. 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 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 DH)

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

ACM 360 Indigenous Aesthetics (3) Aesthetics and 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. A-F only. Pre: 255 (with a minimum grade of B or concurrent).

ACM 372 Editing for Cinema (3) Advanced course examining the theory, techniques, and practices of modern film and television digital editing programs; and practical experience in digital editing projects. ACM majors only. A-F only. Pre: 310 (or concurrent) or ART 113, or consent.

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

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 film criticism and popular genres such as Western, film noir, documentary, and Chinese martial arts. A-F only. Pre: 255 or consent.

ACM 382 Computer and Media (3) In-depth study of the auteur theory and specific application to authors in creative media, such as film directors, animators, screenwriters or game designers. A-F only. Pre: 255 or concurrent.

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 on different topics. ACM majors only. A-F only. Pre: 255 and junior standing, or consent.

ACM 390 Workshop in Creative Media (3) Short-term intensive workshop in focused area of media production. Repeatable up to six credits. ACM majors only. A-F only. Pre: 310 or 315 or 316, or consent.

ACM 399 Independent Group Project (V) Participation in a group research or creative project under supervision of ACM faculty member. Only six credits of 399/499 in any combination can be applied to meet requirements for the major. A-F only. Repeatable up to six credits. ACM majors only. Pre: 310 or 315, and 350, and 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. Emphasis on artistic form in narrative development; timely execution from pre-production to post-production. Repeatable one time with instructor approval. ACM majors only. A-F only. Pre: 310 and 350, or consent.

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

ACM 420 Computer Animation Production II (3) Student teams produce a short, animated film. Prior knowledge of 2D and 3D media authoring tools and animation techniques is necessary. ACM majors only. A-F only. Pre: 300 and consent. (Fall only)

ACM 450 Advanced Screenwriting (3) Application of narrative principles of character development, story structure and thematic spine to students' short and feature-length screenplays. ACM majors only. A-F only. Pre: 310, and consent. (Fall only)

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

ACM 460 Ethics and Film (3) Ethical theory and the marketplace (business ethics) of 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 screenings. Junior standing or higher. A-F only. Pre: 255 or consent.

ACM 482 The American Documentary (3) In-depth study of the nature and development of documentary 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. Junior standing only. A-F only. Pre: 255.

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

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

ACM 495 Creative Media Internship (V) Internship with professional creative media corporation and/or digital media production company under professional and faculty supervision. Repeatable up to six credits. ACM majors only. A-F only. Pre: 310 or 315 or 316, and consent.

ACM 499 Directed Study (V) Independent research or creative project under supervision of ACM faculty member. Only six credits of 399/499 in any combination can be applied to meet requirements for the major. A-F only. Repeatable up to six credits. ACM majors only. Pre: 310 or 315, and 350, and consent.

Accounting (ACC)

ACC 201 Introduction to Accounting (3) Introduction to financial accounting and methods used to record and report financial information
### ACC 418 Auditing (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: 201 with C- or better.

### ACC 321 Intermediate Financial Accounting I (3)
Accounting topics relating to consolidation require exposure to advanced IT audit software and its practical application and real world IT audit issues. Exposure to advanced IT audit software and its practical application and real world IT audit issues. Pre: 418 or 585 with C- or better, or 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: 321 with C- or better.

### ACC 323 Intermediate Financial Accounting II (3)
Application of GAAP to the recognition and measurement of long-term liabilities, investments, contributed capital, retained earnings, accounting changes and errors, income recognition, accounting for income taxes, pensions, leases, and statement of cash flows. Pre: 321 with C- or better.

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

### ACC 399 Directed Reading and Research (V)
Reading and research of a special area in major under direction of faculty member(s). Project must include statement of problem area, 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 600 Federal 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 involving the sole-proprietorships, corporations, partnerships, and subsection S corporations. Pre: 401 with C- or better.

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

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

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

### ACC 416 Special Topics in Accounting (3)
Adresses special topics in the accounting profession. Topics vary each semester. Repeatable three times. MBA and MACC majors only. Pre: 323.

### ACC 418 Auditing (3)
Auditing concepts including standards, 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 Accounting Capstone (4, 1 credit per al- pha) Lectures, discussions, case analysis. Integration of numerous elements of the accounting program. Currently not offered. Relevant topics for (B) managerial; (C) financial, (D) auditing and accounting information systems; (E) tax and ethics. Together with 460B, 460E, includes an emphasis on instruction in writing. Repeatable one time, credit earned for one time only. ACC majors only. A-F only. Pre: 418 (or concurrent), no waiver for (B), (C), (D); 401 and 418 (or concurrent, no waiver for (E), Co-requisites: E for (B); D for (C); C for (D); B for (E).

### ACC 500 Master’s Plan B/C Studies (1) Enroll- ment 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. A-F only.

### ACC 582 Financial Accounting II (5)
Application of GAAP in recognition and measurement of long-term liabilities, investments, contributed capital, 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, IT audits, and assurance. Also covers information systems and relevant measurement topics. A-F only. Pre: 581.

### ACC 610 International Corporate Governance (3)
Understanding of complex and critical issues of international corporate governance, and ethical conduct. Includes corporate governance in the U.S., major European markets, and Asia. Emphasis on internal and external stakeholders, regulators, and gatekeepers. Graduate students only. A-F only.

### ACC 616 Accounting Theory and Development (3) History and theoretical background of account- ing standards. Including accounting theories, for- mulating and testing hypotheses, and comparing, symbolic and semantic theories; normative and positive theories. Literature supportive and critical of accounting theories and standards. Pre: 323 or 582 with C- or better.

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

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

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

### ACC 631 Tax of Partnerships/Partnerships (2) Exam- ines advanced topics in federal taxation of partners and partnerships regarding the contribution, operation and distribution of income and capital of partnerships interests. Pre: 407 with C- or better.

### ACC 635 Advanced Public Sector Accounting (3) Provides the tools necessary for understanding the principles of fiscal accountability and reporting in government and public sector organizations. ACC majors only. Pre: 415 or 582 with C- or better, or consent.

### ACC 638 Estate and Gift Taxation and Planning (2) Examines estate and gift tax provisions and basic estate planning techniques to save taxes and avoid probate. 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 (2) Examines international, state, and local tax issues. Topics include U.S. International taxation of in- and outbound transactions, estate and deduction and nexus. ACC majors only. Pre: 401 with C- or better.

### ACC 660 Analysis and Decision-Making (3) Integrates learning through analysis and decision- making of complex business problems. Stresses research, critical thinking, and analytical and communication skills applied to contemporary accounting. Pre: 625 with C- or better (or concurrent), no waiver.

### ACC 690 Current Topics in Accounting (V) Concentration on current issues impacting the account- ing profession. Topics vary each semester. Repeatable two times, up to nine credits.

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

### ACC 700 Thesis Research (V) Required for Plan A candidates only; six credit hours can be taken during semester that degree is being awarded. Repeatable up to six credits. ACC majors only. Satisfactory/Unsatisfactory only. Pre: MACC student and approval of Accounting Director approval.

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

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

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

### ACC 704 Research in Accounting Information Systems (3) Provides an overview of accounting research in 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 theoretical basis, design, implications, methodology, relevance, etc. A-F only. Pre: PhD student status in international management or consent.

### ACC 799 Directed Reading and Research (V)
Reading and research in an area of accounting. Reading and research in an area of accounting. Specific research topics are examined as to their theoretical basis, design, implications, methodology, relevance, etc. A-F only. Pre: PhD student status in international management or consent.

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

### AS 101 Foundations of the United States Air Force (1) Study of the total force structure, strategic offensive and defensive, general purpose, and aerospace support forces of the Air Force in the contemporary world. A-F only.
AS 101L. Initial Military Training I (1) Laboratory consists of activities that focus and promote the Air Force way of life. Instruction will include leadership and follower development, teamwork, physical fitness training, and activities designed to build camaraderie and esprit de corps. Course is open to all majors. CR/NC only.


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

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

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


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

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

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

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

AS 301L. Intermediate Cadet Leader I (1) Laboratory consists of demonstration of leadership and management skills needed to successfully function as an Air Force officer. Instruction will include lessons covering planning, 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 302. Air Force Leadership Studies II (3) Continuation of 301. A-F only. Pre: must have completed 301L.

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

AS 401. National Security Affairs (5) Study of the national security studies: advanced leadership, ethics, and Air Force doctrine. Special focus placed on preparation for active duty and current issues affecting 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 opportunities to continue to develop leadership, managerial, and supervisory skills. Instruction will include preparation for active duty. CR/NC only. Pre: must have completed 351 and 352L; or consent.


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

Agricultural and Resource Economics (AREC)

College of Tropical Agriculture and Human Resources, see also Natural Resources and Environmental Management (NREM)

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

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

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

AREC 700 Thesis Research (V) Repeatable unlimited times.

AREC 800 Dissertation Research (V) Repeatable unlimited times.

American Studies (AMST)

College of Arts and Humanities

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

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

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

FW

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

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

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

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

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

AMST 220 Introduction to Indigenous Studies (3) Interdisciplinary survey that examines 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, Chumorro, and Samoans. DH

AMST 225 Art and Social Change (3) Will analyze examples from the visual and performing arts, including murals, digital art, film, poetry, and music, paying particular attention to the connections and influence upon social and political movements, both historically and today. A-F only. 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 study various materials and will pay attention to the relationships between hip-hop and contemporary social forms. Pre: sophomore standing or consent. DH

AMST 308 Justice and Asian American Social Movements and the Law in American History (3) Examination of demands for and the changing nature of justice, historical and contemporary, through court cases, legislation, power, and social movements that address legal, social, and political definitions of Asian America. Sophomore standing or higher. 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) Traces the history and culture of African Americans and outlines contemporary issues. Topics include: slavery and racism, community formation and resistance, cultural expression, African American diversity, civil rights, gender and class relations. DH

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

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

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

AMST 319 American, 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-Semite, 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 jursprudence from the 1940s, with special attention to difficulty of defining religion, and applies the religion clauses to current issues. A-F only. Pre: sophomore or higher standing, or consent. (Fall only) (Cross-listed as POLS 325) DH

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

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

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

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 from the Civil War through the present. A-F only. (Alt. years) DH

AMST 343 American Thought and Culture: To 20th Century (3) Politics, family, philosophy, technology, and the relationship with the total society. Pre: Colonial to end of Reconstruction. (Cross-listed as HIST 373) DH

AMST 344 American Thought and Culture: 20th Century (3) Continuation of 343: 20th century. Pre: 190, 201, 202, or consent. (Cross-listed as HIST 151 or HIST 152; or consent. (Cross-listed as HIST 374) DH

AMST 345 Religion and Conflict in America (3) Analyzes selected historical examples of religious conflicts in America, discerning characteristic patterns of American religious discourse, and identifying the social structures, interests, and ethical principles at stake in conflicts about religion. Sophomore standing or higher. (Fall only) (Cross-listed as REL 345) DH

AMST 348 American Design: An Historical Survey (3) Examination of design in American culture over the last 200 years. Readings in industrial, graphic, interior, architectural, landscape, 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 changes. Pre: junior standing or consent. DH

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

AMST 352 Screening Asian Americans (3) Survey of 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. Pre: junior or consent. A-F only. (Cross-listed as ACM 352) DH

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

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

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

AMST 365 American Empire (3) Examines the interplay between American empire and American culture of empire” and the rise of the U.S. as a superpower. Topics: imperialism and cultural-political, social movements and international affairs, race, gender, and class relations. Pre: junior standing or consent. (Cross-listed as HIST 377) 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, community politics. Pre: sophomore standing. (Cross-listed as ES 373) DS

AMST 381 Junior Seminar (3) Materials and methods for the study of American life and thought. For American studies majors and minors only. DH

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

AMST 387 Women in America: The Early Republic (3) An introduction to women in the early republic, American women’s movement, and the rise of the U.S. as a superpower. Pre: junior standing or consent. (Cross-listed as ES 372)

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) DH

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

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

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

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

AMST 416 Human-Made Agriculture (3) A multidisciplinary examination of the dynamics of the Hawaiian Islands’ racial and cultural diversity from the perspectives of historical trends, social processes, and contemporary social and economic issues as they impact inter racial relations. DS

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

AMST 423 History of American Architecture (3) History of American architecture in terms of design practice, production, and consumption studied as reflection of American society today. Open to all class standings. A-F only. (Alt. years) DH

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

AMST 431 History of American Workers (3) Consideration of the history of American labor, industrial development; response of labor and community to changing work environment. Capitalism, unionism, race, gender, law, etc. Emphasis on 20th century. (Cross-listed as ART 472) DH

AMST 432 Slavery and Freedom (3) Examines the history of slavery, race, and abolition in the Americas from a comparative, global perspective, and traces the legacy of slavery in the post-emancipation societies of the New World. (Cross-listed as HIST 473) DH

AMST 433 Islands, Empires, and the Arts (3) Histories of colonialism, neocolonialism, and cultures of resistance in literature, film, and arts of the Caribbean and American diaspora. Role of arts in political dissent; historical memory; nation building: construction of race, class, gender. Junior standing or higher. A-F only. DH

AMST 434 Politics in Hawai’i (3) Discussion of modern politics against the background of recent history and major contemporary issues. DS

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

AMST 436 Global Law 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 rights. Pre: one of WS 151, WS 175, WS 176, WS 202, WS 360, WS 381, or consent. (Cross-listed as POLS 368 and WS 436) DS

Key to symbols & abbreviations: see the first page of this section.
AMST 474 Preservation: Hawai‘i, Asia, and the Pacific (3) Lecture: 3. Historical 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 Architectural History (V) Study and documentation of existing buildings, structures, sites of historic and/or cultural significance, including field measurements and drawings, historical research, photo documentation, and preparation of archival drawings to be deposited in the Library of Congress. Documentation conducted according to standards of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER). Repeatable three times, up to 24 credits. AMST, ARCH, and HIS majors only. Pre: consent. (Cross-listed as ARCH 475) DH

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

AMST 481 Senior Research Seminar (3) Capstone course for American studies students to undertake a major research and writing project. Requires a 20 page minimum final research paper. For AMST majors only. Pre: consent. (Cross-listed as ARCH 472) DH

AMST 482 Senior Capstone Project (3) Capstone for American Studies majors to undertake a non-thesis project. AMST majors only. A-F only. Pre: 480 and consent. (Spring only)

AMST 489 World Maritime History (3) Survey of world maritime history from earliest times to the present, with emphasis on the evolution of nautical technology, motives from maritime enterprises, and the impact of contacts 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 theoretical, social structure and interaction; (D) arts and environment. Repeatable one time. Pre: junior standing or consent for (D).

AMST 499 Readings in American Studies (V) Directed readings and research for majors by permission.

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.

AMST 603 Advanced Research and Professional Development (3) Prepares advanced graduate students to present original research findings to colleagues, write for peer review, design undergraduate classes in their areas of expertise, and participate actively in their fields. Graduate students only. A-F only. Pre: (600 and 601) with a minimum grade of B-

AMST 610 Early America (3) Interdisciplinary approach to understanding early American culture and history. Repeatable one time. Pre: graduate standing or consent. (Cross-listed as HIST 632) DH

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. (Cross-listed as WS 612) DH

AMST 614 Advanced Topics: American West (3) Examination of the U.S. colonization of the American West. Topics include: European-indigenous relations, migration and labor, regional literature, frontier ideology, ethnic conflict, and new community formation. A-F only. Pre: graduate standing and consent. (Cross-listed as HIST 639F) DH

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 applications for the discipline of American studies, and the impact of social movements and labor migration on the performing arts.

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

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

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

AMST 619 Slavery and the Modern Memory (3) Exploration of the American environments of slavery in the Americas through literature, historical scholarship, memory and trauma studies, and the visual and performing arts. Graduate students only. A-F only.

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

AMST 623 American Architecture (3) Cultural analysis of the evolution of American architecture from the Colonial period to the present involving sociopolitical and economic, as well as aesthetic, considerations.

AMST 624 Wilderness in America (3) American wilderness as both physical setting and social construction. A-F only. Pre: graduate standing or consent.

AMST 625 Material Culture (3) Physical artifacts considered as documents of American cultural and regional development.

AMST 626 Environment and Society (3) Technological development in cultural perspective; its relation to the American environments of slavery in the Americas through literature, historical scholarship, memory and trauma studies, and the visual and performing arts. Graduate students only. A-F only. Pre: graduate standing or consent.

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 archaeological and historical resources in Hawai‘i and the region. (Alt. years: spring only) (Cross-listed as ANTH 645)

AMST 646 Advanced Topics: Social/Cultural/Intellectual (3) Readings and research on American social and intellectual history. Repeatable one time. Pre: graduate standing and consent. (Cross-listed as HIST 639F) DH

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) DH

AMST 649 American Intellectual Traditions (3) Examination of intellectual figures and movements in American history.

AMST 650 Field Methodology (3) Prepares students to achieve specialization in an American Studies-related academic field. Repeatable two times with different content. Graduate students only. A-F only.

AMST 656 Film in America (3) Examination of various roles of motion picture film in America with particular respect to art form, cultural artifact, document, and myth.

AMST 659 Arts in America: Modern to Post-Modern (3) Survey of the literature of the field.

AMST 664 America in Asia (3) Topics in U.S. economic, political, military, and cultural relations with East and Southeast Asia, from the 18th century to the present.

AMST 668 Globalization and Transnationalism (3) Examines the socioeconomic and cultural meanings of globalization and transnationalism. Emphasis on how the development and flows of power beyond the nation-state have an impact on regional, national, and/or local communities and cultures.

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

AMST 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-require: 600 or 601 or 602, or consent. (Every 2-3 years)

AMST 671 Indigenous Curation and Museums: Practice Meets Theory (3) Seminar explores the history, evolution, and contemporary movement towards indigenous curation within museums, emphasis on the Americas and Oceania, as shaped by colonialism, globalization, multiculturalism, self-determination, and nationalism. (Fall only)

AMST 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, impact on 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 676)

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 of vernacular architectural in the Americas. (Cross-listed as ARCH 650)

AMST 683 Museums: Theory, History, Practice (3) History and theory of museums and related in-
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 lab classes. Pre: junior or senior standing.

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

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

ANSC 495 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 of repeatable unlimited times. Pre: junior or senior standing.

ANTH 310 Master’s Plan B/C Studies (1) Anth 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)

ANTH 300 Experimental Design (3) (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 603)

ANTH 500 Seminar in Animal Sciences (1) Topics of current interest and current research related to nutrition, genetics, and physiology. Repeatable three times. Pre: consent.

ANTH 562 Advanced Animal Nutrition (3) An advanced course in the nutrition of mono- and di- gametic, 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. A-F only. Pre: graduate standing or consent.

ANTH 563 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.

ANTH 564 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.

ANTH 565 DNA and Genetic Analysis (2) Combined lecture/lab for students interested in genetic analysis of humans, animals, and other species. Molecular techniques, such as PCR, DNA marker identification, DNA sequencing, and functional genomics, are included. Open to nonmajors. Pre: graduate standing or consent. (Cross-listed as FSHN 565 and MBBE 565)

ANTH 562 Information Research Skills (1) Examines the use of technology in business and university from a perspective of scholarly investigation in support of scientific research; provides experience utilizing critically evaluating a variety of print and electronic sources in basic and applied sciences. Pre: consent. (Cross-listed as FSHN 562, NREM 562, and TPSS 562)

ANTH 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 CATHR graduate students only; others with consent. (Cross-listed as FSHN 657 and TPSS 657)

ANTH 568 Advanced Laboratory Techniques (3) (1 Lec, 2 2-hr Lab) Advanced laboratory techniques used in food science and human nutrition research. A-F only. Pre: graduate standing or consent. (Cross-listed as FSHN 687 and MBBE 687)

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

ANTH 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 course is required for all courses. (A-C is not acceptable.)

ANTH 151 Emerging Humanity (3) Introduction to human biology 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 210 Archaeology (3) Introduction to prehistoric archaeology: methods and techniques of excavation and laboratory analysis; brief survey of theory in relation to change and diversity in prehistoric human groups. DS

ANTH 215 Introduction to Biological Anthropology (3) Human evolution, primatology, human genetics, biological variation, human adaptability, growth and development. Pre: 215L. DB

ANTH 215A Introduction to Biological Anthropology Laboratory (1) Laboratory to accompany 215. Co-requisite: 215. FY

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

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

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

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

ANTH 315 Sex and Gender (3) Cross-cultural theories and perceptions of sexual differences; linkage between biology and cultural constructions of sex; relationship of gender ideology to women’s status. Pre: 152 (or concurrent). (Cross-listed as WS 515) DS

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

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

ANTH 325 Origins of Civilization (3) Advanced discussion of the development of civilization. Pre: sophomore standing or consent. DH

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

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

ANTH 331 Food Origins, Food Culture (3) Lectures and discussion offer an anthropological introduction to how foods created and transformed food through time. Sophomore standing or higher. (Spring only) DS

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

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) Introduction 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 Perspec- tive (3) Study of cross-cultural patterns in household and community level organizations in Latin America and Native America. Topics may include political organizations, kinship structures, political economy, impacts of colonialism, modernization, and globalization on households. Sophomore standing or higher. (Cross-listed as LAS 368) DS

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

ANTH 372A 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 South America. Repeatable one time for different alphas. Pre: sophomore standing or consent. (Cross-listed as LAS 372 (Alpha) DH

ANTH 375 Race and Human Variation (3) Human genetic and physical variation; latitudinal, longitudinal, and altitudinal variation in 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 379 Archaeology Practicum (V) Students will gain practical archaeological experience (e.g., data collection, research, and interpretation) under the direction of practicing archaeological professionals in the local community and in collaboration with supervising archaeological faculty. Repeatable two times, up to 6 credits. ANTH majors or minors only. Sophomore standing or higher. A-F only. Pre: 210 or consent of instructor.
ANTH 380 Archaeological Lab Techniques (4) Laboratory analysis and evaluation of field data; preservation and restoration of artifacts. Preparation for publication. Repeatable two times. Pre: 210 or consent. (Once a year) DB

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 number of interregional archaeological sites. Repeatable one time with consent. Pre: 210.

ANTH 382 How Archaeology Works (3) Uses archaeological examples to illustrate social science research. Students learn how to create, analyze, and evaluate data through lab-based exercises, and examine ethical issues inherent in anthropological practice. Repeatable one time. Sophomore standing or instructor consent. DS

ANTH 384 Skeletal Biology (3) Introduction to the human skeleton and methods for analyzing archaeological remains including age, sex, ethnicity, paleodemography, skeletal and dental variation. Anthropology, 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 410 Ethics in Anthropology (3) Seminar surveying ethical cases, problems, issues and questions from the inception of anthropological thought to the present. Junior standing or higher consent.

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

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

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

ANTH 414 Introduction to Linguistic Anthropology (3) Introduction to the ethnographic study of speech and language. Pre: 152. (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-industrially oriented 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 419 Indigenous Anthropology (3) Exploration of how anthropological studies indigenous groups reveal and challenge. An examination of the changing contexts of anthropological practice as calls for relativity lead anthropologists of all backgrounds to bring insights from their "homes." Issues include the quals of nature, geography, theemic distinction, and the ethics of different kinds of anthropological research and the role of anthropologists in indigenous self-determination. Repeatable one time. Pre: 152. DS

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

ANTH 422 Anthropology of Religion (3) Cults, legends, millenarian movements, evolution, diffusion, ritual, sacred healing, shamanism, sorcery, spirits, symbolism, witchcraft, and other forms of religious and symbolic expression and experience, from small scale to highly industrial societies. Pre: 152. (Cross-listed as REL 422) DH

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

ANTH 426 The Anthropology of Sexuality (3) Explores the intersection of sexuality research and queer theory with anthropological investigations such as identity, race, gender, religion, economy, politics, and globalization. A-F only. Pre: junior standing or consent. (Cross-listed as WS 426) 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 consent. DS

ANTH 428 Forensic Anthropology (4) Exploration of the history and development of theories of the body via topics such as phenomenonology, perception, bodily rituals, gender, sex, race, colonialism, power, pain, memory, reproduction, 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 440 The Agriculture of Identity: Food and Farming in Anthropological Perspective (3) Exploration of agriculture from the perspective of anthropology; examines the relationship of humans to industrial agriculture, especially in the context of Haiti's. Readings include academic writing and also literary non-fiction and journalism. A-F 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. Focuses on caste and gender, constructions of ethnicity, Tibetans and tourists, Sherpas and mountaineers, development ideologies, and consumerism. Sophomore standing or higher consent. Pre: 202 or consent. (Alt. years: fall) (Cross-listed as ASAN 442) DS

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

ANTH 444 Spiritual Ecology (3) Lectures and seminars provide a cross-cultural survey of the relationships between religions, environment and environmentalism. Pre: junior standing or consent. (Cross-listed as REL 444 DS

ANTH 445 Sacred Places (3) Lectures and seminars provide a cross-cultural survey of sites which societies recognize as sacred and their cultural, ecological and conservation aspects. Pre: junior standing or consent. (Alt. years) (Cross-listed as REL 445) DS

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

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

ANTH 449 Archaeological Anthropology 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 (4) (3 Lec, 1-3 hr Lab) Application of physical anthropology to problems in human identification. Determination of age, sex, ancestry, etc., of the skeleton and preparation of reports for legal medicine. Pre: 384 or (concurrent). DS

ANTH 459 Extinctions (3) An extraordinary number of plants and animals have become extinct. Delves deeply into the primary literature that focuses on extinction and conservation from the beginning of the earth to the present day. Pre: 215 or consent. (Alt. years) DS

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

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

ANTH 462 East Asian Archaeology (3) Prehistory and protohistory of China, Japan, and Korea from earliest human occupations. Geographical emphasis may vary between China and Japan/Korea. Pre: junior standing or consent. DH

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 301. (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. Pre: junior standing or higher consent. Pre: junior standing and consent. DS

ANTH 465 Science, Sex, and Reproduction (3) Explores anthropological 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 301 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. ANTH 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 472 Ceramic Analysis in Archaeology (3) Concepts, methods, and approaches used in the analysis of archaeological data. Pre: 210 or 301. DH

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

ANTH 475 Faunal Analysis in Archaeology (3) Analysis of archaeologically recovered faunal collections with emphasis on identification and interpretation of nonhuman vertebrates. 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. Emphasis on spatial analysis: spatial database management; spatial analysis; image processing, data reporting; and data display. Junior standing or higher. Pre: 466. (Alt. years)
ANTH 478 New World Rituals and Ideologies (3) Study of cross-cultural patterns in ritual behaviors and creolization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretism, candomble, African Christianity, spiritual conquest, conceptions of 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, and evictions. May be taken concurrently 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 contested resources, rights, and the meanings of nature. Pre: 152 or 415 or consent. (Alt. years) DS

ANTH 483 Japanese Culture and Behavior (3) Sociocultural factors in Japanese behavior. Social structure; traditions, 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 and themes, the course is organized thematically around issues and problematics. DS

ANTH 485 Pre-European Hawai’i (3) Pre-Euro- pean society and culture from an anthropological viewpoint. Pre: or consent. DH

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

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

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

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

ANTH 491 Special Topics in Southeast Asian Art History: Monuments and Nationalism in South- east Asia (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. (Alt. years) (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 I (3) Preparation of a major paper in anthropology with a committee of one chairperson and one other. First semester of a two-semester sequence with 496. May be taken concurrently with 496. Optional for majors. Pre: 490 and senior standing. ANTH 496 Senior Thesis II (3) Preparation of a major paper in anthropology with a committee of one chairperson and one other. Second semester of a two-semester sequence with 495. May be taken concurrently with 495. Optional for majors. Pre: 490 and senior standing.

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

ANTH 602 Linguistic Anthropology (3) Investiga- tion of mutual influences of linguistic theory and methodology and anthropological theory and meth- odology. A course in the graduate core of anthropol- ogy. A-F only. Pre: graduate standing.

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

ANTH 604 Biological Anthropology Core (3) Hu- man evolution and human variability in extant and prehistoric populations. Emphasis on history of physical anthropoloy, evolutionary systems, primate biology and behavior, paleoanthropology, anthropo- logical genetics, climatic adaptation, growth, and nutrition. A course in the graduate core of anthro- pology. A-F only. Pre: graduate standing.

ANTH 605 Discursive Practices (3) Emphasizes linguistic, semantic, and interactional aspects of culture, exploring ways that discourse constructs social action and social realities, examining processes by which culture is produced as meaningful 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 the distribution of infectious diseases and in shaping preventive and therapeutic strategies. Pre: graduate standing.

ANTH 607 The Media and Discursive Practice (3) Role of the mass media in constructing meaning in social cultural processes such as nationalism, ritual, identity, and 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 politi- cally charged, and as processes of memory and meaning and mentalities in shaping representations of the past. Pre: graduate standing.

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

ANTH 611 Contemporary Anthropological Theory (3) Graduate seminar that examines the history of theory in sociocultural anthropology from 1960 to present. May 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) law and social control; (G) economics; (H) ecology; (I) other to be announced. Repeatable nine times. Pre: graduate standing.

ANTH 640 (Alpha) Methods and Theory in Archaeology (3) Focused seminars pertaining to distin- guishing archaeological method and theory. (B) analytical; (C) environment/landscape; (D) applied archaeology; (E) economic/resources; (F) survey/ local. Repeatable two times. Pre: 605.

ANTH 645 Historical Archaeology (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 661 Archaeological Perspectives on South- east Asia (3) Prehistory and protohistory of South- east Asia, and of Southeast Asian contacts with East Asia, India, Australia. Pre: basic knowledge in archaeology or Southeast Asian history or consent.

ANTH 663 Anthropology of Global Aid (3) Examines ideologies of development, humanitarian, key to symbols & abbreviations: see the first page of this section and global health interventions from an anthropo- logical perspective. Examines the disjuncture 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) Examina- tion of the social and cultural foundations of, and responses to, the values, technologies, and practices of modern medicine. Pre: graduate standing. (Alt. years) ANTH 668 Archaeology Field Methods (V) (5 + Lab) Laboratory and field training in the principles and practice of methods of archaeology—survey, mapping, excavation, conservation. Repeatable one time, up to 12 credits. 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 repeatable one time, up to 12 credits. Pre: consent.

ANTH 671 Applied Method and Theory in Ha- waiian 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 evalua- tion of historic buildings and other resources with an emphasis on field recordings and state and federal registration procedures. (Cross-listed as AMST 676 and PLAN 676)

ANTH 681 Applied Cultural Anthropology (3) Theory, methods, and research applications of cul- tural anthropological concepts to practical problems. Graduate students only.

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

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

ANTH 699 Directed Reading or Research (V) Repeatable nine times, up to 12 credits. Pre: graduate standing and consent.

ANTH 700 Thesis Research (V) Research for mas- ter’s thesis. Repeatable nine times, up to 12 credits.

ANTH 710 Seminar in Research Methods in Cultural Anthropology (3) Ethnographic research methods. Introduction to the approaches and techniques of participant-observation, 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 re- search. Pre: graduate standing and consent.

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

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

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

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 Ara- bic (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

ARCH 102 Elementary Modern Standard Arabic
Focuses on developing proficiency in the standard written Arabic language as well as formal spoken Arabic. Emphasizes a range of situation-based texts and topics that build vocabulary, grammar, and general communicative competence. Pre: 101. HSL

ARCH 201 Intermediate Modern Standard Arabic
Designs for students who have successfully completed three semesters of Arabic. Focus is on intensifying communicative functions such as listening comprehension and fundamental conversation strategies. Pre: 201 or exam or consent. (Fall only) HSL

ARCH 301 Third-Level Arabic A
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 other determined by instructor.

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

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

ARCH 100 Introduction to the Built Environment
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. A-F only. DS

ARCH 101 Basic Design Studio
Introduction to creative design processes focusing on the investigation of the interplay of space and form. Emphasis is on developing collaborative design procedures and the use of design representation tools. Pre: consent. A-F only. DA

ARCH 122 Design Communication
Exploration of technical means to conceptualize, develop, present, and both visually and orally communicate form and space, including fundamentals of freehand drawing, mechanical drawing, physical model making, diagramming, and graphic techniques. ARCH and ENVD majors only. A-F only. DA

ARCH 200 Collaboration in Environmental Design
Investigation of the various disciplines in the environmental design field, including architecture, landscape architecture, interiors, historic preservation, urban design, and construction management.

ARCH 201 Architecture Design Studio
Development of design processes to study precedents and explore solutions responding to human needs in built and natural environments. Emphasis on analysis and representation architecture space and form using hand and computer techniques. ARCH and ENVD majors only. A-F only. Pre: 235. DA

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

ARCH 235 Computer Applications in Design
Exploration of digital design fundamentals and their application to design analysis, conceptualization, design process, and communication of design intent.

ARCH 251 Introduction to Landscape Architecture
Principles and practice of landscape planning, design, and technology. Ecological, sociocultural, and natural science determinants of landscape form and function. ARCH and ENVD majors only, open to nonmajors if space available.

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

ARCH 272 World Architecture and Urbanism B
Investigation of the history and theory of architecture from the 15th century C.E. to the present. Investigation of architecture in relationship to social, political, technological, and material forces. ARCH and ENVD majors only. A-F only. Pre: HIST 152.

ARCH 321 Introduction to Environmental Systems B
Introduction to environmentalism; focusing on the impact of building systems of the global environment; the role of environmental regulations/certifications, and understanding of sustainable principles (requires environmental science). ARCH and ENVD majors only. A-F only. Pre: 220 and PHYS 151/151L.

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

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

ARCH 350 Introduction to Planning
Perspectives on planning: planning tools and methods; specific Hawai‘i context. Understanding from a multidisciplinary approach. ARCH and ENVD majors only. Pre: consent. DA

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

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

ARCH 353 Landscape Graphics Studio
Basic skills of landform and water management through a creative process model. Learning free hand and technical drafting techniques to creative effective landscape graphics. ARCH and ENVD majors only. Pre: consent. (Alt. years) (Cross-listed as TPS 353) DA

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

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

ARCH 372 Special Topics in Architectural History and Theory
An examination of specific theories, movements, or periods of architectural history. Changing topics, with both regular and visiting faculty. ARCH, ENVD, and AMST majors only. Repeatable three times. Pre: 271 and 272. DH

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

ARCH 399 Directed Work
A-F only.

ARCH 400 Project Management
Exploration of the management of architectural services from project initiation through project completion. Investigation of project delivery options; management of project design teams, project operations and services; design project delivery; documentation; project estimation; and project execution. ARCH and ENVD majors only. A-F only. Pre: 200.

ARCH 415 Concentration Design Studio
Professional experience to work collaboratively and research activity occurring in an off-campus location with a focus on architectural concentration areas. ARCH and ENVD majors only. A-F only. Pre: 342.

ARCH 422 Green Building Evaluation and Rating Systems
(3) Introducing 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 and ENVD majors only. A-F only.

ARCH 432 Construction Project Management
Introductory treatment of the management of construction. Construction supervision, contract documents, estimating and bidding, organization, planning and scheduling, administration, business methods, safety, and labor. ARCH and ENVD majors only. A-F only. (Cross-listed as CEE 472).

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

ARCH 434 Digital Design Synthesis

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

ARCH 451 Landscape Architecture Design Seminar
Principles and practice of landscape architecture within the comprehensive design processes of the built environment. Focus on the comprehensive sociocultural, economic, political, environmental determinants of landscape forms and patterns. ARCH and ENVD majors only; open to non-majors if space available. A-F only. DA

ARCH 461 Introduction to Interior Architecture
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.

Key to symbols & abbreviations: see the first page of this section.
ARCH and ENVD majors only; open to non-majors if space available. Repeatable three times. DA
ARCH 471 Historic Architecture Design Seminar (3) Introduction to historic preservation. Exploration of design principles and elements as applied to conservation of historic resources, including basic conservation materials and methods, professional practices, and critical analysis of existing methodologies. ARCH and ENVD majors only; open to non-majors if 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 historical measures 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 Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER). Repeatable three times, up to 24 credits. ARCH, ENVD, and AMST majors only. Pre: consent. (Cross-listed as AMST 475)
ARCH 473 History of American Architecture (3) History of American architecture in terms of style, techniques, and symbolic meaning. ARCH and ENVD majors only. (Cross-listed as AMST 423) DH
ARCH 474 Preservation: Hawai‘i, Asia, and the Pacific (3) Lectures and discussions on historic preservation issues in Hawai‘i, Asia, and the Pacific. Emphasis on indigenous and national expressions. ARCH and ENVD majors only. Pre: junior standing or consent. (Cross-listed as AMST 474) DH
ARCH 477 Research Seminar (V) Research methodology for the qualitative development of an optimum environment. Repeatable three times. ARCH and ENVD majors only. Pre: consent.
ARCH 483 Urban Ecological Analysis and Design (3) Applied urban and landscape ecology principles and strategies for analysis, design, and management of urban environments. Emphasis on urban structure, functions, and processes that form urban landscapes at multiple scales and in diverse contexts. ARCH and ENVD majors only. A-F only. Pre: 381.
ARCH 484 Plants in Design (3) Introduction to the use of plants as design elements in the built environment across diverse scales. Examination of the spatial, sensory, ecological, and performance qualities of vegetation through analysis of historic and contemporary gardens. ARCH and ENVD majors only. A-F only. Pre: 381.
ARCH 490 Special Topics (3) Selected topics in any aspect of architecture. Content to be announced. Repeatable four times. ARCH and ENVD majors only.
ARCH 491 Special Topics in Architecture History (3) Specialized work on the history and theory of architecture. Repeatable unlimited times. ARCH and ENVD majors only. A-F only. Pre: 381.
ARCH 492 Special Topics in Architectural Technology (3) Specialized investigation of technological developments in structural systems, environmental control systems, or materials and methods of construction. Repeatable unlimited times. ARCH and ENVD majors only. A-F only.
ARCH 493 Special Topics in Architecture and Design (3) Work on specialized topics in the fields of architecture, urban design, and landscape architecture. 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 and ENVD majors only. A-F only.
ARCH 495 (Alpha) Foreign Exchange (3) Various course work including design, history, theory, technology, and sustainability offered for international exchange students. (E) elective; (L) laboratory; (P) project; (S) seminar. ARCH and ENVD majors only. A-F only. Pre: departmental approval.
ARCH 628 Preservation: Theory and Practice (3) History and philosophy of historic preservation movement. Analysis and assumptions, methodologies and tactics, implications for society and public policy. (Cross-listed as AMST 675 and PLAN 675)
ARCH 650 Vernacular Architecture (3) Methods and approaches in the study of vernacular architecture, cultural landscapes and material culture, with an emphasis on traditions and innovations in the Americas. (Cross-listed as AMST 681)
ARCH 679 Elements of Style (3) The manifestations, visual characteristics, and social/cultural meaning of “style” in American architecture and decorative arts from the early settlement period through the present. (Cross-listed as AMST 679)
ARCH 690 Special Topics Seminar (3) Seminar on a wide range of architectural topics to be directed by both visiting and regular faculty. Repeatable 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 experiences in architecture, interior architecture, computer-aided design, professional practice, advanced visual design, and architectural graphics. Repeatable unlimited times.
ARCH 695 Applied Theories of Landscape Architecture (3) Seminar on discussion of central ideas and theories in landscape architecture and environmental design, drawing on primary literature and speculative or built design work over many decades of thought. Graduate students only. A-F only.
ARCH 699 Directed Work (V) ARCH 715 Asia-Pacific Architectural History and Theory (3) Study of the history and theory of culture and the built environment of a particular focus on the Asia-Pacific region. ARCH majors only. Graduate students only. A-F only.
ARCH 716 Architecture and Urban Design Theory (3) Detailed investigation of major theories in architecture and urban design and examination of their impact on contemporary architectural practice in varied geo-political contexts. Open to non-majors. A-F only.
ARCH 722 Architecture Systems I: Introduction to Systems (3) Study of building materials, assemblies, and integrated design including structural, environmental, life-safety, and building envelope systems. Development of ability to design, analyze and assess appropriate systems. ARCH majors only. A-F only. Pre: MATH 140.
ARCH 723 Architecture Systems II: Qualitative Bioclimatic and Structural Performance (3) Introduction to the theories of bioclimatic principles and structural systems and the ability to analyze, assess, select, design, and integrate them as initial determinants into the building design. ARCH majors only. A-F only. Pre: graduate status.
ARCH 724 Architecture Systems III: Quantitative Structural 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: 723.
ARCH 725 Architecture Systems IV: Environmental Technology, Sustainability, and Analysis (3) Application and analysis of high-performance building design principles. Emphasis on climate-appropriate passive design, energy-efficient lighting and conditioning strategies, innovative water systems, and renewable energy production. ARCH majors only. A-F only. Pre: 723.
ARCH 726 Architecture Systems V: Building Systems Integration (3) Properties, evolution, and integration of material attributes, and systems and their applications in integrated high-performance building design with a focus on the role of detail and systems in the design process. ARCH majors only. A-F only. Pre: 724, 725, 733, and 742.
ARCH 731 Advanced Design Communication I (3) Exploration of digital technologies, their relationship to design, and their application to architectural analysis, computer-aided design processes, communication, representation, and construction. ARCH majors only. A-F only. Pre: departmental approval.
ARCH 733 Advanced Design Communication II (3) An interdisciplinary investigation of design theory as connected to digital technology and its applications to current developments in practice and research within architecture and design. ARCH majors only. Graduate students only. A-F only. Pre: 731.
ARCH 734 Forms and Frames of Practice (3) Comprehensive study of architectural practice within the global context with emphasis on the Asia Pacific region. Exploration of information technology systems, and design process research, construction technology, computer aided manufactur- ing, and entrepreneurial approaches. ARCH majors only. Graduate students only. A-F only. Pre: 715.
ARCH 740 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 741 Architecture Studio II (6) Design of a medium complexity building site using social, cultural, codes, building systems, and sustainable design. Production of program and schematic design documents. Individual projects. ARCH majors only. A-F only.
ARCH 742 Architecture Studio III (6) Design of complex, large scale building and site engaging social, cultural, code, sustainable systems, and acoustic issues. Production of schematic and design development documents. ARCH majors only. Graduate standing only. A-F only.
ARCH 743 Architecture Studio IV: Urban Design (6) Urban design focused on Asian cities investigating social, cultural, political, and technological factors; study of historical precedents, building/block typology, circulation, infrastructure, and context response. ARCH majors only. A-F only. Pre: 733 and 742.
ARCH 745 Advanced Practice (3) Comprehensive study of architectural practice, including the architect’s response to global forces, including entrepreneurial practice, office organization, project delivery, compensation, and construction law. ARCH majors only. A-F only. Pre: arch 743.
ARCH 747 (Alpha) Professional Studio (V) Scholarly and research activity combined with professional experience occurring in an off-campus location. (B) business; (C) community design; (E) alternative experience; (G) global; (Hawai‘i’s) local; (T) China. Repeatable one time per alpha. ARCH majors only. Graduate standing only for (G), (H), and (T). A-F only. Pre: 744, and 750C or 750G for (B), (G), (H), and (T); 744 and 745 for (C), (E), (H), and (P).
ARCH 749 (Alpha) Research Studio in Professional Setting (6) Scholarly and research activity combined with professional experience occurring
Art and Art History (ART)

College of Arts and Humanities

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

ART STUDIO CORE COURSES

It is recommended that art majors complete 115 and 116 of the art studio core prior to undertaking studio courses at the 200 level.

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

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

ART HISTORY & THEORY CORE COURSES

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

ARCH 751 Architecture Topics (1) Range of topics allowing acquisition of knowledge and ability needed for professional architectural practice offered online. Repeatable two times. ARCH majors only. A-F only. Pre: 744 for (C); 739 and 743 for (G).

ARCH 754 Research Seminar (3) Varied topics furthering knowledge and ability needed for professional architectural practice. ARCH majors only. A-F only. Pre: 415.

ARCH 755 Advanced Global Practice (3) Comprehensive study of architectural practice investigating architect’s response to global forces, including entrepreneurial practice, office organization, project delivery, compensation, and construction law. A-F only. Pre: 747 or 774.

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

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

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

ARCH 784 (Alpha) Doctorate Project I (6) Individual development of a doctoral project with an approved chair and doctoral project committee that advances architectural knowledge through analysis, research, scholarship, and design. ARCH majors only. Graduate standing only. A-F only.

ARCH 785 (Alpha) Doctorate Project II (6) Individual development of a doctoral project with an approved chair and doctoral project committee that advances architectural knowledge through analysis, research, scholarship, and design. ARCH majors only. Graduate standing only. A-F only. Pre: 744C or 743 for (C); ARCH majors only. Graduate standing only. A-F only. Pre: 744C or 743 for (C); ARCH majors only. Graduate standing only. A-F only. Pre: 744C or 743 for (C).

ARCH 786 (Alpha) Doctorate Project II (6) Individual development of a doctoral project with an approved chair and doctoral project committee that advances architectural knowledge through analysis, research, scholarship, and design. ARCH majors only. Graduate standing only. A-F only. Pre: 744C or 743 for (C); ARCH majors only. Graduate standing only. A-F only. Pre: 744C or 743 for (C).

ART 102 Survey of Art History II (3) Art movements and periods, regions and critical themes in European painting and sculpture from the 15th century to the present. A-F only.

ART 103 European Painting (3) Development of European painting from the 13th century to the Impressionists. A-F only. Pre: 176.

ART 104 European Sculpture and Architecture (3) Development of European sculpture and architecture from the 13th century to the present. A-F only. Pre: 176.

ART 105 Modern and Contemporary Art (3) Development of modern and contemporary art in all media and art forms. A-F only. Pre: 176.

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

ART 475 (Alpha) Art of the Pacific (3) Visual forms and functions of art in the Pacific region. (A) First Nations, Polynesia, Micronesia; (B) Melanesia and Australia; (C) Polynesia and Micronesia; (D) North Pacific coast Indian, Eskimo. Repeatable one time for different alphas. Pre: 176 or consent. DH

ART 476 Art of Tribal Africa (3) Visual form and function of arts in cultural context. Mali, Burkina Faso, Ivory Coast, Liberia, Guinea, Nigeria, Ghana, Cameroon, Congo, Zimbabwe. Repeatable one time for different alphas. Pre: 176 or consent. DH

ART 477 Art of Indonesia (3) Architecture, sculpture, and textiles traditions of indigenous Indonesia in cultural context. A-F only. Pre: 176. DH

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

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

ART 486 Traditional Chinese Painting (3) Stylistic and historic development of two-dimensional arts; painting and calligraphy from prehistory through 18th century. Pre: 175 or consent. DH

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

ART 490 (Alpha) Special Topics in Southeast Asian Art History (3) Focused study of particular periods, regions and critical themes in Southeast Asian art and architectural history. (A) Angkor & art of Khmer civilization; (C) art & architecture of Thailand; (D) monuments & nationalism in Southeast Asia. Repeatable one time for up to two different alphas. A-F only. Pre: 175, or consent. (Alt. years: fall) (Cross-listed as ART 450, ASIAN 450)

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

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

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

ART 494 Photography: Critical Issues (3) Seminar on theoretical, ethical and aesthetic issues relating to the practice of photography, past and present. A-F only. Pre: 396B or 396C, or consent. DH
ART 495 History of Modern Design (3) Major design movements in Europe and America from late 19th century to present; arts and crafts movement, art nouveau, modernist trends of the 20th century. Pre: 176 or consent.

ART 496 Topics in the History of Cinema (3) Specific period or national style of cinema studied in its historical context. Repeatable two times. A-F only. Pre: 176 or consent. DA

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

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

ART 688 Topics in the Art of China (3) Research topics in the history of Chinese sculpture, ceramics, bronze, jade, and textiles. A-F only. Pre: consent.

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

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

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


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

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

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

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

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

ART 345 Ceramics—Low Temperature (3) Form and surface problems related to earthenware clay bodies and low-temperature glazes; mold-making for ceramics. Repeatable one time. Pre: 242 or consent. DA

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

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

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


ART 305 Digital Imaging: Alternative Printing (3) Combined theory and practice. Merges digital printing, mark-making, photography, and traditional printmaking. Includes image transfers, lift-off, coating techniques, as well as printing on alternative substrates such as watercolor papers, metals, and cloth. Repeatable one time. A-F only. Pre: 202 (with a minimum grade of A-F only).

DRAWING/PAINTING
ART 123 Introduction to Painting (3) Theory and practice of painting: material and technical procedures. Pre: 113 or consent. DA

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

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

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

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

ART 313 Advanced Drawing (3) Studio practice in drawing emphasizing contemporary developments in art. Repeatable one time. Pre: 213 or consent. DA

ART 314 Intermediate Life Drawing (3) Further investigations of the figure concerning anatomical and diagramatic construction, light, space, and thematic content. Repeatable one time. Pre: 214 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. A-F only. 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: 123 and 214. DA

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

ART 301 (Alpha) Electronic Arts Studio (3) (6 credits) Combined theory and practice studio courses that investigate language, processes, and personalized composing systems related to the use of technological media and its application to a variety of computer-related disciplines. (B) imaging systems; (C) sound; (D) interactive systems. Pre: 201 and one 200-level studio; or consent. DA

ART 401 Advanced Electronic Arts Studio (3) Tutorial studio that encourages exploration in combined and new media forms and explores content 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/3D hand construction techniques. Focus on creative problem solving, experimentation in a cooperative studio setting. DA

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

ART 238 Fiber Forms (3) In-depth studio exploration of non-loom fiber techniques for creating/making and developing 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 voice through material 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 Impersonance (3) Studio exploration in contemporary three-dimensional fiber using traditional 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 fabric patterning techniques such as dyeing, resist, direct printing, embellishment, drawing with thread and piercing. Group and individual projects. A-F only. Pre: 113 and 116; or consent. DA

ART 436 Use, Re-use, and Radical Re-use (3) Explores the related concepts of use, re-use, and radical re-use through an exploration of new applications of traditional fiber techniques and contexts of making. A-F only. Pre: 113 and 116 and one 200-level or above fiber course, and consent. (Spring only) DA

ART 437 Textile Conservation/Research (V) Independent study of textile conservation and research. Individualized directed work (internship/practicum) in the museum environment. Repeatable up to twelve credits. A-F only. Pre: two 200-level or above fiber courses, and consent.

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 definitions/ transformation of space through artist intervention. Emphasis on the evocative potential of materials in context (physical, social, political, psychological) as well as experiments in non-object based interventions. Repeatable one time. A-F only. Pre: two 200-level or above studio courses, or consent. DA

GLASS
ART 130 Introduction to Glass (3) Basic techniques of working with cold and molten glass. Theory of glass studio operation and introduction to glass theory. DA

ART 230 Glass Casting: Sand and Metal Molds (3) Expressive explorations in glass casting with wet sand, bonded sand, and metal molds. Repeatable one time. Pre: 116 (or concurrent) and 130, or consent. DA

ART 234 Cold Glass Fabrication (3) Expressive explorations using architectural sheet glass. Develop-
ART 308 (Alpha) Advanced Photographic Techniques (3) Emphasis on aesthetic and critical analysis. (B) digital color photography and printing; (C) darkroom techniques. Emphasis include continuous light, strobe and handheld flash. Repealable one time with consent. Pre: 202 and 207 with a minimum grade of B. 

PRINTMAKING
ART 104 Introduction to Printmaking (3) Foundation explorations in the processes of relief, intaglio, and stencil printmaking. Workshop studio experience in the basic techniques and concepts of woodcut, linoleum cut, drypoint, monotype, and basic stencil processes. DA
ART 215 Intaglio Printmaking (3) Studio practice in concepts and techniques of making prints from metal plates including etching, engraving, aquatint, and drypoint. A-F only. Pre: 113.
ART 218 Relief Printmaking (3) Studio practice in the techniques and concepts of woodblock, linoleum cut, monotype, and collagraph printmaking. Emphasis on both traditional and contemporary practices. A-F only. Pre: 113.
ART 316 Lithography (3) Studio practice in concepts and techniques of making prints from lithographic limestone and plates. Pre: with a minimum grade of B of 215 or 217 or 218. DA
ART 318 Intermediate Printmaking (3) Intermedi ate level specialization in either intaglio, lithography, screenprinting, or monotype. Concentration on the techniques and formats of color printing and sequential image development. Repeatable two times. Pre: (with a minimum grade of B) two of 215, 217, 218, or 318. 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: 116 or consent. DA
ART 351 Sculpture—Figure Modeling (3) Figure modeling, molding, casting, and carving. 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 the concept. 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

VARIABLE CREDIT AND OTHER COURSES
ART 189 Introduction to Hawaiian Art (3) Integrated beginning studio art course, which offers students the opportunity to understand and express Hawaiian cultural perspectives through contemporary art practice. A-F only. DA
ART 360 Exhibition Design and Gallery Management (3) Design theory and techniques for presentation of artworks and 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. DH
ART 399 Directed Work (V) Individual projects; tutorial. Maximum: 3 credit hours per semester; total 3 for BA, 6 for BFA. Pre: two 200-level or above art courses in area of directed work, as well as consent of instructor and department associate chair.
ART 400 (Alpha) Special Topics (V) Intensive and specialized work at advanced level in fields of special interest of visiting or resident faculty. (B) studio art; (C) art history. Repeatable three times per alpha, up to 12 credits. Junior standing or higher and instructor consent only.
ART 405 Professional Practice in the Arts: Creative, Career, and Leadership (3) Examination of the role of the artist in society, the artist as self, as community member, as teacher. Professional Practice skills in the arts; planning, grantmanship, fundraising, budgeting, marketing, outreach, and media relations. ART majors only. Senior standing or graduate students only. A-F only.
ART 409 Graduation Portfolio (BA) (0) Required graduation portfolio for BFA and MA in Art. ART Studio students. BA ART majors only. Undergraduates only. CR/NC only. To be taken during the semester prior to expected graduation.
ART 410 BFA Capstone Seminar/Studio (3) In conjunction with the production of art for the BFA annual exhibition, this seminar will examine, critique, and evaluate the student’s work within the context of contemporary art; professional practices, exhibition theory, and integrate theoretical and practical issues in the life of an artist. BFA majors only. A-F only. Pre: BFA major or consent. (Spring only)
ART 481 Museum Interpretations (3) Studies the interpretive strategies and methods used by museums to communicate with visitors in museums, art galleries, historic sites, parks, and related places. Considers how interpretations contribute to cultural knowledge. Repeatable one time per consent. (Cross-listed as AMST 457) DH

GRADUATE STUDIOS
Studio concentrations for the Master of Fine Arts degree: ceramics, electronic arts, glass, fiber, painting, photography, printmaking, sculpture. Four sequential course levels (611-614) are to be taken for the MFA degree in Art.
ART 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or Plan C, and consent. DA
ART 611 Graduate Studio Seminar in Art I (6) Selected topics in art. Emphasis on technical experimentation, diversification of research, and the exploration of new areas of creative inquiry. ART majors only. A-F only. Pre: consent. (Fall only)
ART 612 Graduate Studio Seminar in Art II (6) Selected topics in art. Emphasis on the analysis of the systems by which art is conceived and the ability to define developing direction and related research. A-F only. Pre: 611 or consent. (Spring only)

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

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

ART 630 Graduate Studio Teaching Practicum (3) Observation, analysis and participation in teaching a lower division course under the direction of an instructor in the student’s area of concentration. Repeatable one time. A-F only. Pre: 600, admitted to candidacy for MFA in art, and consent.

ART 699 Directed Work (V) Advanced individual projects; advanced tutorial. Maximum: 3 credit hours per semester with MA Plan A, 9 for MA Plan B. MFA students must petition OGE for permission to apply toward degree requirement. Repeatable unlimited times. Pre: consent of instructor and department chair.

ART 700 Thesis Research (V) Repeatable unlimited times.

Arts and Sciences (CAS) Colleges of Arts and Sciences

CAS 099 International Exchange (V) Designed for students accepted for participation in an international exchange program. Internship 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 campus exhibits. A-F only. Open only to RAP students.

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

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

CAS 200 (Alpha) Scholar Seminars (1) Discussion based seminar led by senior faculty/administrator. Students meet with instructor for 1 hour once a week. Discussion based seminar led by senior faculty/administrator. Students meet with instructor for 1 hour once a week. May take up to three alphas. (H) scholar seminar; (I) scholar seminar; (J) scholar seminar; (K) scholar seminar; (M) scholar seminar. A-F only.

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 freshmen. Repeatable one time. A-F only. Pre: consent. (Fall only)

Asian Studies (ASAN) School of Pacific and Asian Studies

ASAN 101 Introduction to Asian Studies (3) An introductory course focuses on change and continuity in the history, culture, values, and political institutions of South, East, and Southeast Asia, and the region’s interrelationships with the rest of the world. A-F only. DH

ASAN 201 Introduction to Asian Studies: East Asia (3) Understanding East Asia through multidisciplinary approaches. Examines the interrelationship of political, economic, and cultural factors, the arts, and history as the basis for such an understanding. DH

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

ASAN 308 Chinese Political Economy (3) Interdisciplinary revision of the social and political issues in contemporary China, the intercommunication between the state and society in national policies, the relationship between cultural tradition and technological modernization in social transformation process. A-F only. Pre: sophomore standing or higher, or consent. (Cross-listed as POLS 308) DS

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

ASAN 312 Contemporary Asian Civilization (3) Multidisciplinary examination of problems and issues affecting peoples of contemporary Asia: ethnic, language, religious, and cultural differences; population growth; public health; economic development; political and social change; environment problems; etc. Pre: 201 and 202, or consent. DS

ASAN 320 (Alpha) Asian Nation Studies (3) Multidisciplinary examination of major Asian societies; 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. Repeatable three times in different alphas.

ASAN 324 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, gardens, politics. (Cross-listed as HIST 323) DH

ASAN 324 Chado: The Way of Tea Practicum (2) Actual practice of the tea ceremony as history and culture of Japan. Repeatable one time. Pre: 232 (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. (Cross-listed as EALL 325) DH

ASAN 330 Chinese Film: Art and History (3) Study and analysis of Chinese film; its history and relationship to cultural, social, philosophical, and aesthetic contexts. (Cross-listed as EALL 330) DH

ASAN 356 Geography of Southeast Asia (3) An investigation of the development context of Southeast Asia including socioeconomic, cultural, and environmental resources. Problems and prospects for change. Sophomore standing or higher. (Cross-listed as GEOG 356) DS

ASAN 360 Buddhist Philosophy (3) Survey of central thinkers and schools. Pre: any course 100 or above in PHIL, CSNSK, 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) DL

ASAN 364 20th-Century Chinese Women Writers (3) A survey and critical examination of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Focus on 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) DS

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. A-F only. Pre: consent. (Fall only)

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 346) DH

ASAN 407 Peace Processes in Philippines and Hawai‘i (3) History of Philippine Islam and the Moro struggle, the peace process in Mindanao and sovereignty movements for a sovereign nation. 75 min. Lec., 75-min. joint online discussion with Philippine students. Junior standing only. A-F only. Pre: consent. (Fall only) (Cross-listed as Peace 407) DH

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

ASAN 411 Comparative Muslim Societies in Asia (3) Will compare Muslim societies and cultures in South Asia, the Middle East, and Africa. A-F only. Pre: WS 151 or consent. (Cross-listed as WS 410)

ASAN 420 Korean Cinema (3) Develop an understanding of Korean culture and society through visual, narrative, and cinematic analysis of Korean films. Topics include post-Korean War experiences, compressed modernity, authoritarianism, and post-authoritarian transformation. Special attention to independent films. A-F only. Pre: WS 151 or consent. (Fall only) (Cross-listed as ANTH 420) DS

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

ASAN 442 Globalization and Identity in the Himalayas (3) Examines the influence of local culture and global flows on identity formation in the Himalayan region. Topics include: Hindu caste and gender, constructions of ethnicity, Tibetans and tourists, Sherpas and mountaineers, development ideologies, and consumerism. Sophomore standing or higher. Pre: 202 or ANTH 410 or ANTH 410 or consent. (Alt. years: fall) (Cross-listed as ANTH 442) DS

ASAN 449 Asian Cities: Evolution of Urban Space (3) Reviews the evolution and spatial form of cities in Asian political history, migration, culture, and production are the determinants of urban changes. Uses visual material to illustrate the change in Asian citiescape. Pre: IP 310 or PLAN 310 or ANTH 312, or consent. (Cross-listed as PLAN 449)

ASAN 462 Contested Issues in Contemporary Japan (3) Familiarizes students with public discourse in Japan by analyzing key current issues widely debated in the Japanese media and in public forums in light of their political, historical, cultural, social and economic contexts. A-F only. Pre: 312 or any of 320, ANTH 483, ANTH 484, ECON 317, POLS 307H, SOC 357, or knowledge of Japan with 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 such as class, race, religion, ethnicity. (Cross-listed as WS 463) DS

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

ASAN 465 Japan Cool: Anime, Manga, and Film (3) Focuses 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 Key to symbols & abbreviations: see the first page of this section.
other minorities, as well as analyzing the nature of minority/majority identity in China from an anthropological perspective. DS

ASAN 470 Sustainable Development in East Asia (3) Interdisciplinary investigation of development in East Asia is an urgent issue. Status and role of Asian business; current technological, economic, and financial developments; impact on world economy. A-F only. (Cross-listed as FEN 470) DH

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

ASAN 473 Topics in Chinese Cultural Studies: Visual Culture–Chinese Diaspora (3) Multi-disciplinary and historically located study of Chinese culture, art, and literature; changes in identity and meaning of literature and criticism. Pre: any 300-level DL or DH course. (Cross-listed as EALY 473) DH

ASAN 474 Transnational Chinese Popular Culture (3) Survey of contemporary Chinese popular entertainment forms that are produced and appreciated transculturally. These 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 media studies, and literary criticism. Pre: any 300- or 400-level DL or DH course. (Cross-listed as EALY 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) DH

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

ASAN 481 Film, Culture, and Modernity in Southeast Asia (3) Examines how filmmakers in Southeast Asian countries have incorporated martial arts genres, popular culture and current social issues in their work. Pre: French 483, or equivalent. DH

ASAN 485 Contemporary Chinese Development (3) Development and planning in contemporary China: economic policy and institutional structure in the development of urbanization in China and urban worlds, and their geographic and historic contexts. Pre: upper division standing or consent. DH

ASAN 491 (Alpha) Topics in Asian Studies (3) Selected topics in Asian studies. (C) China; (G) Asia; (I) South Asia; (J) Japan; (K) Korea; (P) Philippines; (S) Southeast Asia; (Z) Other. Each alpha is repeatable two times. DS

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) DS

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 in Asia and their societal, economic and global; approach is interdisciplinary. Repeatable two times. DS

ASAN 494 Food, Culture, and Politics in Asia (3) Examines Asia’s role in the development of global foodways and the relationship between spices and imperialism, global popularity of Asian cuisines, Asian-influenced “apa” cuisine in Hawai‘i, McDonaldization in Asia, and food security and sustainability. A-F only. DH

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

ASAN 496 Religions of Island Southeast Asia (3) A comparative, interdisciplinary examination of indigenous beliefs in Islam, Christianity, and Hindu religiosity in island Southeast Asia, and how they have been adjusted because of economic and social change. DH

ASAN 499 Directed Reading (V) Repeatable three times. Pre: ASAN 500. (Cross-listed as ASAN 499) DH

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

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

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

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 changes, and emerging prominent current development and practice. Pre: one of 660, 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. DS

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

ASAN 620 Problems/Issues of Contemporary Asia (3) Analyzes future directions for development, urbanization, international relations, ethnicity, religion, language, etc. Repeatable one time with different topics. Pre: 312 or consent. DS

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

ASAN 624 Culture and Colonialism (3) Analysis of theories and debates (cultural studies, feminist writings, postcolonial issues). Case studies of the transformation and creation of “traditional” cultures under colonialism. Pre: 312 or consent. DS

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

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

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 societies. Pre: 310 (or concurrent) or 312 (or concurrent), or consent. DS

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

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

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

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

ASAN 640 Topics in Japanese Literature (3) Intensive study of selected topics in Japanese literature, primarily of the modern period. English translations of original texts will be provided whenever available. Repeatable unlimited times with consent. Pre: consent. (Cross-listed as JPN 640)

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

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

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) DS

ASAN 653 Major Authors in Modern Korean Literature (3) Advanced study of 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: KOR 494 or consent. DS

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 sociocultural issues in the evolving contexts of modern Korean intellectual history. Repeatable one time. Pre: KOR 494 or consent. DS

ASAN 665 Special Topics in East Asian Literary Culture & Society (3) In-depth study of selected topics and issues in modern/contemporary East Asian literary and cultural studies using an interdisciplinary, inter-regional, and multilingual approach, from an intercultural perspective. Repeatable two times in different topics, but need consent for second repeat. A-F only. Pre: consent. (Cross-listed as EALY 665) DS

ASAN 671 The Splendor that was Southeast Asia (3) Interdisciplinary study 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 social, political, economic, and religious issues. Repeatable one time. Pre: 312 or consent. DS

ASAN 686 Law and Society in China (3) Overview of the historical foundations of Chinese law and introduction to the legal system in the People’s Republic of China. Repeatable one time. (Cross-listed as LWPA 586) DS

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. Prec: 600, 608, or POLS 645C, or consent.

ASAN 694 Topics in Buddhist Studies (3) Seminar on selected topics in Buddhist studies. Repeatable three times. Prec: 360L, 360H, 406L, REL 475, or REL 490; or consent.


ASAN 700 Thesis Research (V) Repeatable nine times.

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

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

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

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

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

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

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

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

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

ASTR 150 Voyage through the Solar System (3) An illustrated voyage through the Solar System based on recent scientific results. The class highlights the origin, evolution, and current knowledge of the eight planets, their moons, asteroids, comets, and one star, the Sun. Field trip. (Cross-listed as GG 105) DP

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

ASTR 241 Foundations of Astrophysics I: The Solar System (3) Solar system astrophysics. Dynamics of planets, satellite systems, asteroids and comets; internal and atmospheric structure of terrestrial and giant planets; thermal balance; the Sun as a star. A-F only. Prec: 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 stars. Pre: 241, PHYS 274 (or concurrent), and MATH 243 (or concurrent) or 253A (or concurrent). (Spring only) DP

ASTR 280 Evolution of the Universe (3) The Big Bang, origin of the elements, formation and evolution of galaxies and stars. Pre: 241 or 274. (Spring only) DP

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

ASTR 300L Observational Astronomy Laboratory (2) Optical and near-infrared laboratory. A-F only. Prec: 210 or 242; PHYS 152 or 274; MATH 215, 241, or 251A. (Fall only) DP

ASTR 310 Observational Astronomy Projects (4) Practical astronomical observing. Students select objects to study, plan, and conduct remote observations using research-class telescopes, reduce data, present results in written and verbal form. Introduces LaTex, literature research, time allocation. A-F only. Prec: 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. Prec: consent.

ASTR 423 Stellar Astrophysics (3) Advanced survey of stellar astrophysics, including application of astrophysics, photometry, and spectroscopy to determine fundamental stellar properties; stellar structure and evolution of single and binary stars; astrophysical distance determination methods; stellar nucleosynthesis. Prec: 242 and 300, and PHYS 490. DP

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

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

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

ASTR 500 Master's Plan B/C Studies (1) A-F only. Prec: consent. (Alt. years) DP

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

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

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

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

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


ASTR 640 General Relativity (3) Introduction to gravity and general relativity. Tensor basis, classical scalar, vector and tensor field theories. Exact symmetric Einstein equation, gravito-magnetic weak field, and radiation solutions. Prec: 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. Prec: 635 or consent. (Alt. years)

ASTR 657 Astrochemistry-A Molecular Approach (3) Formation of astrobiologically important molecules and their role in creating pre-biotic medium and in our solar system: first principles and latest trends. Prec: consent. (Fall only) (Cross-listed as CHEM 657 and GG 657)

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

ASTR 700 Thesis Research (V) Repeatable unlimited times. Prec: consent.

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. Prec: 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. Prec: 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. Prec: consent.

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

**ATMO 395 Undergraduate Internship (V)** Consent.

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

**ASTR 800 Dissertation Research (V)** Repeatable unlimited times.

**Atmospheric Sciences (ATMO)**

**ATMO 101 Introduction to Meteorology (3)** For nonscience majors and prospective science teachers. Basic atmospheric physics and their role in Earth-weather systems. Elementary theory of weather, climate, atmosphere, and the Earth's energy balance. Lab: 2 hr, Sch: 3 hr. CR/NC only. Repeatable up to 2 times. Pr: consent.

**ATMO 102 Pacific Climates and Cultures (3)** Highlights the interaction between the observed weather and climate of the Pacific and the past and future culture of the people of Hawai'i and Pacific islands. A-F only. (Alt. years)

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

**ATMO 200 Atmospheric Processes and Phenomena (3)** Atmospheric variables, gas laws, radiation processes, thermal balance, energy conservation laws, dynamic approximations, clouds and precipitation, convection, atmospheric circulation, mid-latitude and tropical weather systems, numerical model, climate. Pr: PHYS 170 and MATH 241. DP

**ATMO 302 Atmospheric Physics (3)** Energy and thermodynamics, statics and stability, physical processes of cloud formation, radiation and Earth-atmosphere heat balance, kinetic theory, optical effects. Pr: PHYS 242 and MATH 227; or consent. DP

**ATMO 303 Introduction to Atmospheric Dynamics (3)** Scalar and vector development of basic laws of hydrodynamics, moments of motion, kinematics, divergence and vorticity, viscosity and turbulence, introduction to numerical weather prediction, general circulation. Pr: 302 and MATH 244. DP

**ATMO 305 Meteorological Instruments and Observations (3)** (2 Lec, 1 3-hr Lab) First- and second-order measurement systems. Response of wind, temperature, and recording instruments. Discussion of advance system including radar, planing of field programs. A-F only. Pr: PHYS 272/272L. DP

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

**ATMO 320 Programming for Meteorologists (3)** Scientific programming in Fortran 77, graphics and meteorological applications. A-F only. Pr: consent. (Cross-listed as OCN 310)

**ATMO 322 Radar Meteorology (3)** (2 Lec, 1 3-hr Lab) Radar hardware, electromagnetic propagation and scattering, radar equation, signal processing, precipitation estimation and polarimetric applications; Multi-Doppler wind synthesis, mobile and spaceborne radars, forecasting, and data assimilation applications. A-F only. Pr: 620 (with a minimum grade of B- or higher) or consent. (Alt. years)

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

**ATMO 405 Satellite Meteorology (3)** (2 Lec, 1 3-hr Lab) Orbital elements, ephemerides, viewing geometry; radiation, satellite sensors; interpreting satellite data and its use in atmospheric and numerical weather forecasting. Pr: 302. DP

**ATMO 406 Tropical Meteorology (3)** Theory; tropical clouds and hydrometeors; typhoons; monsoons; local and diurnal effects. Pr: 303. DP

**ATMO 412 Meteorological Analysis Lab (3)** (2 Lec, 1 3-hr Lab) Techniques of portraying and analyzing atmospheric structure and weather systems in tropical and equatorial regions; forecasting tropical systems. Pr: 303 or concurrent.

**ATMO 416 Tropical Analysis Lab (3)** (2 Lec, 1 3-hr Lab) Techniques of portraying and analyzing atmospheric structure and weather systems in tropical and equatorial regions; forecasting tropical systems. Pr: 303 or concurrent.

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

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

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

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

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

**ATMO 610 Tropical Climate and Weather (3)** Climate and general circulation of the tropics; El Niño and Southern Oscillation; intraseasonal oscillation; trade winds; tropical weather systems; energy balance; tropical clouds and hydrometeors; typhoons; monsoons. Pr: 303; or concurrent. (Alt. years)

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

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

**ATMO 616 Monsoon Meteorology (3)** Synoptic components of monsoon regional and temporary variability, numerical models, research exercises. Pr: 610 or consent. (Alt. years)

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

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

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

**ATMO 632 Advanced Statistical Methods in the Geosciences (3)** Methods for numerous multivariate analyses will include principal component analysis, fast Fourier transform, wavelet analysis, statistical downsampling and Bayesian analysis. A-F only and audit. Pr: 631 or consent. (Every 3rd year)

**ATMO 665 Small-Scale Air-Sea Interaction (3)** Observations and theory of small-scale processes which couple the atmosphere and ocean boundary layers, including introduction to turbulence theory and parameterization of turbulent fluxes. Pr: MATH 303 and 403 (or their equivalents) and either 600 or OCN 620; or consent. (Alt. years) (Cross-listed as OCN 665)

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

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

**ATMO 700 Thesis Research (V)** Repeatable unlimited times.

**ATMO 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 dynamic models, with a term project. Repeatable one time. Pr: 600 or OCN 620; MATH 407 or 408; or consent. (Alt. years)

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

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

**ATMO 708 General Circulation of the Atmosphere (3)** Theory, observations, large-scale analyses, and global model simulations that describe characteristic large-scale circulations of the Earth’s atmosphere. Includes zonally averaged circulation, asymmetric features of the general circulation, and El Niño-Southern Oscillation phenomenon. Repeatable one time. Pr: 600 or 407; or consent.

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

**ATMO 765 Seminar in Meteorology (1)** Participation in a research oriented seminar on a selected topic or seminar on research results. Includes written critiques of departmental seminars. Repeatable three times. Pr: consent.

**ATMO 800 Dissertation Research (V)** Repeatable unlimited times.
Biochemistry (BIOC)
School of Medicine

Adapted 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 organic chemistry 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 protein chemistry, enzyme mechanisms, and cellular processes and signaling, including synthesis and metabolism, kinetics, physiological systems, and related natural and engineered systems. A-F only. Pre: MATH 140 or consent. (Once a year) DY

BE 150 Introduction to Biological Engineering (2) Discussion and experimental investigation of physical and chemical principles underlying representative biological processes and systems. Bioproduction, energy conversion processes, physiological systems, bioreactors, biotechnologies, and related natural and engineered systems. A-F only. Pre: MATH 242 or 252A; or consent. DP

BIOC 191 Introduction to Applications in Biological Engineering (V) Development of systematic approaches to apply these principles in calculations for design and analysis of biochemical, chemical, and physical processes. Pre: BIOL 171, CHEM 162 or 181A; PHYS 170, and MATH 242 or 252A; or consent. DP


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

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

BIOC 410 Biomass Conversion to Biofuels and Bioenergy (3) Overview of biofuel/bioenergy production; fundamental concepts in biofuel/bioenergy production; renewable feedstocks; thermochemical and biochemical conversion to biofuel/bioenergy; biodiesel production; environmental impacts, economics and life-cycle analysis; value-added processing of biofuel residues; selected case studies. A-F only. Pre: CEE 320 or ME 222. (Once a year) DP

BIOC 411 Food Engineering (3) Principles and applications of thermodynamics, electricity, fluid mechanics, heat transfer, psychrometry, and material and energy balances of food processing and preservation. 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

BIOC 420 Sensors and Instrumentation for Biotechnological Systems (3) Focus on fundamentals of electronic interfacing, control and automation, including biological processes. Topics include sensor physics, basic instrumentation, digital communication, and programming of microcontrollers and other microelectronic systems. Pre: EE 160, EE 211, and BE 350 or MATH 302 or MATH 307 or EE 326; or consent. (Cross-listed as FSHN 420) DP

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

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

BE 437 Biosystems Unit Operations (2) Pumps and fans; size reduction; cleaning and sorting; materials handling; processing of fruits, nuts, vegetables, animals, and other bioproducts. A-F only. Pre: 373, CHEM 320 or ME 352; or consent. DP

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

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

BE 470 Bioprocess Design and Analysis (3) Combined lecture/computer lab on theory and practice of bioprocess design and analysis; application of statistical and engineering principles of bioprocessing, computer-aided unit operations, process integration, and economic evaluation. A-F only. Pre: 373, or 437 (or concurrent) or 460 (or concurrent); or consent. (Fall only) 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. Focuses on design projects; project management; design methods; modeling and simulation; design optimization; engineering economics; engineering statistics, initiation of an open-ended design project. A-F only. Pre: 350/350L, 373, CEE 320 or ME 322, ME 311, EE 211; or consent. DP

BE 482 Senior Engineering Design II (3) (1-1 hr Lec, 2-3 hr Lab) Continuation of 481. Properties of biological systems; risk and reliability; design ethics; guest lectures on engineering design by practicing engineers; extension and completion of the design project with submission of a final design report. A-F only. Pre: 481 or consent. DP

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. DP

BE 492 Internship (4) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: 373 or consent. DP

BE 499 Directed Research (V) Research in the area of biosystems engineering. Pre: consent. DP

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 PHYS 170; or consent. (Once a year) DP

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; algal-biofuel; terrestrial 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) DP

BE 622 Experimental Methods in Cause-Effect Modeling (3) Factorial designs for screening variable and response optimization. Response surface methodology. Experimental designs appropriate to building and testing multi-variable black box relationships. Sequential experimental designs. DP

BE 625 Biological Instrumentation (3) System integration for computer-based control, automation, and study of biological systems. Topics include physical, chemical, and biological sensors, actuators, informatics, and emerging technologies for health, biological production/processing, and discovery. Pre: MATH 241 (or concurrent) and CHEM 162 (or concurrent), or consent. (Once a year) DB
BIOL 265L Ecology and Evolutionary Biology Lab (1) (3-hr Lab) Laboratory to accompany 265. Pre: C (not C-) or better in 265 (or concurrent). DY

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

BIOL 275L Cell and Molecular Biology Lab (1) (3-hr Lab) Laboratory for Cell and Molecular Biology. A-F only. Pre: C (not C-) or better in 275 (or concurrent) and CHEM 272. DY

BIOL 295 Service Learning for Biology Majors (V)
Directed participation on tutorials and related activities, including their role in the improved community and UH Mānoa organizations. A-F only. Repeatable one time. Pre: 265/265L, 275/275L, and consent. DB

BIOL 301 Marine Ecology and Evolution (3)
Functional, ecological, and evolutionary problems faced by life in the sea. Draws from major marine habitats and associated communities, from the deep sea to the plankton. Impacts of overfishing, marine pollution, and land development on the ecology and evolution of marine organisms. Emphasis on developing problem solving and quantitative skills. A-F only. Pre: C (not C-) or better in 265/265L. 2301, or concurrent), or OCN 201; or consent. DB

BIOL 301L Marine Ecology and Evolution Lab (2) (1-3 hr Lab) Laboratory to accompany 301. A-F only. Pre: C (not C-) or better in 301 (or concurrent). DY

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

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

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

BIOL 320 The Atoll (3) Atoll as ecosystem and as human environment. Formation, structure, distribution, biota. Pre: Introductory biology course or consent. DB

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

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

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. Not a BIOL major elective. Pre: C (not C-) or better in 171/171L and 172/172L and 265, 265L, or concurrent or consent. (Cross-listed as CMB 351) DB

BIOL 350 Sex Differences in the Life Cycle (3)
Human sex differences, their biological basis and significance; genetic, hormonal, and behavioral determinants of male and female behavior; biology of gender, sexuality, parenting, menopause, and aging. Pre: one semester of biological science. (Cross-listed as WS 350) DB

BIOL 360 Islands and 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. Not a BIOL major elective. DB

BIOL 363 Biological Field Studies (V) Biological surveys, collection, and analysis techniques will be reviewed and applied through field studies. Students will be introduced to the uniqueness of the Hawaiian environment and its diversity of life. Emphasis on diversity, evolution and ecology with up to six credits. A-F only. 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, and evolutionary genetics. A-F only. Pre: 275 or consent. DB

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

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

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

BIOL 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 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 IS 400) DB

BIOL 401 Molecular Biotechnology (3) General principles, applications, and recent advances of the rapidly growing science of biotechnology. Topics include impact of biotechnology on medicine, animal sciences, environment, agriculture, forensics, and economic and socio-ethical issues. Pre: C (not C-) or better in 275 or consent. (Cross-listed as MBBE 401) DB

BIOL 402 Principles of Biochemistry (4) 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 265/265L. 171L, or concurrent, or consent. 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. MBIO majors only. A-F only. Pre: C (not C-) or better in 301/301L, or consent. DB

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

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

BIOL 408L Advanced Molecular and Cellular Biology Laboratory (2) (3-hr Lab) A laboratory to accompany 407 and 408. Pre: 407 (or concur- rently) or consent. (Cross-listed as MCB 408L) 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: with a minimum grade of B, one of 101, 101L and either 310 or BIOG 322; or consent. (Cross-listed as BIOG 410) DB

BIOI 425 Wildlife and Plant Conservation (3) Principles of conservation biology and wildlife management techniques, illustrated with animal, plant, and ecosystem examples. Examination of ethical, cultural, legal, political, and socio-economic issues impinging on conservation policy and practice. Group project and field trips. Pre: C (not C-) or better in 265/265L or consent. DB

BIOI 440 Psychoactive Drug Plants (3) Taxonomy, ecology, biochemistry, distribution, cultural history, and contemporary use of mind-altering drug plants; examples from primitive, traditional, and modern societies. Pre: junior standing, one semester of biological science, and either ANTH 200 or BIOG 151; or consent. DB

BIOI 468 The Rise of Fishes: An Evolutionary History (3) The origins and early evolution of fishes, with a focus on morphological innovations that have led to lineage divergence and adaptive radiation, and the nature of processes associated with a novel character trait evolution. A-F only. Pre: 265. (Alt. years: spring) DB

BIOI 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)

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

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

BIOI 499 Biological Problems (V) Directed reading and research. For juniors and seniors majoring in life science 1-12 credit hours in advanced course work, up to 8 credits, up to 6 credits apply towards BA and BS BIOL major requirements. A-F only. 2.5 GPA minimum, written proposal and consent.

BIOI 650 Populations (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 CMB 650)

Professional Development Courses for Science Teachers

BIOI 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.

BIOI 603 Molecular Ecology (3) Practical introduction to molecular methods used to address ecological and evolutionary questions. Advanced undergraduate or 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 379/379L, consent. (Alt. years) See other science professional development courses NSCI 501, 502, 503, 504, 505 and 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. Pre: consent.

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

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

BIOM 640 Clinical Research Methods (2) Introduction in developing clinical research questions and creating a concise protocol that includes a literature review, study design, subject recruitment and sampling, instrumentation, data collection and management, sample size, consent form, budget and timetable. A-F only. Pre: consent.

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

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

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

BIOM 644 Bioanalytical Methods (2) Introduction to disease molecular genetics: methods to identify and map candidate genes, analysis of mutations, use of markers, evaluation of gene and protein expression, collection methods, preparation of specimens, and extraction of DNA and proteins. A-F only. Pre: consent.

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

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

BIOM 647 Cultural Competence in Biomedical Research and Treatment (3) Integrative course addressing ethical, legal, regulatory, and cultural issues impinging on conservation policy and practice. Group project and field trips. Pre: C (not C-) or better, and graduate prerequisites is a C (not C-) or better.

BIOM 648 Foundations of Biomedical Ethics (3) Explores the psychological and ethical dimensions of health care and research settings. Pre: consent.

BIOM 650 Cultural Competence in Biomedical Research II (3) Explores 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 goals. Students will be exposed to group dynamics, communication, conflict resolution, and various forms of ethical and social dilemmas. 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 investigative approaches in molecular, neurological 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 and clustered, clinical data through lectures, discussions, and a group analysis. Topics include multi-level, multi-state, multi-process, and structural equation models. A-F only. Pre: 642 and 643, or consent.

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


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


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 nucleic acids. Pre: BIOP 441 or consent.

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

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

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

390 Courses 2017-2018
BOT 100 Freshman Seminar (1) Discussion of hot topics in botany, including conservation of rare plants, invasive species, ethnobotany, ethnoherbology, poisonous plants, evolution in action, fungal networks, and careers in botany with emphasis on Hawaiian examples. Students should enroll in BOT 100 and 101L/101L and BIOL 171/171L. Repeatable one time. A-F only. Co-requisite: 101/101L or BIOL 171/171L. (Once a year)

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

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

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

BOT 105L Ethnobotany Lab (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 mechanisms by which it emerges, and the consequences of its loss, and the processes by which it can be conserved. A-F only. (Fall only) DB

BOT 135 Magical Mushrooms and Mystical Mold (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 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 systematics of Hawaiian species. Assigned reading and writing exercises from papers in current journals. Repeatable one time. A-F only. Pre: 101/101L or BIOL 171/171L. (Once a year)

BOT 201 Plant Evolutionary Diversity (3) Significance of evolutionary trends in the plant world, including reproductive, morphological, and life history adaptations, seed, flower, fungus, and vascular plants. Pre: 101 or college general biology. Co-requisite: 201L. DB

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


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

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

BOT 301 Plant Conservation Biology (3) Introduction to the concepts and principles of plant conservation biology and to plant conservation in practice in Hawai'i and elsewhere. A-F only. Pre: 202/202L, or consent. Co-requisite: 301L. (Once a year) DB

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: 202/202L, or consent. Co-requisite: 301L. (Once a year) DB

BOT 302 Grant Writing Seminar (2) Provides three rounds of opportunities for grant writing as associated with research in biodiversity, conservation biology, and plant systematics. Students will gain experience in peer review, grant cycles, and budget preparation. A-F only. Pre: 301L (or concurrent) and 303, or consent. (Once a year) DB

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

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

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

BOT 399 Botanical Problems (V) Individualized directed research. Topics to be determined by the division or major. Repeatable six times. A-F only. Pre: 101; BIOL 172; or consent. (Once a year) DB

BOT 400 Senior Seminar (1) Current research themes in botany presented in discussion format; reading current research papers. Oral presentations of primary research. Repeatable one time. BOT majors only. A-F only. Pre: 301/301L and 303, or consent. (Once a year)

BOT 401 Teaching Internship (1) Teaching Internship (TI) allows upper division undergraduates to experience assisting in laboratory courses for BOT 101, 105, 201, 202, 203, or other lab courses in Botany and Conservation Biology. Pre: BOT/HWST 107, or BIOL 101. Repeatable one time. BOT majors only. CR/NC only. Pre: 301/301L and 303, or consent. (Once a year) DB

BOT 410 Plant Anatomy (3) Structure of vascular plants; origin and differentiation of tissues; relation of structures to function, and experimental techniques for studying plant physiology, and histology. A-F only. Pre: 101/101L or BIOL 171/171L; BOT 201/201L, or consent. (Spring only)

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

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

BOT 440 Advanced Ethnobotany (4) (2-3-hr Lab) Advanced studies of plant uses in cultural contexts, focusing upon impacts of plant-culture interactions in development of cultures, cultivars, medicinal, ethnobotany, ethnobiology, and chemical basis of allopathic and naturopathic medicine. Lecture/discussion, term paper. Pre: 105 or consent. DB

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

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

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

BOT 450 Natural History of Hawaiian Islands (3) (2 Lec, 1-3-hr Lab) Geobiology and biogeography of Hawaiian island biotic environment of Pacific Basin and Hawaiian Islands; endemicity and evolution in terrestrial and marine biota of islands. Pre: one semester of biological sciences at college level. (Cross-listed as Zool 450) DB

BOT 453 Plant Ecology and Environmental Measurements (4) (2 Lec, 2-3-hr Lab) Influence of natural environments on plant behavior (autecology); plant morphology, growth, and community ecology. Strong emphasis on how ecology is practiced as a science. Labs take advantage of working outdoors in local natural areas. Pre: 202 or consent. DB

BOT 455 Analysis of Biological Data (3) Application of computers to analysis of biological data: preparation and storage, report production, database analysis procedures, univariate and bivariate statistical analyses. Pre: BIOL 172 or ZOOL 101. DB

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

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

BOT 458 Natural Resource Issues and Ethics (4) Overview of the history of land, resources and power in Hawai‘i; players and processes influencing land and natural resources policies today explored from Native Hawaiian, community, and development perspectives. Pre: 457 or HWST 457. (Cross-listed as Hwst 458) DB

BOT 459 Strategies in Hawaiian Resource Use (3) Analyzing diverse land and water use strategies of O‘ahu, from traditional to modern, specific and economic perspectives, through classroom and on-site lectures. Topics include traditional Hawaiian methods, modern development, threatened ecosystems, conservation and community development. A-F only. Pre: BOT/HWST 457 (or concurrent) or consent. (Cross-listed as HWST 459)
BOT 460 Hui Konohiki Internship: Applied Resource Management (3) A “hands-on” internship in an environmental or resource-management organization in Hawai‘i. The experience will be broadened and supplied with classroom lectures, discussions, and analysis from traditional Hawaiian, scientific and economic perspectives. A-F only. Pre: BOT/HWST 457, BOT/HWST 458 (or co-requisite), BOT/HWST 459; or consent. (Spring only) (Cross-listed as HWST 460)

BOT 461 Systematics of Vascular Plants (4) (2 Lec, 2-3 h Lab) “Hands-on” experience with Hawai‘i’s unique tropical flora; emphasis on recognition and identification of Hawaiian plant families and the principles and methodologies that define them; evolution of biodiversity. Pre: 101 or college general biology. DB DY

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

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

BOT 470L Principles of Plant Physiology Lab (1) (1-3 h Lab) Prerequisites in plant physiology, includes individual investigations. A-F only. Pre: consent. Co-requisite: 470. DY

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

BOT 492 Wildlife Ecology and Management in the Tropics (3) Development of a world view that focuses on the tropics. Integrates across disciplines, considers how science based management interacts with world views and considers management plans that are scientifically rigorous but culturally sensitive. Pre: BIOL 265 and an upper level ecology course, or consent. (Once a year)

BOT 499 Advanced Directed Research (V) Performance of research project under the direction of a faculty advisor. Preparation of written proposal, final oral presentation to be given to the Botany Department audience and written report required. Preference given to BOT majors. Repeatable up to eight credits. Credit only. Pre: 301/301L, 302, and 303, and consent.

BOT 500 Master’s Plan B/C Studies (1)

BOT 600 Grant Writing and Your Career in Science (2) Scientific grant writing from inception through review, and an introduction to research. This class will write a DDIRG and participate in a panel. Professional skills including “rules,” job applications, interviews, transitioning from graduate student to academic or non-academic job. A-F only. Pre: current standing as a graduate student, or consent.

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

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

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

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

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

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

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

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

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

BOT 644 Ethnobotanical Methods (3) Field techniques for assessing the ecological effects of cultural uses of plants. Emphasis on documenting traditional and local patterns of plant use and measuring the effects on plant individuals, populations, communities, and landscapes. Pre: previous course work in anthropology or biology.

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

BOT 651 Invasion Biology (3) Theories, models, patterns, and predictive methods relating to the invasions and plant individuals and populations. Field work and research project design, execution and data analysis. Pre: one of 453, 456, MIRC 485 or ZOOL 459; and 462 or 463; or consent.

BOT 652 Population Biology (3) Theory and applications of population biology; behavior of population models, as revealed by analytical methods and computer simulation; application to population problems. Lecture/discussion, problems. Introduces the principles and language of classical and current literature in population biology. Pre: one of 453, 454, 456, NREM 680, PEPS 671, ZOOL 439; ZOOL 467, ZOOL 620, or ZOOL 625; or consent. (Cross-listed as ZOOL 672)

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

BOT 654 Advances in Plant Ecology (2) A discussion of current research and classical papers in all areas of plant ecology. Includes critical review of recent literature, independent research project, oral and written presentation of project results. Repeatable three times. Pre: consent.

BOT 660 Ecological Statistics with R (3) Learn advanced modeling techniques to test hypotheses in ecology, evolution, and conservation biology and applications using R as a platform. Lecture/discussion, computer paper. Pre: ZOOL 631 or consent. (Alt. years: fall)

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

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

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


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

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

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

BOT 682 Physiological Ecology of Marine Plants (3) Discussion of current studies in morphological, physiological, cellular, and molecular adaptation to marine environments by macroalgae, phytoplankton, and seagrasses. A-F only. Pre: upper division ecology class recommended, 470 (or equivalent), 480 (or equivalent), or consent. (Cross-listed as ZOOL 682L)

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

BOT 690 Conservation Biology (3) Theories and concepts of ecology, evolution, and genetics for conservation of biological diversity. Topics will include restoration ecology, management planning, laws and policies, biological invasions. Pre: BIOL 375 and either 462 or ZOOL 480; and either 453, 454, 456, or 492; or ZOOL 410, 439, 623; or consent. (Cross-listed as NREM 690 and ZOOL 690)

BOT 699 Directed Research (V) Research preliminary to thesis or dissertation research. Repeatable unlimited times. CR/NC only. Pre: consent of graduate committee.

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

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

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

Business (BUS)

Shuler College of Business

BUS 099 International Exchange Study/Research (V) Study overseas in an approved international exchange or similar program for up to four times. CR/NC only. Pre: consent of academic advisor.

BUS 102 Introduction to Technology-Based Innovation and Entrepreneurship (3) Introduces modern tools for launching technology-based new ventures. Teams of students engage in term projects to learn design thinking, business model generation,
product development, rapid prototyping, customer validation, and pitching to investors. ENGR and BUS majors only. Freshmen only. A-F only. (Spring only) (Cross-listed as ENGR 102)

BUS 200 Introduction to Business (3) Introduc- tion to functional areas of business. Intends to help students understand the interrela-
tionships of business functional areas and the role of business in society. Stresses written communication in business, and basic accounting. Freshman or sopho-
more standing only. A-F only.

BUS 209 Written Communication in Business (3) An interactive writing class stressing persuasive writing in both formal and informal contexts. Letter writing, reports, and business memos. A-F only. Pre: ENG 101 and ENG 209.

BUS 250 Applied Math in Business (3) The al-
gebra and geometry of linear, quadratic, exponential, and logarithmic functions. Mathematics of finance--annuities, perpetuities, present value. Derivatives, graphical analysis, mathematical models as applied to business. Selected coverage of algebra, geometry, and calculus emphasizing business applications and decision making. Pre: two years high school algebra and one year plane geometry. FS

BUS 310 Statistical Analysis for Business Deci-
cisions (3) Power of statistical analysis and formulation: stress on cross-disciplinary complex problem solving and communication; computer intensive. Coverage of descriptive statistics, probability and hypothesis testing with emphasis on statistical quality, production, and regression analysis. Must be taken in first semester of BBA program.

BUS 311 Information Systems for Global Busi-
ness Environments (3) Skills and strategies for using information resources applied to local and global business issues; advanced skills in computer-based analytical techniques and information management; impact of information technology on business opera-

BUS 312 Principles of Marketing (3) Concepts, problems, and opportunities in marketing within its complex, multi-legal, economic, social and global environments. Social responsibility and ethics. Marketing research. Consumer and business-to-

business segmentation and positioning. Strategic marketing planning. Students may not earn credit for BUS 312 and TIM 304.

BUS 313 Economic and Financial Environment of Global Business (3) International trade, financial flows, and direct investment. Public and private institutions influencing investment policies and capital markets. Emphasis on Asia Pacific issues, with attention to the cultural differences among countries. Pre: ECON 130 and ECON 131 or consent. FS

BUS 314 Business Finance (3) Introduction to the theory and practice of financial management: analysis and decision making for asset management, capital budgeting, capital structure, and dividend policy. Prerequisite for all other finance courses. Pre: ACC 202, ECON 130 and ECON 131, or consent.

BUS 315 Global Management and Organizational Behavior (3) Analysis of theories and concepts underlying domestic and global organizational management, including behavioral and personnel issues. Emphasis on leadership, team-work, cultural differences in the Asia Pacific region. Prerequisite to all other advanced management courses. Students may not receive credit for BUS 315 and TIM 303. Pre: PSY 100 or SOC 100.

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

BUS 350 (Alpha) Business Study Abroad (V) Study abroad experience emphasizing international business issues. Content varies with courses taught; (C) accounting; (D) management of informa-
tion systems; (F) finance; (G) management; (I) international business; (K) marketing; (M) human resources; (R) real estate. Each alpharepeatable three times, up to 12 credits. Pre: consent.

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

BUS 475 Asia-Pacific Field Trip (3) Analysis of business environment and business issues through study and direct observation of businesses, government-
ally entities, and non-governmental organizations in non-U.S. settings. CR/NC only. Repeatable one time. Pre: consent. (Summer only)

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

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

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

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

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

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

BUS 622 Economic Foundations of Strategy (1.5) Microeconomic principles that provide structure to solve management problems and suggest strategies for success. Evaluation of the microeconomic com-
petitive environment in which organizations operate. A-F only. Pre: 621.

BUS 623 Marketing Management (3) Concepts and issues in marketing within the global environ-
ment of business. Ethical dimensions and social responsibilities; market research; consumer segmen-
tation and positioning. Strategic marketing planning. A-F only.

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

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

BUS 626 Leadership and Organizational Behav-
or (3) Personal leadership and communications development and the contribution of the behavioral sciences to understanding human behavior in organiza-
tions. A-F only. (Spring only)

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

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

BUS 629 Managerial Finance (3) Financial manage-
tment theories and tools in practice in a professional setting: 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 Manage-
ment (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. Pre: 628.

BUS 632 Business Policy and Strategy (3) Integra-
tion of learning through analysis of comprehensive business problems, resolution of policy issues, and the study of competitive strategies in the interna-
tional 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) Analy-
sis 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 Experi-
ence (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. Repeatable one time. A-F only. Pre: consent. (Summer only)

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

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

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

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

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

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

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

Business Law (BLAW)
Shaler College of Business

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

BLAW 360 International Business Law (3) Overview of international and national law as it applies to international trade. Readings and case studies focus on the legal environment of selected areas in the Asia Pacific region and strategies for doing business overseas. Pre: 200.

BLAW 604 Social and Legal Aspects of Management (3) Study of the legal environment of management with particular attention to the sources, principles, and form of the law; contracts, business organizational structures, agency, and partnership.

Cambodian (CAM)
College of Languages, Linguistics and Literature

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

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

CAM 103 Conversing 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 Conversing 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. HSL

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

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

CAM 112 Intensive Elementary Khmer (10) HSL

CAM 201 Intermediate Modern Khmer (4) Continuation of 202. Conversation, reading, writing. Meets five hours weekly. Pre: 201 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 students’ proficiency skills in Khmer at the intermediate level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. Pre: 201 or 205, or consent. (Spring only) HSL

CAM 212 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 303 Accelerated Third-Level Cambodian (6) Continuation of 203. Practice in idiomatic conversational and extensive reading. Integrated development of listening, speaking, and writing skills. Meets 10 hours weekly. Pre: 212.

CAM 305 Third Year Khmer I (2) Online course provides opportunities for learners to enhance their linguistic, discourse and sociolinguistic competencies in Khmer at the advanced level. Use a multimedia CD-ROM and a textbook to complement the web-based instruction. Pre: 305 or consent. (Fall 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. Not a BIOL major elective. (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 a 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 526 Bioethics (1) Prepare medical students to identify and resolve ethical dilemmas in medical career and biomedical research, and to maintain integrity and professionalism in accordance with relevant ethical principles, policies, and laws. Repeatable one time. MD majors only. CR/NC only.

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

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

CMB 610 Public Health Biology (3) Writing-intensive asynchronous computer-based course examines biological processes and challenges relevant to the public health professional. Topics include ana- tomical, 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: BIOL 402 or MBBE 402; and BIOL 441, BIOL 408, and graduate standing 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: BIOL 621, BIOL 441, and BIOL 408; and either BIOL 402 or MBBE 402; or consent.

CMB 625 Advanced Topics in Genetics (2) Advanced treatment of genetic problems. 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 humans and subjects in research, genetic screening, stem cell and gene therapy and patenting. (Cross-listed as BIOM 641)

CMB 631 Research Rotation (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. Repeatable two times. Pre: 621 (or concurrent), 622 (or concurrent); or consent.

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

CMB 641 Introductory Biostatistics for the Bench Biologist (3) Lecture and example-based introduction to the critical statistical tools and operations required of the bench life scientist. Technical literacy and basic practical application are the goals. Problem sets will be scored. A-F only. (Spring only)

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

CMB 650 Population Genetics (3) Mathemati- cal, 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) genomics; (E) bioinformatics; (F) evolutionary genetics; (G) molecular biology of the cell; (H) drosophila genetics; (I) population/ statistical genetics; (J) developmental genetics; (K) insect molecular biology; (L) molecular biology of fungi. Repeatable unlimited times for. Pre: graduate standing in genetics or consent.

CMB 669 Essentials in Grant Writing (2) (1 2-hr Le) Presentation and discussion of hypotheses-driven research and grant topics include the process of proposal, submission, and review. Course work includes writing, critiquing, and revising a pro-posal. Graduate students only. Repeatable two times. CR/NC only. Pre: recommended 626 and consent.
CEE 473 Construction Equipment and Methods (3) Methods and equipment used on horizontal/ heavy engineering projects. Available equipment, their production, and how they are used to excavate, move, process, and place the earth. Pre: 375 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, case studies, discussions, case study, and computers. Pre: 375.

CEE 481 Undergraduate Structural Research (3) Individual research project for undergraduate students in the structure track. Topic to be determined by consultation with structural faculty advisor. A-F only. Pre: senior standing and consent.

CEE 483 Field Experience (1) CEE 484 Structural Loads (3) Introduction to the minimum load requirements for buildings and other structural and infrastructure systems. CEE majors only. A-F only. Pre: 305 and 316, and 320. DP.

CEE 485 Reinforced Concrete Design (4) (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. A-F only. 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 projects; (C) Professional ethics (1 cr.) Engaging in ethical decision-making and deliberation. A-F only. Pre: 375 and senior standing. DP.

CEE 490 Senior Design Project (3) (Lec/Lab) Design problem involving several areas of civil engineering and required for a solution. A-F only. Pre: senior standing in CEE and 480B. (Spring only)

CEE 491 Special Topics in Civil and Environmental Engineering (3) will reflect special interests of visiting and/or permanent faculty. Pre: 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 601 Operations Management (3) Linear programming, simplex method, graphical representation; dual; degeneration problem; assignment problems; data envelopment analysis; applications; case studies; managerial deporting; LINDO software. Graduate students only. A-F only. Pre: 476 (or equivalent) (with a minimum grade of B-), and consent.

CEE 602 Construction Scheduling and Claims (3) precedence networks, CPM, float, updating, resource leveling, least cost scheduling, scheduling case studies, computerized scheduling, preparation, 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, Kuiper 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, earned value analysis, probabilistic cost estimating, construction risk management, construction quality control, and operations research in construction. Recommended: 472 or 474, or consent.

CEE 606 Process Simulation (3) Analysis of processes and construction processes; CYCLONE simulation language; MicroCyclone and EZStrobe software, production, waste, resource utilization; throughput; cost measurements; programming variables; projects. CEE, ME, and EE majors only. Graduate students only. A-F only. Pre: (with a minimum grade of C) 474, 476, and consent. (Spring only)

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 mediation, facilitation, arbitration, and court-annexed ADR. (Cross-listed as LAW 508)

CEE 618 Parallel Computing for Engineers (3) Concepts and techniques in high performance parallel computing. Topics include: parallel architectures and algorithms, parallelizing pre-existing serial codes, statistical analysis, and techniques up to include computational speed and accuracy for problems requiring large memory size. A-F only.

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

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

CEE 623 Groundwater Modeling (3) Introduction to the finite-difference method; steady-state and transient groundwater flow in saturated and unsaturated media; application of horizontal and vertical recharge and aquifer evaluation. A-F only. Pre: 627 or 629. Consent (Cross-listed as GG 656)

CEE 625 Hydrologic Processes in Soils (3) Hydrologic properties in soil processes, including 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 GES 656)

CEE 628 Surface Water Hydrology (3) Deterministic and probabilistic methods include reliability of empirical distributions, multiple regression analysis, extreme value analysis and domain of attraction. Short-memory models for stochastic simulation of streamflows include autoregressive, Markov chain and moving average models. Time series analysis of hydrologic data is discussed. A-F only. Pre: consent.

CEE 629 Groundwater Hydrology (3) Groundwater occurrence, movement, quality, and resource evaluation, development, and management. Emphasis on saltwater encroachment, well evaluation, aquifer protection, recharge with wastewater, and Hawai’i’s Fresh Water Hydrology. Recommended: 424 or consent.

CEE 633 Physical and Chemical Treatment (3) Introduction to physical and chemical processes for water and wastewater treatment: Review of momentum, mass transfer, and heat transfer; chemical, coagulation and flocculation, granular filtration, sedimentation, carbon adsorption, gas transfer, disinfection and oxidation. A-F only.

CEE 634 Biological Treatment (3) Fundamentals of applied microbiology, introduction to civil engineering, quantitative description of microbial growth, operational theory and design basis of aerobic, anoxic and anaerobic treatment processes. Applications for water, wastewater, air, solid waste,
and soil. A-F only. Prec. consent. (Alt. years: spring)
(Cross-listed as BE 634)
CEE 635 Environmental Chemistry (3) Basic concepts of chemistry as related to the environment, with more emphasis on water. Topics include chemi-
cal kinetics, equilibria, acid-base, precipitation and dissolution redox reactions, sorption, organic chemi-
cals in the environment. A-F only. Prec. consent.
CEE 636 Environmental Microbiology (3) Com-
bined hazardous waste remediation topics in environ-
mental microbiology, microbial ecology, and a broad understanding of microbial processes in natural and engineered environments. CEE majors only. A-F only. Prec. graduate standing in CEE or consent.
CEE 637 Hazardous Waste Remediation (5) Introduces the national problems dealing with the contamination of groundwater and presents remedial measures. Such measures include pump and treat (PAT) technology, in-situ bioremediation, soil vapor extraction, air sparging, electrokinetics, hydraulic fracturing, reactive walls, and phytoremediation. A-F only.
CEE 644 Water Quality Modeling (3) Mathemati-
cal formulation of pollutant transport and mixing in the water environment. Kinetics formulation and parameter identification, model calibration and veri-
fication. Design projects. A-F only. Recommended: 432 and 531, or consent.
CEE 648 Membrane Separations (3) Applications of membrane separations to desalination, power gen-
eration, and ultrapure water systems. Discussion of reverse osmosis, forward osmosis, pressure ultrafrac-
tion, microfiltration, electro dialysis and ion exchange technologies. Membrane fouling and concentration polarization from theoretical/theoretical standpoints. A-F only. Prec. 635 or consent.
CEE 650 Seepage, Drainage, and Dewatering (3) Theory of seepage, field and laboratory methods of measurement; graphical and numerical methods; de-
sign of drainage structures; construction dewatering. A-F only. Prec. 635 or consent.
CEE 651 Deep Foundations (3) Analysis and design of deep foundations; driven piles and drilled shafts. A-F only. Prec. 355 and 455. (Alt. years)
CEE 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. Prec. 555. (Alt years)
CEE 655 Slope and Earth Structures (3) Classifica-
tion of soil-structure interaction mechanisms; field invest-
igation procedures; limit equilibrium slope stability methods; numerical techniques; seepage and dynamic considerations; case studies. A-F only. Prec. 355. (Alt. years)
CEE 656 Marine Geotechnics (3) Principles of geotechnical engineering applied to marine environ-
ments; marine geology; surveying and sampling methods; seabed sediment types, properties, and behavior; coastal and offshore foundations. A-F only. Prec. 355.
CEE 658 Earth Pressures (3) Estimation of lateral earth pressures; analysis and design of retaining walls and excavation support systems. A-F only. Prec. 355 and 455.
CEE 660 Systems Analysis for Engineers (3) Opti-
mization used in design and management of systems for minimizing resources or optimizing outcomes. Evaluations of economic and environmental aspects and effectiveness analysis. Logistics. Open to engineering students. Computer applications and labs. Recom-
mended: 462 or 464, or consent.
CEE 661 Intelligent Transportation Systems (3) De-
CEE 665 Pavement Design and Rehabilitation (3) Pavement engineering with emphasis given to understanding fundamental issues such as historical development of pavement design, approaches used for design of new overlays, understanding of standing construction issues and their effects on pavement performance, and various design factors: environmental, loading and materials characterization. Introduction to transportation management systems. A-F only. Recommended: 461 or consent.
CEE 671 Continuum Mechanics (3) Cartesian ten-
sors in mechanics; coordinate transformations; analy-
sis of stress and strain; principal values, invariants, equilibrium equations; constitutive relations; field equations. Problems in elasticity. A-F only. Recommended: 370 or ME 371, or consent. (Cross-listed as ME 671)
CEE 672 Project Management Systems (3) Project integration and PMIS; organizational power; conflict, strategic, and life-cycle management in construction management; matrix structure compared to project-
ees. A-F only. Prec. 486 or cons; team building; change and culture in construction organizations; competi-
tive bidding. A-F only. Prec. consent.
CEE 677 Advanced Numerical Methods in Geo-
technology (3) Fundamentals of sensor technologies for structural engineering applications. Control devices and strate-
gies for protection of structures against extreme events, i.e., earthquakes, storms, etc. Structural health monitoring and smart sensor networks. Smart materials for civil structures. CE majors only. A-F only. Prec. 675.
CEE 681 Modern Structural Analysis (3) Funda-
CEE 683 Advanced Reinforced Concrete Design (3) Slender columns; biaxial bending; combined shear and torsion. Building lateral load resisting frame analysis and design—shearwalls, rigid frames. Floor system assessment and evaluation elements. Analysis of composite planks. Computer applications. A-F only. Recom-
mended: 485 or consent.
CEE 685 Advanced Structural Steel Design (3) Load and resistance factor design (LRFD); structural steel section analysis and design, building modeling and analysis; moment-resisting frames; bracing systems; beam-columns; moment connections; composite construction; and plate gird-
ors. A-F only. Prec. 486 or consent.
CEE 686 Finite Elements in Structures (3) Finite element method in structural engineering. Extension of structural theory. Virtual work. One- and three-dimensional elements; axisymmetric elements; plate bending. Applications to linear problems. Recom-
mended: 681 or consent.
CEE 687 Prestressed Concrete (3) Behavior of pre-
ressed concrete members, including prestress losses. Analysis and design of prestressed beams, slabs, and composite sections. Anchorage zone design; continu-
ous systems. Recommended: 485 or consent.
CEE 688 Advanced Concrete Technology (3) Composition and hydration of concrete, chemical, and mineral admixtures; concrete rheology; durability and recycling technology; destruc-
tive and non-destructive testing, and advanced material characterization techniques. A-F only. Expected majors only. Graduate students only. Prec. 375 (with a minimum grade of C). (Spring only)
CEE 691 Seminar in Civil and Environmen-
tal Engineering (1) Discussions and reports on literature, research, developments and activities in

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

civil engineering. One unit of all graduate students for each graduate degree. Student presentations are required. Repeatable two times. CR/NC only. Prec. graduate standing or consent.
CEE 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. CR/NC only. Prec. graduate standing in CEE or consent.
CEE 696 Selected Topics in Civil and Environ-
mental Engineering (3) Highly specialized topics in structures, soils, hydraulics, sanitary, water resources, applied mechanics, transportation. Repeatable unlimited times. Prec. consent.
CEE 699 Directed Readings or Research (V) Repeatable unlimited times. Prec. consent.
CEE 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times. Prec. candidacy for PhD in civil engineering.

Classics (CLAS)
College of Languages, Linguistics and Literature

Communication (COM)
College of Social Sciences
COM 201 Introduction to Communication (3) An overview of communication emphasizing intercultural, organizational and international commu-
nication and media arts with introduction to multimedia, ICTs, and public relations perspectives. DS
COM 310 Media Arts (3) Combined lecture-
discussion on theories and criticism of visual media, covering aesthetic development and delivery through multimedia and cinematic principles. A-F only. Prec. 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 intercultural issues in local, global, and online interactions. Prec. 201 (or concurrent) or consent. DS
COM 330 Information and Communication Technology Concepts (3) Combined lecture-discu-
sion on basic technical concepts related to ICTs embedded in sociocultural context. Prec. 201 (or concurrent) or consent.
COM 331 Techniques of Video and Digital Cin-
ea (3) Orientation to techniques of production. Emphasis on history, language, and theory of the creative process and application to video productions and multimedia. Prec. 310 or consent.
COM 337 Technographics (3) Combined lecture-lab providing an orientation to, and examination of, procedures and techniques of multi-
media. Emphasis on new media literacy, human-computer interaction, and basic design of electronic multimedia. Prec. 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. Prec. COM major or consent. DS
COM 350 Mediated Interpersonal Communica-
tion (3) Theory and practice of interpersonal com-
munication from a sociocultural perspective. Prec. COM major or consent. DS
COM 390 (Alpha) Journalism/Communications Workshops (V) Short-term intensive workshops in journalism and mass communication skills and project work. Workshops are concurrent or pre-
workshop in reporting; (D) workshop in editing; (E) workshop in broadcast journalism; (F) workshop in public rela-
tions. Repeatable in different alphas up to 6 credits. COM majors only. Prec. consent. (Cross-
listed as JOUR 390)
COM 392 Emerging Topics in Communication (3) Emerging communication topics of interest to faculty and students. Repeatable one time on dif-
ferent topics, up to six credits. COM majors only. A-F only.
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 multiracial and multinational organizations is examined regarding communication-related aspects of working life. Pre: 320 and 340 or consent. DS

COM 421 Public Relations Strategies (3) Practice and effects of public relations. Strategic management, techniques, new communication technologies, 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 future public relations. COM majors only. A-F only.

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

COM 432 Social Media (3) Combined lecture-discussion or required use of live in various personal and institutional settings. A-F only. Pre: COM major or consent.

COM 433 Video Scriptwriting (3) Application of communication theory to creating and revising commercial and dramatic script material for video production. Pre: 331 or consent.

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

COM 438 Telecommunication in the Pacific Hemisphere (3) Development of international telecommunication emphasis on the evolution of wireless communication and the internet. A-F only. Pre: COM major or consent. DS

COM 444 Communication and Gender (3) Theories, myths, and the missing links in gendered communication. Application of established and emerging theories of gender and communication to interpersonal, organizational, intercultural, and mass communication. Pre: COM major and junior standing, or consent. DS

COM 451 Communication and Law (3) Role of communication in the legal process; impact of law on communication processes. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as JOUR 365) DS

COM 452 Building Communication Theory (3) Major theories of communication in terms of requirements for a theory, theory development, associated research, and application. Pre: COM major and junior standing, or consent. DS

COM 459 Special Topics (3) Topics of interest to faculty and students; taught by regular and visiting faculty. Repeatable on different topics to six credit hours. COM majors only. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as JOUR 459) DS

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

COM 475 Global Communication (3) Problems and opportunities of communication in a variety of international contexts. Focus on commerce, diplomacy, and mass communication. COM majors only. Pre: COM/JOUR major or consent. (Cross-listed as JOUR 475) DS

COM 476 Capstone in Digital Cinema Production (3) Creating, scripting, and producing complex programs. Media aesthetics and professional production preparation, presentation, and execution are emphasized.

COM majors only. A-F only. Pre: 310 and 320 and 330 and 331, or consent.

COM 477 Capstone in Interactive Multimedia Design and Development (3) Design, development, and evaluation of interactive computer-based multimedia communication. Emphasizes authoring and production of such multimedia elements as full-motion images, audio, and graphics. COM majors only. A-F only. Pre: 310 and 320 and 330 and 337, or consent.

COM 478 Capstone in Communication in Communities (3) Synthesize knowledge, apply research findings in service to community, and develop proposal for intervention or campaign. COM majors only. A-F only. Pre: 310 and 320 and 330; and 340 or 421; or consent.

COM 479 Capstone Project in ICTs and Policy (3) Focus on specific ICT and policy problems related to Hawai‘i and the Asia-Pacific region. COM majors only. A-F only. Pre: 310 and 320 and 330; and 432 or 438; or consent.

COM 480 Communication Seminar (3) Application of theoretic and methodological criteria to researchable questions. Topics will vary. Pre: 201 and senior standing, or consent.

COM 489 Communicating Creativity (3) The role of communication in fostering or inhibiting creativity. Exploration of theoretical bases for shared scientific or artistic creativity in communication research. COM major or consent. Pre: 201 and senior standing, or consent.

COM 490 Senior Thesis Project (3) Completion of the thesis project appropriate to the selected area of concentration within the context of a seminar. Emphasis on ongoing process of writing, editing, review, and revision. Pre: COM major and senior standing, or consent.

COM 495 (Alpha) Communication Internship (V) Application of communication skills and knowledge. (B) community setting; (C) School of Communication and Information. Under faculty supervision, interns participate in operations of an organization and analyze communication processes and effects. Maximum of three credits per semester; six credits total toward major; repeatable up to three credits. Pre: COM major or consent.

COM 499 Special Problems (V) Independent study of selected topics under faculty supervision. Repeatable up to three credits. Pre: COM major and junior standing, or consent.

COM 500 Master’s Plan B/C Studies (1) General research seminar in communication. Exploration of methodologies suitable for interdisciplinary analysis. Pre: consent.

COM 505 Communication and Digital Technologies (3) Systematic study of major theories of communication and current status of communication research. Pre: 612 Communication Inquiry (3) Introduction to inquiry and the array of quantitative and qualitative research methods commonly used in communication.

COM 612 Communication Inquiry (3) Communication and Information Sciences (V) Seminar reflecting research interests of faculty and interdisciplinary topics in communication and information sciences. Repeatable unlimited times. Graduate students only.

COM 613 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 660 ICT Policy and Planning (3) Technology concepts underlying data communications; information processing and computers; communication channels and networks; information storage and retrieval, and computer hardware and software. 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 699 Directed Reading and/or Research (V) Repeatable unlimited times.

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

CIS 702 Communication/Information Technologies (3) 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 704 Special Topics in Communication and Information Sciences (V) Seminar reflecting research interests of faculty and 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 between disciplines in social sciences, science and technology, and humanities. Faculty and student presentations. Repeatable unlimited times. CR/NCR only. Pre: consent.

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

CIS 800 Dissertation Research (V) Repeatable unlimited times.

Communication Sciences and Disorders (CSD) School of Medicine

CSD 431 Anatomy and Physiology of the Speech and Hearing Mechanism (3) Will overview anatomy and physiology of speech and hearing. Students gain exposure to structures and functions.
of respiration, phonation, resonance, articulation, deglutition, and hearing systems required for normal communication and swallowing. Repeatable unlimited times. A-F only. (Fall only)

CSD 432 Phonetics (3) Introduction to the fundamentals of phonetics and phonological development. International Phonetic Alphabet Transcription of English speech sounds; phonological developments and models; cultural variations; analysis interpretation and theoretical considerations related to speech sound development and production. Repeatable unlimited times. A-F only. (Fall only)

CSD 434 Acoustics and Psychoacoustics of Speech and Hearing (3) Introduction to the physical and psychological aspects of sound and their measurement. Repeatable unlimited times. A-F only. (Spring only)

CSD 435 Introduction to Clinical Methods in Communication Sciences and Disorders (3) Provides observation and discussion of the clinical management of individuals with communication disorders, and practical experience related to clinical procedures and requirements. Repeatable unlimited times. A-F only. (Spring only)

CSD 436 Introduction to Communication Sciences and Disorders (3) Information and theoretical foundations serve as an introduction to the field of communication disorders. Will provide an overview of the normal processes and disorders of speech, language, hearing, and swallowing. Repeatable unlimited times. A-F only. (Spring only)

CSD 437 Introduction to Audiology and Auditory Disorders (3) Covers anatomy and physiology of the inner, middle, and external ear; basic knowledge of auditory disorders and testing procedures, and introduction to rehabilitative audiology. Repeatable unlimited times. A-F only. (Summer only)

CSD 438 Basic Statistics for Health-Related Professionals (3) Provides students with an overview of normal distribution, central tendency, variability, sampling, hypothesis testing, frequency distribution, correlation, regression, and t-test. A-F only. (Spring only)

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

CSD 600 Research Methods (3) Research methods applicable to the field of speech-language pathology and audiology; analysis and reporting of data. Required of all CSD graduate students. Pre: previous coursework in inferential statistics and consent.

CSD 601 Neuroscience in Communication Sciences and Disorders (3) Explores the neuroanatomy and neurophysiology of the human nervous system as it relates to communication and swallowing and how neurological pathologies lead to behavioral deficits in those areas. CSD majors only. A-F only. (Fall only)

CSD 603 Audiological Foundations for Speech-Language Pathology (3) Instrumentation; special tests of hearing.

CSD 604 Seminar in Motor Speech Disorders (3) Provides in-depth examination of various motor speech disorders, including apraxia of speech and dysarthria. Emphasis is placed on assessment/treatment of these diagnoses. Review of current treatment literature, anatomy/physiology, practical exercises in treatment planning. A-F only. Pre: consent.


CSD 613 Language Development for Children with Hearing Deficiencies (3) Language acquisition by hard-of-hearing and deaf children; methods of stimulating language development and other considerations related to speech sound development and production. Repeatable unlimited times. A-F only. (Fall only)

CSD 616 Advanced Practicum in Speech Pathology I (3) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language disorders in different clinical settings. Repeatable unlimited times. Pre: consent.

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

CSD 622 Aplastic and the Development (3) Study of acquired aphasia in adults and the characteristics and progression of disorders of dementia. Procedures for clinical intervention, current literature review, and related professional issues. A-F only. Pre: consent.

CSD 695 Research-Speech Pathology I (3) Required of all CSD graduate students following the non-thesis (Plan B) program and emphasizing speech-language pathology. Repeatable three times. Pre: 600 and consent.

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

CSD 699 (Alpha) Directed Study (V) To allow student and faculty advisor to design research/study units outside existing academic structure in specialized area. Repeatable unlimited times. (B) language pathology: (C) CSD majors only. Pre: 603 for (C).

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

CSD 701 Amplification: Assessment and Applications (3) Comprehensive study of amplification. Assessment, fitting, evaluation, electroacoustic evaluation, dispensing, dispensing with emphasis on the auditory brainstem response. Pre: 603 or consent.

CSD 702 Disorders of Fluency (3) Contemporary developments in the areas of diagnosis, evaluation, and treatment of disorders of fluency such as stuttering in both children and adults.

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

CSD 708 Seminar in Right Hemisphere Brain Damage and Traumatic Brain Injury (3) Traumatic brain injury and right hemisphere communicative disorders are explored with emphasis on assessment and treatment of individuals with these diagnoses. Review of current treatment literature, communication and cognitive theories, and practical exercises in treatment planning. Pre: 602 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 and pediatric populations. A-F only. Pre: 601 (with a minimum grade of B-). (Summer only)

CSD 710 (Alpha) Special Topics in Audiology and Speech-Language Pathology (3) (B) study of contemporary developments in speech/language pathology; (C) study of contemporary developments in audiology. Repeatable for credit for different alpha unlimited times. Pre: consent.

CSD 716 Advanced Practicum in Speech Pathology II (6) Clinical practice in diagnostic and therapeutic procedures with various types of speech and language problems in different clinical settings. Repeatable unlimited times, credit earned for 12 credits only.

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

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 (6) Clinical practicum in therapeutic procedure with various types of speech and language problems in different clinical settings. Repeatable unlimited times, up to 18 credits.

CSD 725 Advanced Practicum in Audiology III (3) Clinical practice in administering tests and interpreting results, counseling of individuals with impaired hearing; use of various rehabilitation techniques. Repeatable unlimited times. Pre: 603, 617, 717, and consent.

Communicology (COMG)

COMG 151 Personal and Public Speech (3) Develops communication skills necessary to function effectively in today’s society. Students will enhance their ability to communicate in a variety of situations, public speaking, and small group situations. Ideal for new majors and non-majors. DA

COMG 170 Introduction to Nonverbal Communication (3) Begins with an overview of 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 individuals. Emphasis is on enhancement of skills in a variety of interpersonal contexts. DS

COMG 185 Multicultural Communication Skills (3) Expose students to practical skills needed for effective intercultural communication. Offer guidelines for improvement in diverse cultural settings such as business, education, counseling, and healthcare. DS

COMG 251 Principles of Effective Public Speaking (3) Combined lecture/laboratory providing extensive practice in preparing and 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) Introduction to the 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 Instructional Communication (3) Analysis of and practice in using major models of communication in the classroom. Role of communication in various academic disciplines as needed by teachers. Pre: one of 151, 170, 181, 185, 200, 251, or 301; or consent.

COMG 331 Professional Presentations (3) Extends application of public speaking skills to professional contexts: group sales, press conferences, and corporate annual reports. Emphasis on organization, preparation, and delivery. Pre: 251 or consent.
EDCS 450 Methods and Materials in Science (3)
Selecting and using methods and materials, demonstra-
tions and simulated experiences; framing, inquiry and
discovery, task analysis, measurement tools and tech-
niques, activities from various curricula, opportunity for individualized goals and projects. Repeatable two times. Pre: ITE 523, ITE 404(H), teaching experience or consent.
EDCS 451 Programs for Infants/Toddlers (3)
Examination of current theory, research, issues, and
practices in early childhood settings, including cri-
quencies, classroom organization, evaluative models for
problem solving. Pre: consent.
EDCS 494 Problem Solving in Mathematics Education (3)
Experiencing and learning to teach heuristics and problem-solving techniques; designing curricula, classroom organization; evaluative models for problem solving. Pre: consent.
EDCS 495 Difficulties in Learning Mathematics (3)
Identification, analysis, and remediation of difficul-
ties 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 of language in the social construction of knowledge within various disciplines, and cross-cultural perspectives. A-F only. Graduate students only. Pre: consent.
EDCS 601 Advanced Topics in Reading (3)
Current theories and teaching strategies of read-
ing throughout the lifespan within various social contexts. Topics include psychological, sociological, and cultural factors from 21st century literacies; emergent literacies; diversity; multilingual learners, formative assessment; state/national initia-
tives. Pre: student teaching or teaching experience or consent.
EDCS 602 Advanced Topics in Writing and Oral Language (3)
Current theories of and teaching strategies of writing and oral language throughout the lifespan within various social contexts. Focus on teaching writing and oral language as tools for learning and to demonstrate learning. Pre: student teaching or teaching experience or consent.
EDCS 603 Children’s Literature in the Elemen-
tary Curriculum (3) In-depth examination of tradi-
tional and current books/media; birth through
ite child, with emphasis on applications in
eds or other educational contexts. Focus on use of text and process, as they cross the curriculum. A-F only. Pre: student teaching or teach-
ing experience or consent.
EDCS 604 Effective Writing Practices (6) Analysis and practical application of principles and strategies of effective writing and reading instruction in K-12 classrooms. Pre: teaching experience and consent. (Summer only)
EDCS 605 Literacy Coaching and Leadership (3) Exploration and application of literacy specialist roles, includes consultation and providing resources, evaluating programs, and differentiating instruction. Provides an opportunity to assess and facilitate the development of literacy expertise. A-F only. Pre: consent.
EDCS 606 Introduction to Research in Curricu-
matic Education (3) An introduction to research designs which covers the fundamentals of qualitative, quantitative, action research, mixed methods, and curriculum based assessment. Explanatory, explanatory, and con-
firmatory research will be highlighted culminating in an outline for Plan B/Thesis proposal. (Cross-listed as DIS 606)
EDCS 607 New Literacies Leadership (3) New approaches to analyzing 21st century literacies K-12, including visual, media, digital, and critical literacies as well as developing leadership practices in multi-
literacies pedagogy. A-F only. Pre: EDCS 422 or consent.
EDCS 608 Literacies across the Disciplines, K-12 (3) Explores theoretical and practical principles of li-
teracy across academic disciplines K-12, investigating the role of language and literate practices of reading, writing, speaking, and representing in
social, cultural, and educational contexts. Graduate students only. A-F only.
EDCS 610 Early Career Teaching, K-12 (3) Fo-
cuses on research and practice related to the first five years of teaching. Emphasis recommended for begin-
ing teachers and graduate students interested in this
tage of teaching development. Repeatable one time.
EDCS 617 Early Literacy and Language Develop-
ment (3) Theory and practice for PK-3 early literacy and language development. Focus is on content knowledge and pedagogical strategies that support the
mental development of oral language, reading, and writing skills in PK-3 classrooms. A-F only. Pre: EDCS 404(H), teaching experience; or consent.
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 one time. A-F only. Pre: 415 and 416, or consent.
EDCS 619 Social and Cultural Constructions of Childhood (3) Seminar examines the intertwined socially constructed concepts of children and child-
hood and places them in the larger contexts informed by sociological, anthropological, historical, critical, and technological perspectives. A-F only. Graduate students only.
EDCS 622 (Alpha) Curriculum Leadership (3) Foundation for critical study of curriculum develop-
ment and improvement from the perspective of the teacher. Online/hybrid sections available; (B) early childhood; (D) middle school; (G) K-14. Pre: teaching experience or consent.
EDCS 623 Science and Science Curriculum, PK-
12 (3) Application of recent developments in science, curriculum development, and teaching theory to pre-service through post-service curriculum development that considers scientific philosophy, content and methodology stressed, including inquiry, nature of science and science
literacy. Repeatable one time.
EDCS 624 School Mathematics Curriculum (3) Analysis of research relating to teaching and learn-
ing school mathematics, application of research to
school classrooms. Appraisal of recent curriculum trends; critical examination of assumptions underlying proposed curriculum changes. Pre: teaching
experience or consent.
EDCS 625 Social Studies Curriculum (3) Ex-
amination 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
aches in art education; laboratory experiences in art
media. Pre: student teaching or teaching experi-
ence.
EDCS 628 Function of Play in Early Child-
hood Education (3) Review of research and theory
Evaluating 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 multiculturaleducation and promotes awareness, eradicating knowledge, and develops the skills necessary for multicultural practitioners. A-F only. (Cross-listed as EDEF 630)
DNCE 302 Chinese Dance I (1) Performance and techniques at the introductory level. DA
DNCE 303 Japanese Dance I (1) Performance and techniques at the introductory level. DA
DNCE 304 Indonesian Dance I (1) Performance and techniques at the introductory level. DA
DNCE 305 Korean Dance I (1) Performance and techniques at the introductory level. DA
DNCE 306 Okinawan Dance I (1) Performance and techniques at the introductory level. DA
DNCE 307 Philippine Dance I (1) Performance and techniques at the introductory level. DA
DNCE 311 Oceanic Dance I (1) Performance and techniques at the introductory level. DA
DNCE 312 Hula/Chant Ensemble I (2) Ancient style. Pre: upper division standing or consent. A-F only. (Cross-listed as MUS 312) DA
DNCE 321 Intermediate Ballet Technique (3) Intermediate ballet technique. Repeatable four times. Pre: 222 or consent. DA
DNCE 331 Intermediate Modern Dance Technique (3) Intermediate modern dance technique. Repeatable four times. Pre: 232 or consent. DA
DNCE 334 Taiji (Tai Chi) for Actors I (3) Basic Taijiquan (Tai Chi Chuan) movement training. Repeatable two times. Pre: sophomore standing or higher, or consent. (Cross-listed as THEA 334) DA
DNCE 353 Scene I: Beginning Scene Design (3) Workshop on 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 ordinarily required for production experience option) (Cross-listed as THEA 353) DA
DNCE 354 Introduction to Costume Construction (4) Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as THEA 354) DA
DNCE 356 Costumes I: Beginning Costume Design (3) Basic principles and approaches to costume design and construction. Pre: DNCE 221, Visual communication methods, creative process, historical research, and organizational practices. Repeatable one time. Pre: 250, THEA 240, or consent. (Cross-listed as THEA 356) DA
DNCE 360 Dance Kinesiology (3) Practical information for dance students on diet and nutrition, anatomy, training and conditioning, and injury prevention. Pre: 260 or consent. DA
DNCE 361 Elementary Labanotation (3) Elementary theory of Labanotation with practical application in scoring and reconstructing dances. Pre: 151 or MUS 280, or consent. (Alt. years) DA
DNCE 362 Visual Media for Dance (3) Introductory theory of visual design for dance with practical applications in documentation and performance. Pre: 361 or consent. (Alt. years) DA
DNCE 370 Dance Improvisation (3) 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 dance technique (or concurrent) or above, or consent. DA
DNCE 371 Beginning Labanotation I (3) Elementary techniques and theories for creating and crafting concert dances. Pre: 370 or consent. DA
DNCE 372 Dance Composition II (3) Intermediate and theories for creating and crafting concert dances. Pre: 371 or consent. DA
DNCE 401 Asian Dance II (V) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 301 or consent. DA
DNCE 402 Chinese Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 302 or consent. DA
DNCE 403 Japanese Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 303 or consent. DA
DNCE 404 Indonesian Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 304 or consent. DA
DNCE 405 Korean Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 305 or consent. DA
DNCE 406 Okinawan Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 306 or consent. DA
DNCE 407 Philippine Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 307 or consent. DA
DNCE 411 Oceanic Dance II (1) Performance and techniques at intermediate level. Repeatable up to eight credits. Pre: 311 or consent. DA
DNCE 412 Hula/Chant Ensemble II (2) Ancient style. Pre: 312 or consent. (Cross-listed as MUS 412) DA
DNCE 421 Advanced Ballet Technique (3) Advanced ballet technique. Repeatable six times. Pre: 321 or consent. DA
DNCE 431 Adv. Modern Dance Technique (3) Advanced modern dance technique. Repeatable six times. Pre: 351 or consent. DA
DNCE 433 Movement Workshop (V) Special workshops in movements relating to specific departmental theatrical productions beyond the scope of movement taught in 435 and 438. Repeatable one time. Pre: one of 435, 437, or 438. (Alt. years) (Cross-listed as THEA 433) DA
DNCE 434 Taiji (Tai Chi) for Actors II (3) Intermediate-level Taijiquan (Tai Chi Chuan) movement training classes. Pre: 334 or consent. (Cross-listed as THEA 434) DA
DNCE 435 Movement for Actors (3) Training actors to discover experientially the sources of movement; to teach skills for analyzing movement for its mechanical, anatomical, spatial, and dynamic content; and then to apply these skills in a role. Pre: THEA 222 or consent. (Cross-listed as THEA 435) DA
DNCE 436 Advanced Movement for Actors (3) Detailed development of material presented in 435. Focus on Bartenieff fundamentals and movement analysis as it applies to the physical interpretation of theatrical roles. Pre: 435 or THEA 435, or consent. (Alt. years) (Cross-listed as THEA 436) DA
DNCE 437 Period Movement Styles, 1450-1650 (3) Movement styles and social department of European societies in the Renaissance and early Baroque periods. Pre: 435 or THEA 435, one semester of a 100-level dance technique class; or consent. (Alt. years) (Cross-listed as THEA 437) DA
DNCE 438 Period Movement Styles, 1650-1800 (3) Movement styles and social department of the Baroque and pre-Romantic periods in Europe and the American colonies. Pre: 435 or THEA 435, one semester of a 100-level dance technique class; or consent. (Alt. years) (Cross-listed as THEA 438) DA
DNCE 439 Musical Theater Dance Forms (3) Theatrical dance forms used in 20th-century musical theater. Pre: 100 level or above dance technique class, 421, or consent. (Alt. years) (Cross-listed as THEA 439) DA
DNCE 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, historic research, and pattern modification, millinery and crafts, within the context of current industry practice. Repeatable two times. A-F only. Pre: 354, 356, or consent. (Cross-listed as THEA 446) DA
DNCE 452 Dance History I: From Ritual to the Concert Stage (3) Development of Western theatrical dance from Ancient Greece through 19th-century ballet. Pre: upper division standing or consent. DH
DNCE 453 Dance History II: 20th Century to the Present (3) Development of modern dance, contemporary ballet, and dance forms of musical theater and film. Pre: upper division standing or consent. DH
DNCE 456 Costumes II: Intermediate Costume Design (3) Advanced design for theatre and dance. Introduction to collaborative process in costume. Intensive work on rendering skills, applied to various design problems. Cost analysis and organizational techniques. Pre: 356 or consent. (Cross-listed as THEA 456) DA
DNCE 458 Field Experiences in Dance (V) Field experiences in relevant contexts under professional and faculty supervision. Repeatable one time. CR/NC only. Pre: upper division standing and consent. DA
DNCE 459 Topics in Dance (V) Readings, research, and/or field and movement experiences. Repeatable if topics change unlimited times. Pre: upper division standing and consent. DA
DNCE 460 Teaching Dance Technique (3) Principles, techniques, and materials used in the teaching of dance technique. A-F only. Pre: 260, and 221 or 231; or consent of instructor. DA
DNCE 470 Dance Performance (1) Performance in various dance styles and settings. Repeatable eight times. Pre: audition or consent. DA
DNCE 480 Dance Repertory (V) Preparation of standard and new dance performance. Repeatable three times. Pre: consent. DA
DNCE 490 Creative Dance (3) Dance activities for young people. Appropriate for teachers, group workers, recreation majors, and others working with children. Also adults with special needs. Supervised field activities. DA
DNCE 495 Senior Project (1) Individual choreographic project; student choreographs, performs, and oversees all technical aspects of a creative project; tutors in choreography. A-F only. Pre: 372, senior standing, and consent. DA
DNCE 499 Directed Work (V) Individual projects, tutorial. Pre: consent. DA
DNCE 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent. DA
DNCE 617 Seminar in Performance Studies (3) Special topics. Repeatable up to two times when topic changes. Pre: 615 or consent. (Cross-listed as THEA 617) DA
DNCE 651 Seminar in Dance Research (3) Research materials and methods; preparation for thesis and scholarly research reporting. Required for graduate concentration in dance. Pre: consent. DA
DNCE 652 Seminar: Dance Theory and Criticism (3) Major theories of dance and dance criticism; emphasis on Western ideas. Pre: 452 and 453, or consent. DA
DNCE 653 Dance Ethnology Seminar (3) Exemplary studies and field research. Pre: graduate standing or consent. (Alt. years) DA
DNCE 654 Dance and Performance Theory: Asia (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years) DA
DNCE 655 Dance and Performance Theory: Oceania (3) Dance content and historico-social context of principal dance traditions. Pre: graduate standing or consent. (Alt. years) DA
DNCE 659 Advanced Topics in Dance (V) Readings, research, and/or field movement experiences. Repeatable one time if topic changes. Pre: graduate standing or consent. DA
DNCE 660 Laban Movement Analysis (3) Study and application of Laban Movement Analysis as a framework for enhancing analytical and artistic abilities. Pre: 260 (or concurrent) and 360 (or concurrent); or consent. DA
DNCE 671 Advanced Choreography (3) Advanced analytic and creative study. Pre: 572 or consent. (Alt. years) DA
DNCE 672 Dance Performance (V) Graduate performance in various dance styles and settings. By audition only. Repeatable six times. Pre: consent. DA
DNCE 676 Seminar in Choreographic Methods (3) Graduate level course designed for students with prior choreographic experience. Students will research, create, revise, and perform new works based
on a variety of chorographic methodologies. Repeatable 
one time. Pre: 371, 372; or consent. (Alt. years)
DNCE 679 Directed Chorography (1) Concert performance for selected setting under the 
direction of a faculty advisor. Repeatable six 
times. Pre: consent (or concurrent) or 671 (or concurrent), or consent.
DNCE 691 Seminar in Teaching Dance/Theater 
(3) Pedagogy and classroom experience in teaching 
techniques and theory. (Alt. years) (Cross-listed as 
THEA 691)
DNCE 692 Practicum in Teaching (V) Supervised 
teaching experience at the introductory or under-
graduate level. Students will teach an appropriate 
level course or course module under faculty 
supervision. Repeatable up to nine credits. THEA 
or DNCE majors only. (Cross-listed as THEA 692)
DNCE 693 Internship: Youth Theater/Dance 
(V) Supervised leadership experiences in dance/ 
theater program with children. Students spend nine 
hours per week in supervised setting and three hours 
in weekly class meeting. Pre: 490, THEA 470, or 
THEA 476/7; or consent. (Cross-listed as THEA 693)
DNCE 699 Directed Reading and Research (V) 
Individual project/ tutorial. Repeatable up to six 
credits. Pre: consent.
DNCE 700 Thesis Research (V) Repeatable unlim-
ited times.

Dental Hygiene (DH) 
School of Nursing and Dental Hygiene 
Dental hygiene courses must be taken in sequence and 
are open only to those admitted to the program by 
the Department of Dental Hygiene.
DH 231 Oral Anatomy and Tooth Morphology 
(2) The study of the structures and functions of the 
head and neck with emphasis on structures in or 
related to the oral cavity; of tooth morphology. Repeat-
able one time. A-F only. Pre: BIOC 241, PHYL 103, 
PHYL 103L or equivalent. Co-requisite: 231L. DB
DH 231L Oral Anatomy and Tooth Morphology 
Lab (2) (3-hr Lab) Application of DH 231 didac-
tic concepts to laboratory activities and practices. 
Repeatable one time. A-F only. Pre: BIOC 241, 
PHYL 103, PHYL 103L or equivalent. Co-requisite: 
231L. DY
DH 238 Basic Dental Hygiene I (2) Relationship to 
dentistry, problems, trends, issues; role and func-
tions of dental hygienists in prevention and control of 
chronic oral diseases. Introduction to initial and daily dental hygiene 
clinical and support procedures including vital signs, 
team concepts in dentistry. Repeatable one time. A-F 
only. Pre: 238 and 239L. DY
DH 239L Basic Dental Hygiene I Lab (1) Ap-
plication of preliminary dental hygiene clinical and 
support procedures including instrumentation, vital 
signs, and team concepts in dentistry. Repeatable one 
time. A-F only. Co-requisite: 238 and 239L. DY
DH 240 Basic Dental Hygiene II (2) Basic dental 
hygiene theory and skills including competencies in 
health history taking, examination, patient care plan, 
oral prophylaxis, application of caries preventive 
agents, plaque control, and clinic support procedures. A-F 
only. Pre: 238, 239L and 239L. Co-requisite: 240L, 
241L and 242L. DB
DH 240L Basic Dental Hygiene Lab/Clinic (1) 
(4-hr Lab/Clinic) Laboratory and clinical experi-
ences in basic dental hygiene skills and competencies 
included history taking, examination, patient care 
plan, oral prophylaxis, application of caries preven-
tive agents, and clinic support procedures. A-F only. 
Co-requisite: 238, 239L, and 239L. Co-requisite: 240L, 
241L, and 242L. DB
DH 241L Basic Dental Hygiene Lab/Clinic (1) 
(6-hr Lab/Clinic) Laboratory and clinical experi-
ences in basic dental hygiene skills and competencies 
included history taking, examination, patient care 
plan, oral prophylaxis, application of caries prevent-
tive agents, and clinic support procedures. A-F only, 
Pre: 238 and 238L. Co-requisite: 240, 240L, and 
242L. DY
DH 242L Basic Dental Hygiene Lab/Clinic (1) 
(4-hr Lab/Clinic) Laboratory and clinical experi-
ences in basic dental hygiene skills and competencies 
included history taking, examination, patient care 
plan, oral prophylaxis, application of caries prevent-
tive agents, and clinic support procedures. A-F only, 
Pre: 238 and 238L. Co-requisite: 240, 240L, and 242L. DY
DH 250 General and Oral Histology and Embry-
ology (2) Cells and tissues and their embryologic 
origin, with particular reference to teeth and their 
supporting structures. Pre: 231 (or concurrent). (Fall 
only) DB
DH 251 General and Oral Histology and Embry-
ology (1) Continuation of 250. Pre: 250. (Spring 
only) DB
DH 281 Dental Radiography (3) Basic principles of 
radiation and fundamental information to under-
stand and safely use radiation in dental radiography. 
A-F only. Repeatable one time. Pre: 231. Co-requi-
site: 281. 281L and 281L.
DH 361 Health Education and Promotion (2) 
Provides an overview of the concepts and application 
of health education and health promotion theories and 
principles as applied to individuals, groups and 
the larger public. Pre: open to non-nursing majors 
with consent. (Fall only) (Cross-listed as NURS 361)
DH 366 General and Oral Pathology (2) Nature 
and causes of disease, progress and termination or 
associated alteration of tissue, disease affecting teeth 
and structures of oral cavity. Pre: 250 and 251 (or 
concurrent). (Spring only) DB
DH 367 General and Oral Pathology (1) Continu-
ation of 366. Pre: 366. 367L and 367L.
DH 369 Dental Materials (1) Science of dental 
materials and its application to dentistry and dental 
hygiene. Repeatable one time. A-F only. Pre: 231. 
Co-requisite: 369L.
DH 369L Dental Materials Lab/Clinic (1) Labora-
tory and clinical application of concepts in the 
science of dental materials. Repeatable one time. A-F 
only. Pre: 231. Co-requisite: 281L. 369L.
DH 380 Clinical Dental Hygiene II (2) Continua-
tion of 375. Pre: 375. (Spring only) DB
DH 381L Clinical Dental Hygiene II Clinic (1) 
(6-hr Clinic) Continuation of 375L. Clinical applica-
tion of dental hygiene concepts and skills; emergency 
procedures; team approach to dentistry; planning, 
implementing, and evaluating oral hygiene care to 
patients. A-F only. Pre: 375L. Co-requisite: 380L, 
380L, and 381L.
DH 382L Clinical Dental Hygiene II Clinic (1) 
(6-hr Clinic) Continuation of 375. Clinical applica-
tion of dental hygiene concepts and skills; emergency 
procedures; team approach to dentistry; planning, 
implementing, and evaluating oral hygiene care to 
patients. A-F only. Pre: 375L. Co-requisite: 380L, 
380L, and 381L.
DH 389 Pain Control and Local Anesthesia in 
Dentistry (2) Basic concepts of pain control and lo-
cal 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 periodon-
tium, etiology, pathogenesis, clinical manifestations 
and epidemiology of periodontal diseases, and mode 
DH 391 Periodontology II (2) Continuation of 
DH 390. Normal Periodontium, etiology, patho-
gensis, clinical manifestations and epidemiology 
of periodontal diseases, and mode of periodontal 
(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, commu-
nity agencies, and private dental offices (inclusive of 
problem assessment, planning, implementation and 
evaluation processes); epidemiology and biostatistics. 
A-F only. Pre: 361L. (Fall only) 377L.
DH 475 Advanced Clinical Dental Hygiene II (2) 
An in-depth knowledge and clinical application of 
expanded function in periodontics with emphasis on 
principles, techniques, procedures in pain-anxiety 
control, soft tissue curettage, and factors that affect 
modification of behavior. Repeatable one time. A-F only. 
Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 
475L, 476L, 477L, and 477L. (Fall only) DB
DH 475L Advanced Dental Hygiene I Clinic A 
(1) Application of knowledge of expanded functions 
in periodontics with emphasis on principles, tech-

Key to symbols & abbreviations: see the first page of this section.
niques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modifications of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 475L, 476L, 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 modifications of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 475L, 476L, and 478L. (Fall only)

DH 477L 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 modifications of behavior. Repeatable one time. A-F only. Pre: 380/380L, 381L, 382L, and 391. Co-requisite: 475, 475L, 476L, and 478L. (Fall only)

DH 480 Advanced Clinical Dental Hygiene II (2) In-depth knowledge development of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modifications in 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 (1) (1 hr Clinic) Application of knowledge of expanded functions in periodontics with emphasis on principles, techniques, procedures in pain-anxiety control, soft tissue curettage, host factors, and modification of behavior. Repeatable one time. A-F only. Pre: 475/475L, 476L, 477L, and 478L. Co-requisite: 480L, 481L, 482L, 483L. (Spring only)

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

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

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

DH 485 Stem Cell Biology (3) Seminar designed to teach graduate students and advanced undergraduates about current topics relating to stem cell biology, as well as the application of stem cells to modern medicine. A-F only. Pre: BIOL 275 and PHYI 604, or consent. (Spring only)

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

DRB 692 Research Rotation (3) Introductory laboratory 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)

Disability and Diversity Studies (DIS) 380 Foundations in 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.

Disability and Diversity Studies (DIS) 382 Accessible Learning Technology (3) Focuses on creating accessible technology and instructional media, developing long-term resources, advancing accessibility for both students and instructors, and using case studies as examples of good practices. A-F only.

Disability and Diversity Studies (DIS) 383 Disability History and Culture: From Homer to Hip Hop (3) How have people over many centuries viewed and categorized geographical and temporal perspectives perceived and treated individuals with disabilities? An overview of the history of the conditions in which people with disabilities lived. A-F only.

Disability and Diversity Studies (DIS) 605 Field Experience in Research in Curriculum and Teaching (3) Classroom-based research covers the fundamentals of qualitative, quantitative, Action Research, mixed methods, and Curriculum Based Assessment. Each topic is explanatory, and formative research will be highlighted culminating in an outline for Plan B/Thesis proposal. (Cross-listed as EDCS 605)

Disability and Diversity Studies (DIS) 678 Practicum in Applied Behavior Analysis (V) Supervised field-based behavior analysis. The format is a combination of fieldwork and seminar meetings. Repeatable four times or up to 15 credits. A-F only.

Disability and Diversity Studies (DIS) 681 Multicultural Issues in Disabilities (3) Provides background and understanding of various Pacific Rim cultural issues in the conceptualization and treatment of individuals with disabilities and their families. A-F only.

Disability and Diversity Studies (DIS) 682 Special Topics in Disability and Diversity Studies (3) Explores disability and diversity across time to gain an understanding and context of issues such as difference, culture, identity, community, privilege, and oppression and how the past affects the present and future. Repeatable two times. A-F only.

Disability and Diversity Studies (DIS) 683 Interdisciplinary Disability and Diversity Issues (3) Develop understanding of current issues faced by individuals with disabilities and their families within the disability paradigm and across cultures.

Disability and Diversity Studies (DIS) 684 Interdisciplinary Team Development (3) Develop knowledge and skills to participate effectively on interdisciplinary teams for the common goal of promoting service integration and coordination of education, social, health, mental health, and other services with individuals with disabilities and their families. A-F only.

Disability and Diversity Studies (DIS) 685 Interdisciplinary Assessment (3) Assessment methods and techniques to instructional research-based practices and supports across disciplines, cultures and PK-12 that address barriers to learning for all students with the context of the Comprehensive Student Support System (CSSS). A-F only.

Disability and Diversity Studies (DIS) 688 Seminar on Disability Issues (3) In-depth explorations of current and compelling interdisciplinary topics related to advancing the social, political, educational, and economic integration of individuals with disabilities of all ages. A-F only.

Disability and Diversity Studies (DIS) 689 Field Experience/Field Work (3) Interdisciplinary community experience and portfolio in disability and diversity studies. Repeatable three times. A-F only.

Disability and Diversity Studies (DIS) 699 Directed Research (3) Repeatable unlimited times. A-F only. Pre: consent.

Disability and Diversity Studies (DIS) 780 Mixed Methods Research Design (3) Mixed methods research is designed for PhD and masters students in education and social sciences considering combining qualitative and quantitative research. Covers philosophical and practical implications of including a mixed methods dissertation/thesis proposal. Repeatable one time a year. (Cross-listed as EDCS 780 and LTEC 780)

East Asian Languages and Literatures (EALL)

East Asian Languages and Literatures (EALL) 214 Introduction to Chinese Language and Culture (3) Provides students with interesting perspectives on and some general knowledge of Chinese language, literature, and culture. DH

East Asian Languages and Literatures (EALL) 271 Japanese Literature in Translation—Traditional (3) Survey of all major forms from the earliest era to mid-19th century. DL

East Asian Languages and Literatures (EALL) 272 Japanese Literature in Translation—Modern (3) Survey from mid-19th century to present. DL

East Asian Languages and Literatures (EALL) 273 Survey of Japanese Literature—KIC (3) Survey of traditional and modern Japanese literature in translation, covering all major genres. Only offered at Konan University in Japan. Not open to students with 271 or 272 DL.

East Asian Languages and Literatures (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

East Asian Languages and Literatures (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

East Asian Languages and Literatures (EALL) 325 (Alpha) Japanese Film: Art and History (3) Study and analysis of Japanese film; its history and relationship to cultural, social, philosophica l, and aesthetic contexts. (B) 1900-1960; (C) 1960-present; (D) special topics. Pre: upper division standing or consent. (Cross-listed as ASAN 325) DH

East Asian Languages and Literatures (EALL) 330 Film: Art and History (3) Study and analysis of Chinese film; its history and relationship to cultural, social, philosophical, and aesthetic contexts. (Cross-listed as ASAN 330) DH

East Asian Languages and Literatures (EALL) 360 Literary Traditions of East Asia (3) Selected works of Chinese, Japanese, and Korean literature in English; relationships and parallels. Pre: one DH or DL course, or consent. DL

East Asian Languages and Literatures (EALL) 361 Chinese Literature: Ancient (3) Survey of all major genres from antiquity until the ninth century. Pre: one DH or DL course, or consent. DL

East Asian Languages and Literatures (EALL) 362 Chinese Literature: Pre-modern (3) Survey of all major genres from the ninth into
the 20th-century. Pre: one DH or DL course, or consent. DL
EALL 363 (Alpha) 20th-Century Chinese Literature and Culture (3) Survey of 20th-century Chinese literature in translation. Includes a variety of genres from the People’s Republic of China, Taiwan, and Hong Kong. (B) 1919–1949; (C) 1949–present. Pre: one DH or DL course, or consent. DL
EALL 364 20th-Century Chinese Women Writers (3) A survey of selected works of contemporary Chinese women writers from China, Taiwan, and Hong Kong. Traces a genealogy of women’s writing from the early 1920s up until now through novels, poetry, drama, and film. Pre: one DH or DL course, or consent. (Cross-listed as ASAN 364 and WS 346) DL
EALL 365 (Alpha) Traditional Chinese Fiction in Translation (3) Survey of pre-modern Chinese fiction in translation, (B) short story, (C) novel. Pre: one DH or DL course, or consent. DL
EALL 366 The City in Modern Chinese Literature and Visual Arts (3) Study of the fictional and visual representations of the city in the changing contexts of Chinese modernization from the late imperial age to the beginning of the 21st century. Pre: one DH or DL course, or consent. (Once a year) DH
EALL 371 (Alpha) Traditional Japanese Literature (3) Reading and analysis of English translations of selected important works in the classical tradition. No knowledge of Japanese required: (B) prose fiction and literary miscellany; (C) drama and poetry. DL
EALL 372 (Alpha) Modern Japanese Literature (3) Reading and analysis of English translations of selected important works in modern Japanese literature. No knowledge of Japanese required: (B) fiction; (C) poetry, drama, and criticism. DL
EALL 375 Topics in Japanese Cultural Studies (3) Multi-disciplinary and historically located study of Japanese culture through the examination of literary and visual texts. Specific topics will depend upon the term. Repeatable one time with consent. Pre: one DH or DL course, or consent. (Alt. years) DL
EALL 384 Modern Korean Women Writers and Culture (3) Study of fiction by modern Korean women writers in the changing context of Korean culture. A-F only. Pre: sophomore standing or higher.
EALL 472 East-West Cultural Encounters (3) Critical examination of encounters between Western and East Asian cultures across time. In addition to literary texts, the course will examine 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 Topics in Chinese Cultural Studies: Visual Cultures (3) Multi-disciplinary and historically located study of Chinese culture through the examination of literary/visual texts and critical essays from cultural studies. Specific topics will depend upon term. Repeatable one time with consent. Pre: any 300- or 400-level DL or DH course. (Cross-listed as ASAN 473) DH
EALL 474 Transnational Chinese Popular Culture (3) Survey of 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 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: previuous history in language, linguistics, or languages. Repeatable one time. Pre: consent.
EALL 601 Current Issues in East Asian Language Pedagogy (3) Survey on East Asian language pedagogy designed to develop students’ familiarity with and facility in addressing the major issues, initiatives and innovations in the field. Pre: graduate standing or consent.
EALL 602 Introduction to East Asian Linguistics (3) Introduction to cross-linguistic comparison of the writing systems, dialects, history, phonology, morphology, and syntax of Chinese, Japanese, and Korean. Pre: CHN 451 and 452, or JPN 451, or KOR 451 and 452; or consent. (Once a year) EALL 603 (Alpha) Bibliographical and Research Methods (3) Traditional and modern references and other library materials in all areas of East Asian studies: (C) Chinese; (J) Japanese; (K) Korean. Pre: CHN 402 for (C); JPN 407 (alpha) for (J); KOR 402 for (K).
EALL 611 Topics in 20th Century Chinese Literature 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 ASAN 612)
EALL 647 Contemporary Chinese Documentary Records, Expression, Cultural Space (3) Introduction to contemporary Chinese independent documentary with these goals: to achieve in-depth understanding of Chinese society through documentary; to be familiar with theoretical debates on documentary form; and understand documentary as a cultural discourse. Pre: 473 or 476, or instructor consent. (Alt. years: fall)
EALL 665 Special Topics in East Asian Literary Culture & Society (3) In-depth study of selected topics and issues in contemporary East Asian literary and cultural studies using an interdisciplinary, inter-regional, and transnational approach, from an intercultural perspective. Repeatable two times in different topics, but need consent for second repeat. A-F only. Pre: consent. (Cross-listed as ASAN 665)
EALL 691 Introduction to Classical Tibetan (3) Introduction to Classical Tibetan grammar and vocabulary with emphasis on the earliest Tibetan texts; reading and analysis of pre-classical, classical and postclassical texts.
EALL 699 Directed Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.
EALL 700 Thesis Research (V) Repeatable unlimited times.
EALL 735 Seminar in Comparative East Asian Literature (3) Comparisons, modes, topics, and genres in poetry and prose; theoretical and practical criticism. Pre: consent.
EALL 750 Seminar in Comparison of East Asian Languages (3) Comparison of lexicon, phonology, morphology, syntax, semantics, etc., of two or more East Asian languages and contact influence on them. Pre: CHN 451, CFI 452, or JPN 451; or consent.
EALL 800 Dissertation Research (1) Repeatable unlimited times.
ECON 120 Introduction to Economics (3) Development of supply and demand model 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 macroeconomic market structures on society. DS
ECON 131 Principles of Microeconomics (3) An introduction to microeconomics—study of the overall economy. Topics include the determination of national income, causes and consequences of 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 balances, exchange rate fluctuations, and balance of payment crises. DS
ECON 300 Intermediate Macroeconomics (3) Develops basic techniques and fundamental concepts used to study the overall macroeconomy and policies that affect it. Study the determinants of national income and long-run growth; causes and consequences of unemployment, inflation, and business cycle fluctuations; determination of foreign exchange rates and current account balances, and the role of government policy in various settings. Pre: 131 or consent. DS
ECON 301 Intermediate Microeconomics (3) Develops basic techniques and fundamental concepts of microeconomics theory: learn to use economic reasoning to understand the social consequences of decisions made by individual consumers, producers, and governments. Analyze how market outcomes under alternative market structures, and further discuss possible welfare-improving government policies when markets fail to be efficient. Special attention is given to the analysis of strategic behavior and markets with public goods and externalities. Pre: 130 or consent. DS
ECON 311 The Economy of Hawai‘i (3) History of development of Hawaiian economy; current economic problems. Pre: 120, 130, or 131; or consent. DS
ECON 317 The Japanese Economy (3) Analysis of Japan’s growth past and present. Does Japan’s economy look different in terms of its international trade structure, industrial structure, labor market, savings patterns, government policies, etc.? Does it matter? Pre: 120 or 130, or consent. DS
ECON 320 Introduction to Tourism Economics (3) Examine 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, the role of government, government’s role in the taxation, subsidy, regulation and protection of the tourism industry, tourism’s impact on the environment, and sustainable tourism development. Pre: 120 or 130 or 131; consent. (Cross-listed as TIM 320) DS
ECON 321 Introduction to Statistics (3) Basic elements; descriptive statistics, probability, inference, distributions, hypothesis testing, regression, and correlation analysis. DS
ECON 332 Economics of Global Climate Change (3) Nature and causes of global climate change and economic solutions. Topics include valuing climate change impacts, energy solutions, environmental implications, societal adaptation, and international cooperation. A-F only. Pre: 120 or 130 or consent. (Once a year) DS
ECON 336 Energy Economics (3) Analysis of economic and policy aspects of energy, 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 deregula-
tion; and financial crises. Pre: 120, 130, or 131; or consent.
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 economic theories 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 political 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, marriage, financial and social networks; and the political and economic consequences of the internet and other large networks. Pre: 120 or 130 or 131. DS
ECON 366 Games and Economic Behavior (3) Introduces students to the study of strategic behavior with applications to economics, business, and public policy. Simple economic models of strategic decision making are used to analyze provision of public goods; competition, cooperation, and coordination among firms; bargaining between employers and labor unions; international trade negotiations; reputation as a competitive advantage; and others. Pre: 120, 130, or 131; or consent. DS
ECON 358 Environmental Economics (3) Nature and causes of environmental degradation/ecological 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.
ECON 361 Seminar: Women and International Development (3) Women’s role, status, work and treatment in the Third World; economic development, changing work/family roles, and improvement/deterioration in gender equity across the Third World; global economic policies and 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 Economic Globalization (3) Political economy of the world trading system. Case studies of trade cooperation and conflict under the World Trade Organization and other institutions. Future challenges, including investment policies, environmental and labor standards. Pre: 120, 130 or 131; or consent. DS
ECON 390 Internship for Economics (V) Economics majors and minors work at paid positions with private agencies, 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. Students combine academic work with practical 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 131; or consent.
ECON 399 Directed Reading (V) Economics majors and minors participate in faculty supervised reading of economic literature. Enables students to self-study topics not covered in the department’s scheduled course offerings. Repeatable one time. Pre: consent.
ECON 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 conservation, 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 development, and specific crises. Pre: 120, 130, or 131; or consent. DS
ECON 414 Global Economic Crisis and Recovery (3) Causes and consequences of financial and economic downturns. Topics include: macroeconomic and regulatory policy responses; recovery challenges. Pre: 120, 130, or 131; or consent. DS
ECON 415 Asian Economic Development (3) Historical case studies and discussions of current events. Resources, growth, poverty, population, water resources, traffic congestion, and consumption patterns. Role of government and private enterprise. Pre: 120, 130, or 131; or consent. DS
ECON 416 The Chinese Economy (3) The Chinese economy during the imperial and republican periods, under Mao, and into the present reform era, with a brief comparison to Taiwan and Hong Kong. Pre: 120 or 130. DS
ECON 418 Pacific Island Economies (3) Historical and current economic development of the Pacific islands (excluding Hawai‘i). Analysis of selected economic issues: population growth, etc. Pre: 120, 130, or 131; or consent.
ECON 420 Mathematical Economics (3) Mathematical techniques applied to theories of the consumer, the firm, markets. Linear programming, input-output analysis. Pre: 300, 301; MATH 205, MATH 215, MATH 241, or MATH 251A. DS
ECON 425 Introduction to Econometrics (3) Regression analysis, analysis of variance, hypothesis testing, problems in estimation of single equation models, simultaneity problems and methods of estimation. A-F only. 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 models of seasonal, and cyclical components, multivariate regression modeling, and forecast evaluation. A-F only. 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 429 Spreadsheet Modeling for Business and Economic Analysis (3) Introduction to quantitative decision-making methods for effective business management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution, and interpretation and presentation of results. Pre: 130 or NREM 220, and 321 or NREM 310; or consent. (Once a year) (Cross-listed as NREM 429 and TPSS 429) DS
ECON 436 Resource and Environmental Economics (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). Pre: 301 or 302. 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 critical analysis of monetary and macroeconomic theory and policy. Topics include the causes and consequences of inflation, optimal monetary policy and international monetary systems, bank risk and insurance, and national debt and taxation. Pre: 300 or 301 or consent. DS
ECON 442 Development Economics (3) Theoretical and empirical analysis of economic development. Emphasis on analyzing key issues facing today’s developing world. Topics include characteristics of underdeveloped economies, economic growth, structural change, poverty, inequality, education, population growth, foreign aid and financial sector. Pre: 300 or 301, or consent. DS
ECON 450 Public Economics (3) Welfare economics, public expenditure and policy evaluation, public finance, tax and debt and tax policy. Pre: 301. DS
ECON 452 State and Local Finance (3) Fiscal institutions, operations, and policy questions within state and local governments in U.S. grant programs and other links with central government. Pre: 301. DS
ECON 458 Project Evaluation and Resource Management (3) Principles of project evaluation and policy analysis. Shadow pricing, economic cost of taxes and tariffs; public policy for exhaustible, nonrenewable, and environmental resources. Pre: 301. DS
ECON 460 International Trade and Welfare (3) Theory of international specialization and exchange; general equilibrium, tariffs, quotas, common market, and trade. Pre: consent.
ECON 461 International Macroeconomics (3) The determination of output, price levels, exchange rates and the balance of payments for economies that are integrated with the global economy; theory and application to historical and/or contemporary policy issues. Pre: 300. DS
ECON 470 Industrial Organization (3) Theoretical and empirical analysis of contemporary topics in industrial organization. Uses economic theory to analyze important issues facing firms, and examines the practical challenges of empirical applications of theory. Pre: 301. DS
ECON 495 Land and Housing Economics (3) Microeconomics explains urban land and housing phenomena, and analyzes selected land and housing issues relevant to Honolulu. Pre: 301 or consent. DS
ECON 496 Contemporary Economic Issues (3) Economic analysis of current events. Topics announced each semester, generally focus on international polulation, crime control, racial discrimination, traffic congestion. Pre: 300 or 301 or consent. DS
ECON 499 Advanced Directed Research (V) Economics majors and minors participate in faculty supervised research, under faculty supervision, on a topic of their choice. Repeatable one time. A-F only. Pre: minimum GPA of 3.0 in economics and consent.
ECON 500 Master’s Plan B/C Studies (1) Repeatable unlimited times.
ECON 604 Microeconomics and Policy Analysis (3) Theory of the consumer, firm, and market. Role of governments and analysis of public policy. Applications to both industrialized and developing countries. Pre: consent.
ECON 606 Macroeconomic Theory I (3) Theory of the firm: production, costs, duality; theory of the market: competition, monopoly, oligopoly, monopolistic competition; theory of the consumer: preferences, expenditures, duality; expected utility theory.
ECON 607 Macroeconomic Theory II (3) Neo-classical theory of real and monetary equilibrium, consumption (J. M. Keynesian) models and aggregate demand/supply analysis in the closed and open economy, theory of rational expectations.
ECON 608 Microeconomic Theory II (3) General equilibrium analysis: production, consumption and Welfare equilibria; key microeconomic theorems of welfare economics; externalities; public goods; game theory; information theory. Pre: 606 or consent.
ECON 609 Macroeconomic Theory II (3) Models of economic growth and fluctuations; stochastic and
dynamic macroeconomic models; econometric testing of rational expectations models; theory of public debt; current topics in macroeconomic theory. Pre: 607 or consent.


ECON 611 Economic Development Policy (3) Analysis of policies for the promotion of industrial and agricultural development. Project evaluation, industrial regulation, public administration, investment and capital market policies, land-use policies, trade policies, pricing, and stabilization. Pre: 606 or 607, or consent.

ECON 614 Economic Development of Japan (3) Analysis of growth from Meiji period to present. Problems of population change, capital formation, income distribution, industrial structure. Pre: 610 or consent.

ECON 620 Microeconomic Theory III (3) Game theory and strategic behavior. Economics of information and incentives principal-agent theory. Economic design. Applications include: theory of contracts; incentive compatible mechanism for provision of public goods; auction theory. Pre: 608 or consent.

ECON 627 Mathematics for Economics (3) Sets, functions, limits, continuity, constrained and unconstrained optimization; difference and differential equations; matrix algebra; simultaneous equations; comparative statics; Kuhn-Tucker game theory; game theory; matrix programming.

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, autorelation, simultaneity, dichotomous variables, advanced topics.

ECON 629 Econometrics II (3) Specification, statistical estimation, inference and forecasting of econometric models. 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 654)

ECON 635 Disasters and Economic Policy (3) Economic analysis of disasters. The economics of prevention and mitigation, as well as post-disaster economic consequence policy, will be examined. Graduate students only.

ECON 636 Renewable Energy Economics and Policy (3) Analysis of economic and policy aspects of renewable energy use, and interactions of markets for renewable energy and other energy options. Evaluations of policies to develop renewable energy options. Pre: college calculus and principles of microeconomics; or consent.

ECON 637 Resource and Economic Policy (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 657)

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: 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: 666 or consent. (Once a year)

ECON 650 Foundations of Public Policy (3) Microeconomic principles for expenditure and tax policies. Externalities, public goods, non-convexities, regulation; cost-benefit analysis, general equilibrium, shadow-price, income distribution, pollution, corruption; optimal taxation, incentive, excess burden; dynamic public finance, national debt, social security. Pre: 604 or 666, 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, trade patterns, trade and environment, and the determinants of trade, and trade policy effects under perfect and imperfect competition. Empirical trade and other special topics. Pre: 606 or consent.

ECON 661 Advanced International Trade and Investment (3) Surveys theoretical and empirical research on topics such as regionalism and multilateralism, trade and wages, foreign direct investment and multinational corporations, and the environment and trade and economic growth. Repeatable unlimited times. Pre: 660 or consent.

ECON 662 International Macroeconomics (3) Advanced international monetary and macroeconomic theory: balance of payments, output, price and exchange rate determination, international aspects of growth and economic fluctuations, alternative exchange rate regimes, international capital flows. Pre: 607 or consent.

ECON 664 Applied International Finance (3) Surveys empirical research in international macroeconomics, finance and econometric methods: including balance of payments adjustment, international equilibrium, international interest rates and exchange rates, models of exchange rate determination, capital flows, balance of payments crises. Pre: 607 and 629 (or concurrent), or consent. (Fall only)

ECON 670 Labor Economics I (3) Supply and demand for labor: implications for labor markets and unemployment level. Pre: 606 or consent.

ECON 672 Economics of Population (3) Economic determinants and consequences of population change. Pre: 606 or 607.

ECON 674 Health Economics and Policy (3) Economic analysis of health-care policy; efficient design of health-care financing schemes; private and public demand for health, health insurance, and medical care; prevention (or concurrent) or 606 (or concurrent), or consent.

ECON 686 Strategic Behavior and Experimental Economics (3) Experimental economics: methodology, experimental design, and market experiments. Applications include: topics in industrial organization, provision of public goods, asset markets, auctions. Repeatable one time. Pre: 606 and 608, or consent.

ECON 696 Advanced Topics in Economics (V) Reflects interests of visiting and permanent faculty, focusing on specialized methods or topics in economics. Repeatable unlimited times. Pre: 606 or 607, or consent.

ECON 699 Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.


ECON 730 Research Seminar (3) Selected issues emphasizing research techniques. Required for students who have passed the two theory qualifying exams and have not passed the comprehensive exam. CR/NC only. Pre: consent.

ECON 732 MA Capstone Research (3) Student applies theoretical and quantitative techniques, critical thinking, and communicative skills to prepare a written and oral presentation of original research on a topic of his or her choice. A-F only. Pre: 606, 607, 627, 628, and consent of graduate chair.

ECON 800 Dissertation Research (V) Research for doctoral dissertation. Repeatable unlimited times.
EDEF 667 (Alpha) Seminar in Educational Foundations-Selected Topics (3) Multi-disciplinary (historical, philosophical, social/cultural and comparative/international focus on topical issues in education, CBs, current issues and governance in education; D) educational reform; (E) foundations of teaching; (F) foundations of curriculum; (G) globalization in education; (H) moral political education. Repeatable once. 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 Topics in international issues. A-F only.

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

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

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

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

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

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

EDEF 684 Direction 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. Pre: consent.

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

EDEF 686 Environmental Education (3) Focuses on the development of an ecological consciousness through a cultural and environmental approach to teaching and learning in schooling and everyday life. A-F only. Pre: consent of supervisory professor.

EDEF 689 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable unlimited times. Pre: consent of department chair.


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 EDEA 676, or consent. (Cross-listed as EDEA 767)

EDF College of Education

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

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


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

EDFP 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. Pre: consent.

EDFP 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 once. Pre: consent.

EDFP 416 Student Assessment (3) Introduction to basic concepts and issues in assessment and measurement, development of formative and summative assessment procedures, descriptive statistics, scales of measurement, and standardization testing.

EDFP 429 Introductory Statistics (3) Introduction to concepts and logics of statistical reasoning and statistical literacy. Topics include descriptive statistics, sampling distribution, and inferential statistics such as z-tests, t-tests, correlation, and one-way ANOVA.

EDFP 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidates.

EDFP 601 Introduction to Quantitative Methods (3) Introductory graduate-level statistics in education and social sciences. Topics on descriptive and inferential statistics including central tendency, variability, sampling distribution, correlation, simple linear regression, and one-way ANOVA. (Meets PhD common inquiry methods requirement or elective.)

EDFP 602 Survey Research Design and Analysis (3) Survey study designs, survey sampling, questionnaire construction, interviewing, pre-tests, pilot studies, logic of measurement and association, table construction, and elaboration models. Pre: consent. (Cross-listed as EDEA 608 and SOC 608)

EDFP 603 Design and Analysis of Psychological Experiments (3) Analysis of variance and other models of assessing results of experiments. Relation of analysis of variance to t-tests.

EDFP 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 EDEA 629 (with a grade of B+), or consent.

EDFP 606 Multivariate Methods (3) Multivariate forms of multiple linear regression, analysis of variance and co-variance, and exploratory factor analysis are developed. Pre: 604, PSY 610, or consent.

EDFP 608 Introduction to Educational Research (3) Fundamental design and evaluation procedures in educational research. Topics include an introduction to qualitative and quantitative research, the review of literature, developing research questions, research design, instrumentation, data collection, and writing a research proposal. Pre: 601 (or concurrent) (with a minimum grade of B or higher) or consent.
EDEP 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; evolution of creative strategies that assist maturing, self-directed persons to develop their potentialities. (Cross-listed as EDEA 745 and NURS 745)

EDEP 768 (Alpha) Seminar in Educational Psychology (1) Seminar in advanced topics in the context of education: (B) general; (C) learning; (D) measurement; (E) statistics; (F) psycho-social development; (G) educational evaluation; (H) research methodology. Repeatable nine times. Pre: consent. Seminar may be repeated for credit as topics vary.

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

Electrical Engineering (EE)

College of Engineering

Preference in registration is given to declared engineering majors. Enrollment in EE courses requires a grade of C or better in all prerequisite courses, except as noted.

EE 101 Electrical Engineering Skills (3) Electrical engineering subjects in a skill acquisition context at the freshman level, emphasizing problem solving, brainstorming, technical information assimilation, and presentation skills development. Repeatable two times. A-F only. DP

EE 110 Introduction to Engineering Computation (3) Engineering problem solving using MATLAB. Basic programming concepts include input/output, branching, looping, functions, file input/output, and data structures such as arrays and structures. Matrix operations for solving linear equations. Engineering computations and visualization. EE and CENG majors only, A-F only. Pre: MATH 241 (or concurrent) or MATH 251A (or concurrent) or consent.

EE 160 Programming for Engineers (4) (3 Lec, 1 3-hr Lab) Introductory course on computer programming and modern computing environments in C, including an introduction to algorithm and program design, implementation, and debugging. Includes a hands-on laboratory to develop and practice programming skills. A-F only. Pre: MATH 241 (or concurrent) or MATH 251A (or concurrent) or consent.

EE 196 Freshman Project (V) Freshman level individual or team project under EE faculty direction and guidance. This project provides early student entry into the EE major and provides practical experience providing practical skills, EE subject exposure and experience. Second semester freshman standing required. Repeatable unlimited times. CENG, EE, and PREN majors only. A-F only. 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 use of classes, fundamentals of object-oriented design via C++. Common data structures, simple searching and use of classes, fundamentals of object-oriented design via C++. Pre: MATH 243 (or concurrent) or consent.

EE 296 Sophomore Project (V) Sophomore level individual or team project under EE faculty direction and guidance. This project provides design experience and develops practical skills. Repeatable unlimited times. CENG, EE, and PREN majors only. A-F only. 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, Laplace transform, and PLE. Pre: either MATH 244 or MATH 253A or consent.

EE 323 Microelectronic Circuits I (3) Semicon- ductor structures, operating principles and character- istics of diode and bipolar devices. Their application as circuit elements in building basic digital, analog, and integrated circuit subsystems. Pre: 213. DP


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 PIN junctions. Pre: MATH 228, or MATH 253A, and PHYS 274; or consent. DP

EE 326 Microelectronic Circuits II (3) Principles and design of linear electronic circuits including differen- tial, operational, and tuned amplifiers; integrated circuits, current mirrors, signal generators, filters, and stability. Pre: 323. DP

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

EE 327 Theory and Design of IC Devices (3) Band structure models and carrier transport physics review. Theory and design of semiconductor IC devices: Shockley diodes, bipolar devices (PN junction diodes, BJTs), FETs (MOSFETs, JFETs, and MESFETs). Pre: 324 and either MATH 243 or MATH 253A; or consent.

EE 328 Microcircuit Fabrication (3) Technology principles, materials, and methods for the design and fabrication of semiconductor devices, integrated circuits, and microelectromechanical systems. Pre: 327 or consent. Pre: 323. DP

EE 328L Microcircuit Fabrication Lab (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: 328. Co-requisite: 328. DP

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, pulse and digital modulation systems; carrier modu- lation by digital signals. Pre: 342 (or concurrent) and 315.

EE 343L Communication Systems Lab (1) (3-hr Lab) Experiments illustrating the basic principles of communication systems. Pre: 315. Co-requisite: 343. EE 344 Network Theory (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 certification. Pre: MATH 243 (or concurrent); or MATH 252A (or concurrent); or PHYS 272 (or concurrent); or consent. DP

EE 345 Networking I (1) (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 certification. Pre: MATH 243 (or concurrent); or MATH 252A (or concurrent); and PHYS 272 (or concurrent); or consent. DP

EE 349 Microelectronics (3) Microelectronics fundamentals, digital and analog MOS devices, CMOS logic families. Pre: 213 (or concurrent). DP

EE 351L Linear Feedback-Control Systems Lab (1) (3-hr Lab) Provides experience in applying theoretical tools to analyze linear systems. Extensive use is made of computer-aided design and analysis packages in 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 200, or consent.


EE 362 Discrete Math for Engineers (3) Logic, sets, number theory, properties of functions, properties of relations, methods of proofs, recursion, counting, probability, trees, graphs, analysis of algorithms, finite state automata. Pre: 160 and 240 and MATH 242.

EE 366 CMOS VLSI Design (4) (3 Lec, 1 3-hr Lab) Introduction to the design of very large scale integrated (VLSI) 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 Algo- rithms (3) Introduction to the design of computer 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 Algo- rithms Lab (1) (3-hr Lab) Laboratory for 367. Pre: 367 (or concurrent).


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

EE 372L Engineering Electromagnetics Lab (1) (3-hr Lab) Laboratory for 372. Pre: 372 (or concurrent).

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

EE 406 Introduction to Computer and Network Security (3) Review basic network mechanisms, intro- duction to basic cryptography concepts, and study algo- rithms and protocols used in computer and network security. Discuss practical security mechanisms. A-F only. Pre: 367 or instructor consent. (Once a year)

EE 415 Digital Signal Processing (4) (3 Lec, 1 3-hr Lab) Discrete-time signals and systems, sampling, Z-transform, transform domain, 2D time-invariant systems, filter design, discrete Fourier transform, and computation of discrete Fourier transform. Pre: 315 and 342 (or concurrent), or consent.

EE 416 Introduction to Digital Image Processing (3) Digital image representation, intensity transforma- tions, spatial filtering, filtering in the frequency domain, image restoration, color spaces and transfor- mations, fast wavelet transform, image compres- sion. Pre: 315 (or equivalent) or consent.

EE 417 Introduction to Optimization (3) Application of linear, nonlinear and integer optimization models and algorithms to communications, control, signal processing, computer networking, financial engineering, manufacturing, production and distri- bution systems. CE, EE, ME, or CBA majors only. Pre: MATH 407 (or concurrent). DP

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 (3) (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, A/D and D/A conversion, 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: 371. FY

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

EE 438 Renewable Energy (3) Fundamentals of power, electric power grid and conventional electricity generation. Wind and solar power systems. Photovoltaic materials and systems. Distributed generation and energy storage. 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.

EE 445 Introduction to Machine Learning (3) Foundation for algorithms, practice, and theory behind common machine-learning applications. Includes projects, statistical programming, and an introduction to the challenges of large data problems. EE, CENG, CEE, ME, MATH, ICS majors only. A-F only. Pre: 342 (or equivalent) and MATH 307 (or equivalent). DP

EE 446 Information Theory and Coding (3) Mathematical foundations of communication systems. Channel noise, measurement, and coding of information. Intrinsic limits of performance of communication systems. Pre: 342 and 343, or consent.


EE 453 Modern Control Theory (3) Analysis and synthesis of nonlinear control systems by means of Lagrange’s equation, state space techniques, maximum principle. Lyapunov’s theorems, the phase plane, and Z-transform techniques. Optimization and adaptation by means of gradient methods, calculus of variations, dynamic programming. Pre: 351.

EE 455 Design of Intelligent Robots (3) Study of the design principles of computer-controlled, intelligent robots such as roving vehicles, hand-eye systems. Pre: 351 and 367. DP

EE 461 Computer Architecture (3) Structure of stored program machines, data flow machines, pipelining, fault-tolerant computing, instruction set design, effects of compilation on architecture, RISC vs. CISC architecture, use of parallelism. Pre: 361. FY

EE 465 Fundamentals of Biomedical Engineering (3) Introduction to advanced techniques for designing, implementing, and testing computer software with a particular focus on using object-oriented design, analysis, and programming to produce high-quality computer programs that solve non-trivial problems. A-F only. Pre: 367 or consent.

EE 468 Introduction to Operating Systems (3) Computer system organization; multiprocessor systems, memory protection, virtual memory, machine, memory management, processor management; information management. Pre: 361 (or concurrent) and 367 or consent.

EE 469 Wireless Data Networks (3) Mobile agent’s platforms and systems, mobile agent-based service implementation, middleware, and configuration, wireless local area networks, wireless protocols, network architecture supporting wireless applications, routing protocols for mobile and wireless networks, handheld and mobile wireless networks. Pre: 344 and 367, or consent.

EE 470 Physical Optics (3) Fundamentals of classical and quantum 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: 372 (or concurrent with a minimum grade of C-) or PHYS 450 (or concurrent with a minimum grade of C), or consent. (Cross-listed with DP)

EE 471 Computational Techniques in Electromagnetics (3) Introduction to computational methods used to simulate/solve engineering design problems focusing on electromagnetics. Finite difference, method of moments, and finite elements methods will be described; students will write computer programs in each. A-F only. EE, ENGR majors only. Pre: 371 or consent. (Spring only) DP

EE 473 Microwave Engineering (3) Passive and active microwave devices for RF and wireless applications. Scattering parameters, signal-flow graphs, and computer-aided design. Pre: 371. DP


EE 475 Optical Communications (3) Fundamentals of optical communication systems (optical links, high-speed systems, wavelength-division-multiplexing networks, and network elements) and optical components (guided-wave circuits, lasers, detectors, and optical amplifiers). System and network integration issues. A-F only. Pre: 372 or consent. DP

EE 477 Fundamentals of Radar, Sonar, and Navigation Systems (3) Discussion of basic radar detection and position-velocity measurement principles. Applications to various types of radar and sonar systems. Modern navigation aids. Pre: 371 (or equivalent), and familiarity with waveguides or waveguide theory. DP

EE 480 Introduction to Biomedical and Clinical Engineering (3) Application of engineering principles and technology to clinical and medical problems. Introduction to human anatomy, physiology, medical terminology, clinical measurements. Systems modeling, physiological control systems, computer applications, biomedical signal analysis, and problems. Pre: 213 and either MATH 244 or MATH 253A.


EE 481 Bioelectric Phenomena (3) Study of electrical phenomena in living systems. Mechanisms underlying bioelectric activity. Membrane and transmembrane potentials, skins, ion channels, neuroelectric signals, diagnostic considerations, laboratory demonstrations. Pre: 480 or consent.

EE 482 Biomedical Instrumentation (3) (2 1-3-hr Lab) Principles, applications, and design of biomedical instrumentation. Transducers, IC and microcomputer applications, patient safety. Pre: 326, 480; or consent.

EE 491 (Alpha) Special Topics in Electrical Engineering (3) Content will reflect special interests of visiting/permanent faculty; to be oriented toward juniors and seniors. (B) artificial intelligence; (C) circuits; (D) communications; (E) computer hardware; (F) computer software; (G) computer vision; (H) control; (I) devices; (J) fields; (K) power. Repeatable unlimited times. Pre: consent.

EE 494 Provisional Topics (3) Upper division course with subject matter to be announced.

EE 495 Ethics in Electrical Engineering (1) Equip electrical engineers with the necessary background for ethical reasoning, as it pertains to technology, society, workplace issues, and the environment. EE majors only. A-F only. Pre: senior standing or consent. (Once a year)

EE 496 Capstone Design Project (V) Significant project integrating the design content of previous courses and incorporating engineering standards and realistic constraints. Senior standing or above. All aspects of the design process: reliability, safety, economics, ethics. Repeatable unlimited times. A-F only. Pre: 396 or consent.

EE 499 Directed Reading (V) Investigation of advanced electrical engineering problems. Repeatable unlimited times. Pre: senior standing and consent.

EE 500 Master’s Plan B/C Studies (1)

EE 602 Algorithm I (3) Design and evaluation of machine representations, techniques and algorithms for sorting, pattern processing, data structure, geometrical computations, and engineering applications. Introduction to computational issues of time, space, communication, and program correctness. Pre: 367 or consent.

EE 604 Artificial Intelligence (3) LISP for machine intelligence applications, or related constraint object and logic-oriented languages. Pre: 467 or knowledge of LISP/PROLOG.

EE 606 Intelligent Autonomous Agents (3) Theory, methods and practical applications of autonomous agent systems, including common applications of both software and hardware (robotic) agents. In-depth practical experience with agent development through programming assignments and projects. Pre: 467 or ECS 313 (or equivalent), graduate standing; or consent. (Once a year) (Cross-listed as ECS 066)

EE 607 Advanced Network Algorithms (3) Network algorithms, protocols, and packet switching systems for the internet including TCP/IP, routing algorithms, transmission scheduling, link management, buffer management, and simple network management. Pre: 367 or consent.

EE 608 Optical Networks (3) Propagation of signals in fibers, components, modulation and demodulation, transmission system engineering, network systems and architectures, network design, control and management and packet switching. Pre: 342, 367, and 371; or consent.

EE 609 Computer and Network Security (3) An advanced course in digital processing. Topics include significant security theory, current practices, and emerging research. Content will reflect special interests of visiting/permanent faculty; to be oriented toward juniors and seniors. (B) artificial intelligence; (C) circuits; (D) communications; (E) computer hardware; (F) computer software; (G) computer vision; (H) control; (I) devices; (J) fields; (K) power. Repeatable unlimited times. Pre: consent.

EE 610 Computer and Network Security (3) Basic security theory, current practices, and emerging research issues. First course covering electronic and computer network security, then will work on research projects on computer and network security.

EE 615 Advanced Digital Signal Processing (3) An advanced course in digital signal processing. Topics include fast DFT algorithms, multirate systems and filter banks, power spectrum estimation, linear prediction, optimum linear filters, and adaptive filtering. A-F only. Open to nonmajors for CR/NC only. Pre: 415 or 640, or consent.

EE 616 Digital Image Processing (3) Human visual perception, image formation, sampling and
time, up to six credits. Sophomore standing only. A-F only. Pre: consent.

ENGR 350 Career Development Seminar (1) Introduction to career development as it pertains to engineering and business industry; client relations, networking, workplace success, and development and direction. Repeatable one time. (Fall only)

ENGR 396 Junior Vertically Integrated Project (V) Team-based research project for junior-level students. Pre: ENG 200 and faculty direction. Repeatable one time. A-F only. Pre: consent

ENGR 401 Engineering Management (3) Introduction to engineering management with emphasis on development of skills for professional advancement. Repeatable one time. A-F only.

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

The minimum grade required for undergraduate course prerequisites is a C or better.

**ENG 100 Composition I (3)** Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; instruction in composing processes, search strategies, and writing from sources. Students are expected to continue working in this project as a senior. Repeatable one time. A-F only.

**ENG 190 Composition for Transfer Students to UH Mānoa (3)** Introduction to the rhetorical, conceptual and stylistic demands of writing at the university level; instruction in composing processes, search strategies, and writing from sources. Restricted to students with more than 24 credits. Students may not earn credit for both ENG 100 and 190. Pr: placement. Freshmen only. FW

**ENG 209 Business Writing (3)** Practice in informative, analytical, persuasive writing. Pr: FW. Students may not earn credit for both ENG 209 and BUS 209.

**ENG 270-273 courses fulfill the UH Mānoa General Education Diversification in Literature (DL) requirement. Credit for these courses are considered "non-introduced" if 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. Pr: 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. Pr: 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. Pr: FW. DL

**ENG 273 Introduction to Literature: Creative Writing and Literature (3)** Study of significant works through and as creative writing. Repeatable one time. Pr: FW. No waiver.

**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 History of 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; history and meaning of language. Pr: one ENG DL course or consent. DH

**ENG 303 Modern English Grammar (3)** Introduction to the structure of present-day English for native speakers and others with advanced competency. Pr: Pre one ENG DL course or consent. DH

**ENG 306 Argumentative Writing I (3)** Theory and practice of written argument; emphasis on the role of invention in argumentative discourse and on the nature of rhetorical proof. Pr: FW and either 200 or one ENG DL course, or consent. DH

**ENG 307 Rhetoric, Composition, and Computers (3)** Introduction to computer-based writing and reading technologies. Study of principles of traditional and online texts and multimedia essays. Pr: one ENG DL course or consent.

**ENG 308 Technical Writing (3)** Combined lecture/lab preparing students to write about technical subjects for specialists and laypersons. Introduces theory of technical communication and document design and teaches students to make use of relevant technology. A-F only. Pr: FW and either 200 or one ENG DL course; or consent. DH

**ENG 311 Autobiographical Writing (3)** Writing clear, effective prose based on the writer’s own experiences and ideas. Pr: one ENG DL course or consent. DH

**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. Pr: one ENG DL course or consent. DH

**ENG 320 Introduction to English Studies (3)** Study to English Studies at UH Mānoa, including the purpose, practice, and potential of literary and rhetorical study of texts; consideration given to Hawaiian and/or Pacific texts in cultural and historical context. Restricted to ENG majors/minors and Secondary Education-English majors only. Prerequisite to 400-level work for ENG majors. Pre one ENG DL course or consent. DL

**ENG 321 Backgrounds of Western Literature (3)** Sources of European and American literary themes and historical context. Introduction to the rhetorical, conceptual and representative texts for the study of the form, function, and development of the genre of drama. Pr: one ENG DL course or consent. DL

**ENG 322 Backgrounds of Western Literature (3)** Sources of European and American literary themes and historical context. Introduction to the rhetorical, conceptual and representative texts for the study of the novel in English. Pr: one ENG DL course or consent.

**ENG 323 Backgrounds of Western Literature (3)** Sources of European and American literary themes and historical context. Introduction to the rhetorical, conceptual and representative texts for the study of the form, function, and development of the genre of drama. Pr: one ENG DL course or consent. DH

**ENG 324 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, testimonial, science writing, and travel writing. Pr: one ENG DL course or consent. DL

**ENG 325 Backgrounds of Western Literature (3)** Sources of European and American literary themes and historical context. Introduction to the rhetorical, conceptual and representative texts for the study of the literature of the Pacific, including Pacific voyagers and contemporary writings in English by Pacific Islanders. Pr: one ENG DL course or consent. (Cross-listed as PACS 371) 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. Pr: one ENG DL course or consent. DL

**ENG 326-327 courses fulfill the UH Mānoa General Education Diversification in Literature (DL) requirement. Credit for these courses are considered "non-introduced" if 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 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. Pr: one ENG DL course or consent. DL

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

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

**ENG 332 Restoration/18th Century Literature in English (Except American) (3)** Basic concepts and representative texts for the study of prose, poetry, and drama in English from 1660 to 1780, exclusive of Milton. Pr: one ENG DL course or consent. DL

**ENG 333 19th Century Literature in English (Except American) (3)** Basic concepts and representative texts for the study of 19th century prose and poetry in English. Pr: one ENG DL course or consent. DL

**ENG 335 Literature in English After 1900 (Except American) (3)** Basic concepts and representative texts for the study of prose, poetry, and drama in English from 1900 to the present. Pr: 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. Pr: 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 prose, poetry, and drama in American literature from the middle of the 19th century to the middle of the 20th century. Pr: 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 the form, function, and development of prose fiction genres such as short story and novel. Pr: one ENG DL course or consent. DL

**ENG 340 Poetry (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. Pr: one ENG DL course or consent. DL

**ENG 348 Shakespeare and Film (3)** Comparative analysis of selected plays by Shakespeare and films which appropriate, reenact, adapt, or offer variations on his texts. Pr: one ENG DL course or consent. DL

**ENG 369 The Novel (3)** Basic concepts and representative texts for the study of the novel in English. Repeatable one time for different topics. Pr: one ENG course. (Alt. years: fall) DL

**ENG 370-371 courses fulfill the UH Mānoa General Education Diversification in Literature (DL) requirement. Credit for these courses are considered "non-introduced" if 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 370 Literatures of Hawai‘i (3)** Writings of various ethnic groups in Hawai‘i, ancient to contemporary. Songs, stories, poetry, fiction, essays that illustrate the social history of Hawai‘i. Pr: 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. Pr: 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. Pr: 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. Pr: one ENG DL course or consent. (Cross-listed as ES 372) DL

**ENG 374 Race, Ethnicity, and Literature (3)** Basic concepts and representative texts for the study of race and ethnicity as the basis of literary inquiry. Pr: 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. Pr: 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: epic, myths, legends, and other
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, consent. DA

ENG 413 Form and Theory of Fiction (3) Narrative techniques for students interested in writing fiction. Pre: 513 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 topics, problems, themes, writers, or modes of creative writing in a workshop setting. Repeatable one time. Pre: 513 and 410, 412, or 413; 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. DL

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. DL

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. DA

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 and film). Emphasis on historical and cultural context and diverse expressions of women’s gendered identities. (Cross-listed as AMST 455 and WS 445) DL

ENG 460 Studies in Fiction (3) Intensive study of selected problems, issues, writers, traditions, or movements in prose fiction. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 461 Studies in Poetry (3) Intensive study of selected problems, issues, writers, traditions, or movements in poetry. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 462 Studies in Drama (3) Intensive study of selected problems, issues, writers, traditions, or movements in drama. Repeatable one time. Pre: 320 and one other 300-level ENG course; or consent. DL

ENG 463 Studies in Film (3) Intensive study of selected topics in film, e.g.: genres, major filmmakers, film theory/criticism, 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 forms and theories of life writing in forms 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 470 Studies in Asian and American Diaspora Literatures (3) Intensive study of selected problems, issues, traditions, or movements in literatures of diaspora peoples and of the 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 471 Studies in Postcolonial and Diasporic Literature (3) Intensive study of selected problems, issues, traditions, or movements in literatures of diaspora peoples and of the 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 474 Studies in Pacific Literature (3) Intensive study of selected questions, issues, traditions, or genres in Pacific literatures and the field of Pacific literature. Repeatable one time. Pre: 320 and one other 300-level ENG course. (Cross-listed as PACS 474) 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. DH

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) DH

ENG 491 Senior Honors Seminar (3) Studies in history of ideas, periods, genres, or themes in literature. Includes research papers. Repeatable one time. Pre: enrollment in Honors Program, 320 and two 300-level ENG courses; or consent. DL

ENG 494 Study Abroad (V) Intensive study in the English language of selected topics, issues or writers from the host country approved by the English Department. 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.
EN 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 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, and creative writing pedagogy. A-F only. Pre: graduate standing or consent. (Fall only).

ENG 613 Advanced Writing Workshop (3) Advanced practice and critical evaluation of the writing of poetry, fiction, or creative nonfiction. Pre: 610 or consent. Repeatable one time in each English graduate degree. 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) study of critical and methodological issues that arise in the development 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 plus 411 for (B); 414 for (C); 412 for (D); or consent.

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.

ENG 695 Supervised Practicum (3) Applies course work in literature, creative writing, cultural studies, or composition and rhetoric to hands-on activities engaging publics outside of the university under direction of the college, the department, or the university faculty. ENG majors only. A-F only. Pre: graduate standing 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: 625 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: 625 or consent.

ENG 713 Seminar in Creative Writing (3) Advanced study in creative writing focused on thesis and dissertation projects. Repeatable one time in each English graduate degree. 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 in each ENG graduate degree. Pre: 613 or consent 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 drama; (S) dominant Victorians through the 1840s; (T) Baroque and English literature; (U) literature and social change; (X) literature and history; (Y) studies in satire. Repeatable one time.

ENG 735 (Alpha) American Literature (3) Study of authors or a period. (B) American modernism; (C) race in American literature; (D) 19th century American poetry; (E) American literature naturalism; (F) American American literature and theory; (G) American transcendentalism; (H) 19th century American novel; (J) contemporary American poetry; (M) poetry by 20th century American women; (N) women's写作 and modernism; (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 alphas. 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. (C) neoclassicism; (D) tragedy; (E) modern American short story; (F) sonnet and sonnet sequences; (G) Rest.; (H) 18th century comic; (I) 18th century literature and art; (J) medieval drama; (K) narrative theory and criticism; (L) reinventing the author; (M) laughter and the comic arts; (N) nature of romance; (O) Victorian novel; (P) Jacobean drama; (Q) science fiction; (R) essay, past and present; (S) Eng. hymn in Western culture; (T) 18th century British women novelists; (U) English romanticism; (V) English novel and criticism. Repeatable one time. A-F only. Pre: graduate standing or consent.

ENG 763 Seminar in Film Theory and Criticism (3) Intensive study of selected authors and works in film theory and criticism. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 764 Seminar in Film Theory and Criticism (3) Intensive study of selected issues in film theory and criticism. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 765 Seminar in Film Theory and Criticism (3) Intensive study of a figure, school, or movement in film theory and criticism. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 766 Seminar in Film Theory and Criticism (3) Intensive study of a film text. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 767 Seminar in Film Theory and Criticism (3) Intensive study of a figure, school, or movement in film theory and criticism. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 768 Seminar in Film Theory and Criticism (3) Intensive study of selected topics in film theory. Pre: graduate standing plus 411 for (B); 414 for (C); 412 for (D); or consent.

ENG 770 Seminar in Cultural Studies in Asia/ Pacific (3) Intensive study of selected issues in cultural studies in cultural studies in Asia and the Pacific: topics to be announced. Repeatable one time. A-F only.

ENG 771 Seminar in Pacific Literatures (3) Intensive study of selected issues in the literatures of the Pacific in English and other languages. Topics to be announced. Repeatable one time. Pre: graduate standing or consent. (Spring only)

ENG 772 Seminar in Literature of Hawaii (3) Introduction to comparative literature; relationship of Hawaiian to other cultures; sources and influences. Repeatable one time.

ENG 773 Seminar in Hawaiian Literature (3) Intensive study of selected issues, genres, and traditions in Hawaiian literature written in English or translated from Hawaiian into English. Repeatable one time. Pre: graduate standing or consent. (Fall only)

ENG 775 Seminar in Cultural Studies (3) Intensive study of selected issues in cultural studies and cultural and social theory; topics to be announced. Repeatable one time.

ENG 780 (Alpha) Seminar in Comparative Literature (3) Introduction to comparative literature; relation to English and other literatures; sources and influences. (B) African lit. and literary theory; (F) folklore and literature; (G) theory/practice of poetry; (H) contemporary drama; (I) mythic method; (J) postmodern fiction; (M) modernism; (N) colonial/postcolonial; (P) postmodernism and postcolonialism; (W) medieval women writers. Repeatable one time for different alphas.

ENG 790 Seminar in Special Topics (3) Content to be announced. Repeatable six 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, or 73, 83.

ELI 070 Intermediate 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. CR/NC only.

ELI 072 Intermediate Academic Reading (0) Introduction to the academic English-language reading demands required at the university. Instruction and practice of effective means to understand text patterns, increase reading fluency and comprehension, and develop vocabulary. Designed as a bridge to ELI 082. CR/NC only.

ELI 073 Intermediate Academic Writing (0) Extensive practice in expository writing. Analysis and use of rhetorical devices. Individual conferences and tutoring as required. CR/NC only.

ELI 080 Advanced Academic Listening and Speaking (0) Further development of the academic English-language listening/speaking skills and strategies required at the university. Instruction and practice of effective note-taking skills, critical listening strategies, delivery of effective academic presentations and leading of academic discussions. Pre: 070 or placement by examination.

ELI 082 Advanced Academic Writing (0) Further development of skills and strategies for dealing with the high demands of academic reading by focusing on becoming efficient and autonomous readers. Instruction and practice of developing critical reading strategies and building field-specific vocabulary. Pre: 072 or placement by examination. CR/NC only.

ELI 083 Advanced Academic Listening for Graduate Students (0) Introduction to academic writing conventions common at the graduate level. Students explore academic writing in their disciplines, develop clarity of written expression, and improve command over textual, rhetorical, and discursive conventions common in academic writing. Pre: 073 or placement by examination.

ELI 111 Practicum for International Teaching Assistants (3) Extensive practice for international teaching assistants in speaking in classroom situations with emphasis on oral communication. Students expose learning to cultural expectations and classroom management. CR/NC only. Pre: 080.

Ethnic Studies (ES)

College of Social Sciences

A grade of CR better in the prerequisite courses is required for all courses. (A-C is not acceptable.)

ES 101 Introduction to Ethnic Studies (3) Basic concepts and theories for analyzing dynamics of ethnic group experiences, particularly those repre-
sented in Hawai‘i, and their relation to colonization, immigration, problems of identity, racism, and social class. DS

ES 213 Race, Class, Gender in Popular Culture (3) Contemporary issues of race, class, and gender in popular culture, music, social media, sports, etc. Introduction to critical media analysis and social science theories and methods. DS

ES 214 Introduction to Race and Ethnic Relations (5) Race relations in world perspective: social, economic, and political problems associated with perception, existence, and accommodation of these groups within the wider society. (Cross-listed as SOC 215) DH

ES 221 Hawaiians (3) The unique culture, religion, history, language, land system, and governance of Native Hawaiians. Transformation of the Hawaiian social system by the capitalist economy. Current issues and Native Hawaiian quest for sovereign governance. DS

ES 301 Ethnic Identity (3) Individual and group problems of identity, identity conflict, cultural conflict, inter-ethnic relations. Critical review of available material on Hawai‘i. Pre: one DS or DH course.

ES 305 African American Experience I (3) Afrocentric perspective. Analysis of the black political/cultural experiences of ancient African kingdoms, the slave experience, organized resistance, emancipation struggles, the Civil War and Reconstruction. Pre: one DS or DH course. DS

ES 306 African American Experience II (3) Afrocentric analysis. The struggle for freedom: Reconstruction period, reign of terror, intellectual and cultural awakenings, civil rights movements, contemporary issues. Pre: one DS or DH course or consent. DS

ES 309 Ethnic Community: Hawai‘i (3) Site visits to museums, social welfare units, etc., as well as guest lecturers from the community including police, health, education. Pre: one DS or DH course. Summary: DS

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

ES 320 Hawai‘i and the Pacific (3) Hawai‘i as part of the Pacific community; selected historical and contemporary problems of Pacific areas; cultural and economic imperialism, land alienation, and the impact of development on Pacific peoples. Pre: one DS or DH course or consent. DS

ES 330 Japanese in Hawai‘i (3) Issei roots in Japan; the role of Japanese in labor, politics, and business; sansei and perspectives on local identity and culture. The Japanese in light of changing economic, social, and political conditions in Hawai‘i today. Pre: one DS or DH course or consent. DS

ES 331 Chinese America: History, Politics, and Representation (3) Ethnohistorical and contemporary view of the experiences of the Chinese in Hawai‘i and the U.S. mainland; specific roles and contributions; immigration, social organization, and identity. Pre: one DS or DH course. DH

ES 333 Filipinos in Hawai‘i (3) Historical and contemporary migration; immigration; traditional culture and values; plantation experience; labor organizing; development of Filipino community; racism; discrimination; and ethnic identity. Pre: one DS or DH course. DH

ES 338 American Indian Experience (3) Provides a comprehensive look at the indigenous foundation of life and society in the Americas and elaborates on historical and contemporary importance of American Indian rights. Pre: one DS or DH course. DH

ES 339 South Asian Migrants: Culture and Politics (3) Historical and contemporary experiences of South Asian migrants in North America, Pacific, Caribbean, and Asia. Diasporas; causes and patterns of migration, inter-ethnic relations; roles of race, gender, culture in community, identity formation, A-F only. Pre: one ES or course in the 100, 200 or 300 level; or consent. (Once a year) (Cross-listed as WS 339) DS

ES 340 Land Tenure and Use in Hawai‘i (3) Dynamics of change: indigenous Hawaiian land tenure; Great Mahele and Kuleana Act; ethnic succession of land; land development; ownership today; effects of land development on ethnic communities. Pre: one DS or DH course. DH

ES 350 Economic Change and Hawai‘i’s People (3) Development of market economy and impact on Hawai‘i’s people. Sugar, pineapple, and tourism industries; role of local and multinational corporations; scenarios for Hawai‘i’s future development. Pre: one DS or DH course. DH

ES 360 Immigration to Hawai‘i and U.S. (3) Historical overview: “push and pull factors”; effect of changing economy; experiences of various ethnic groups; problems of recent immigrants; immigration policies in the U.S. and Hawai‘i. Pre: one DS course. DH

ES 365 Pacific/Asian Women in Hawai‘i (3) Adaptive strategies of Hawaiian, Chinese, Japanese, Korean, Filipino, Samoan, and Southeast Asian women in Hawai‘i; feminist anthropological and historical analysis. Pre: one ANTH, SOC, or WS course. (Cross-listed as WS 365) DS

ES 370 Literatures of Hawai‘i (3) Writings of various literatures and languages of Hawai‘i and contemporary Sung, Tangos, stories, poetry, fiction, essays that illustrate the social history of Hawai‘i. Pre: one ENG DL course or consent. (Cross-listed as ENG 370) DL

ES 372 Asian American Literature (3) Basic concepts and methods for the study of Asian American literature by writers from a variety of backgrounds. Pre: one ENG DL course or consent. (Cross-listed as ENG 372) DL

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

ES 375 Issues of Diversity in Higher Education (3) Examines issues of diversity within higher education. Examines different dimensions of diversity including ethnicity, gender, national origin, age, and sexual orientation. Will utilize national and local case studies. Junior class standing or higher. Pre: one DS or DH course. DS

ES 380 Fieldwork in Ethnic Studies (V) Specialized supervision for individual student research projects in historical, oral history, or contemporary projects. Repeatable to total of 6 credit hours. Pre: consent. DS

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 DS or DH course. DS

ES 390 Gender and Race in U.S. Society (3) Historical and sociological studies of race and gender in U.S. society; grassroots feminist and racial/justice activism on the continent and in Hawai‘i. A-F only. Pre: one 200 or 300 level junior or senior standing. (Cross-listed as WS 390) DS

ES 392 Change in the Pacific—Polynesia (3) Impact of cultural and physical change and their interrelationship. Pre: one DS or DH course. DS

ES 395 Multiethnic Popular Culture: Hip Hop (3) Historical, social, cultural, and political aspects of the formation and development of Hip Hop culture in Hawai‘i and other Pacific Islands. Special attention to the significance of Hip Hop in facilitating cultural integration and/or higher ed: one DS or DH course or consent.

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: one DS or DH course. DS

ES 440 Contemporary Diasporas in Comparative Perspective (3) Compares the circumstances under which contemporary African, Pacific Islander, or African migrants form diasporas across the globe; focus on a particular ethnic group to examine its site-specific experiences. A-F only. DS

ES 453 Filipino Americans: Research Topics (3) A reading and seminar on the study of Filipino Americans. Special themes in film/video/media, the performing arts, or literature may be offered. Pre: junior standing or consent. (Cross-listed as AMST 401)

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 458 Pacific/Asian Women 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 458) DS

ES 460 Global Ethnic Conflict (3) Ethnic conflicts cause most wars on our globe today. Theory and case studies will examine the causes and consequences of ethnic conflicts and how to prevent them. Junior standing or higher. Pre: one DS or DH course or consent. (Fall only)

ES 480 Oceanic Ethnic Studies: Theories and Methods (3) Engages with theoretical elements and qualitative and quantitative research methods of Oceanic Ethnic Studies. (C) Class, race, indigeneity, migrancy, diaspora and political economy; community-based and participatory research methods. 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 ethnographic 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 approaches to multiculturalism in two multiethnic nations: Canada and the U.S. A-F only. Pre: SOC 300 or one 300 level ES course, or consent. (Cross-listed as SOC 492) DS

ES 493 Oral History: Theory and Practice (3) Literature and methodology; project 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 historical 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 DS or DH course.

Key to symbols & abbreviations: see the first page of this section.
ESEE 311 Learner in the Environment II: Classroom and Behavior Management (3) Teacher candidates will gain the ability to establish, maintain, and (when necessary) restore the classroom as an effective environment for teaching and learning. A-F only.

ESEE 312 Learner in the Environment III: Behavior Project Implementation (3) Teacher candidates demonstrate the ability to establish, maintain, and (when necessary) restore the classroom as an effective environment for teaching and learning. Candidates demonstrate ability to identify maladaptive student behaviors and implement effective, research-based interventions. A-F only.

ESEE 320 Assessment I: Foundations of Assessment (3) Introduction to foundational aspects of assessment and emphasizes the importance of linking assessment with planning and instruction. Candidates develop knowledge, skills, and dispositions important for designing, implementing, and analyzing effective assessments for diverse learners. A-F only.

ESEE 321 Assessment II: Formal Assessment (3) Understand techniques in the assessment, planning, and instructional process appropriate for students with mild/moderate disabilities. Individualized program development facilitates inclusion of students with disabilities in the general education environment is stressed. A-F only.

ESEE 330 Planning and Instruction: Introduction to Inclusive Teaching (3) Teacher candidates learn to differentiate instruction based on learner needs, planning and teaching to foster students with disabilities in the general education environment through evidence-based practices. A-F only.

ESEE 331 Planning and Instruction: Science (3) Examination of strategies, strategies and issues related to the teaching and learning of science in elementary settings. K-6; Candidates learn to differentiate instruction based on learner needs, using evidence-based practices. A-F only.

ESEE 332 Planning and Instruction: Mathematics in Inclusive Settings (3) Prepares beginning elementary school teachers of mathematics. K-6; Candidates learn to differentiate instruction based on learner needs, planning to facilitate inclusion of students with disabilities in the general education environment through evidence-based practices. A-F only.

ESEE 333 Planning and Instruction: STEM (3) Examination of content, processes, strategies, and issues related to teaching and learning of Science, Technology, Engineering, and Mathematics (STEM) content for inclusive elementary classrooms, K-6; Candidate candidates differentiate planning, teaching, and assessing STEM. A-F only.

ESEE 334 Planning and Instruction: Integrating Social Studies and the Performing Arts (3) Integrates Social Studies and Performing Arts content in K-6 classrooms. Teacher candidates challenge students in inclusive setting to engage with social issues through active, collaborative, expressive, aesthetic, creative, and critical pedagogy. A-F only.

ESEE 340 Planning and Instruction, Literacy I: Teaching Children to Read in Inclusive Settings, K-3 (3) Overview of principles and practices for teaching reading (phonemic awareness, phonics, fluency, vocabulary, and comprehension) to diverse elementary students, grades K-3; including planning, instruction, and assessment. A-F only.

ESEE 341 Planning and Instruction, Literacy II: Teaching Children to Read in Inclusive Settings, Grades 4-6 (3) Teacher candidates demonstrate essential reading comprehension strategies, engaging students in complex text by planning, instructing, and assessing primary students in grades 4-6, in inclusive settings. A-F only.

ESEE 342 Planning and Instruction, Literacy III: Writing and Visual Arts in Inclusive Settings, K-6 (3) Methods, programs, and strategies for planning, teaching, writing for elementary students in inclusive settings, grades K-6. Visual arts methods are integrated to develop visual literacy. A-F only.

ESEE 350 Field Experience I: Response to Intervention in Reading (4) Teacher candidates in this field based course will use an evidence-based practice in reading within a response to intervention (RtI) framework. Supervision provided by participating site personnel and college supervisor. A-F only.

ESEE 351 Field Rounds (2) Field-based course engages teacher candidates in a variety of purposeful observation and reflection activities aligned with course work. Field settings are appropriate to concurrent classes; supervision provided by participating site personnel and college supervisor. A-F only.

ESEE 352 Field Experience II: Elementary and Special Education Classroom Settings (4) Teacher candidates are immersed in a general education, inclusive, or a self-contained special education field setting. A mentor teacher and a field supervisor from the university provide support and oversight. A-F only.

ESEE 353 Field Experience III: Elementary and Special Education Classroom Settings (4) Teacher candidates are immersed in a general education, inclusion, or a self-contained special education field setting. A mentor teacher and a field supervisor from the university provide support and oversight. A-F only.

ESEE 354 Student Teaching in Elementary and Special Education Classrooms (10) Full-time student teaching in grades K-6 in an elementary school classroom; or grades 7-12 in special education general education and special education settings. The experience is directed by a qualified mentor teacher and has university-provided supervision. A-F only.

ESEE 355 Seminar for Student Teaching (2) Seminar to support student teaching experiences and prepare teacher candidates to transition into a full time teacher, examine ethical issues in the field, prepare for employment, and demonstrate ability to meet professional standards. A-F only.

Family Medicine and Community Health (FMCH) School of Medicine

FMCH 531 7-Week Family Medicine Clerkship (10) Ambulatory-Hawaii. 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 of family medicine patients. Emphasis on behavioral care, caring for the underserved, sports medicine, preventive care, and common acute/chronic ambulatory problems. Pre: third year standing. 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: (A) primary care preceptorship; (B) topics in community health; (D) sub-internship in family medicine; (E) extramural elective in family medicine and community health-musculoskeletal; (F) sports medicine preceptorship; (G) longitudinal underserved care preceptorship; (6). MED majors only for (C), CR/NC only. Pre: 531 or 532. Spring only. (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, theories of human development from conception to death; systems approaches to inquiry into factors affecting growth and development. DS

FAMR 311 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 puberty 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 conflict in middle and late adulthood. Focus on physical and applied perspectives. Coverage of physical and psychological events as well as social attitudes, values, and programs regarding aging. Pre: 230. DS

FAMR 540 Intimacy, Marriages and Families (3) Study of intimate relationships, marriage 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 and SOC 100; or consent. DS

FAMR 541 Parenting (3) Parenting theories, methods, skills, issues, and resources; parent-child relations in various cultural contexts. Pre: 530 or consent. DS

FAMR 530 Leadership and Group Process (3) Preparation of leadership theories and the application to leadership development; designed to enhance personal and interactive leadership. Pre: 230 or FDM 200, or consent.

FAMR 532 Community Needs and Resources (3) Theory and practice in the identification of 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 demographics over the life cycle. Pre: 360 or an ECON course, 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 evaluation in agriculture and human resources. FAMR, FDM, or TPSS majors only. Pre: 230 or FDM 200 or TPSS 200, or consent. Co-requisite: 380L. DS

FAMR 380L Research Methodology Lab (1) (1-hr Lab) Test design, computer use, data analysis, FAMR, FDM, or TPSS majors only. Co-requisite: 380.

FAMR 425 Partnerships with Families and Professionals (4) Lecture, discussion and hands-on course, prepares students for direct, educational work with parents and children and for continued graduate work in child and family studies, counseling, psychology, social work and/or family life education. A-F only. Pre: 341 or consent.

FAMR 435 Mindfulness and Skilful Living (3) Lecture, discussion, experiential activities of principles and practice of an evidence-based contemplative science discipline, including applications to daily life and with youth and families. Pre: completed DS course.

FAMR 442 Marriage (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, within the context of independent nature of families and their environments. A-F only. 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 Meth-
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) An introduction to the processes of apparel design and merchandising including theories of fashion change, apparel industry operations, current industry issues, literature of the field, professional competencies, career opportunities, and small business. A-F only. Pre: 20, 340, 360, 380, and 380L.

FDM 200 Culture, Gender, and Appearance (3) Social construction of gender within culture and its visual expression through appearance. Analysis of role, identity, conformity, and deviance in human appearance. Repeatable one time. Open to non-majors. (Cross-listed as WS 200) A-F only. Pre: 250, 340, 360, 380, and 380L.

FDM 205 Basic Apparel Construction (4) (2 Lec, 1 3-hr Lab) Principles, concepts, and procedures for quality garment manufacture. Pre: 101. (Fall only)

FDM 210 Wardrobes World Fashion History (3) Historic study of dress as related to customs and cultures in the Western world, in sociocultural and contemporary contexts. Emphasis on 19th and 20th centuries and 21st century. Pre: 101. (Spring only)

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 fashion trend forecasts to apparel lines. FDM majors only. Pre: 101, 210, and 221.

FDM 315 Draping (3) Principles of pattern making through draping muslin models on standard garment forms. Emphasis on concept, creative design, and discussion of significant topics, problems that affect the welfare of families. Pre: 360 or an ECON course, or consent.

FDM 460 Costume Collections Management (3) Investigation of skills and techniques needed for handling textile and apparel artifacts in museums and other collections. Active involvement in documenting, researching, interpreting, and exhibiting costumes and textiles. Repeatable one time. A-F only. Pre: 210, 416, or 418.


FDM 491 Topics in Fashion (V) Study and discussion of special topics, problems. Offered by staff and visiting faculty. Repeatable five times. Pre: consent.

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. Pre: 210, 416, or 418.

FIL 101 Beginning Filipino (4) Listening, speaking, reading, writing skills. Structural points introduced inductively. Meets four hours weekly. Pre: 200, 201, two FG courses, or consent. Pre: 200, 221, two FG courses, or consent.

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. Pre: 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

Key to symbols & abbreviations: see the first page of this section.
FIN 224 Filipino for Education (4) Continuation of 102. Lessons focus on various aspects of Filipino culture and specialized topics that cater to the needs of teachers intending to teach Filipino to English-speaking immigrant students. This course is conducted in the Filipino language. Meets five hours a week; daily lab work. Pre: 102. HSI.

FIN 225 Filipino for Education (4) Continuation of 202 or 225. HSI.

FIN 301 International Business I (3) Conversation, advanced reading, and composition on contemporary issues. Meets three hours weekly. Pre: 202 or 225, or consent.

FIN 302 Third-Level Filipino (6) Advanced reading, and composition on contemporary issues. Meets three hours weekly. Pre: 202 or 225, or consent.

FIN 303 Accelerated Third-Level Filipino (6) Advanced reading, and composition on contemporary issues. Meets three hours weekly. Pre: 202 or 225, or consent.

FIN 401 Fourth-Level Filipino I (3) Advanced reading in traditional literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent.

FIN 402 Fourth-Level Filipino II (3) Advanced reading in current literature; discussion of cultural implications; advanced conversation and composition. Meets three hours weekly. Pre: 302 or consent.

FIN 415 Advanced Filipino Aural Comprehension (3) Continuation of 315. Training in comprehension and analysis of spoken authentic materials through films. Pre: 315 or consent. DL.

FIN 435 Translation Techniques (3) Techniques of bilingual translation: Filipino to English and English to Filipino. A-F only. Pre: 302 or consent.

FIN 451 Structure of Filipino (3) Introduction to phonology, morphology, syntax. Pre: 202 or consent. DH.

FIN 461 Filipino Contemporary Literature (3) Selected readings in Filipino films, history, forms, and plays from early 1900s to present. Co-curricular cultural activities included. Pre: 302 or consent. DL.

FIN 462 Filipino Contemporary Literature: 1980s-Present (3) Survey of literature from the 80s (1986) to the present. Co-curricular cultural activities included. Pre: 302 or consent. DL.

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

**Finance (FIN)**

**Shailer College of Business**

FIN 301 Personal Finance (3) Focuses on principles and techniques of personal financial decisions, including: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, savings and investments, and retirement planning.

FIN 305 Problems of Business Finance (3) Application of financial principles to cases involving important financial decisions. Pre: BUS 314.


FIN 311 Investments (3) Introduction to various investment media and capital markets. Topics include the analysis of security returns using techniques such as beta, filter rules, and portfolio theory. Pre: BUS 314.

FIN 321 International Business Finance (3) Financial management of foreign and international business operations: the regulatory environment of international finance, international financial transactions, international capital markets, taxation, and investment 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, corporate and international financial management, foreign activities, and global risk management. Pre: BUS 314 or consent.

FIN 341 Financial Aspects of New Ventures (3) Examination of 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 and structures. 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. A-F, only. 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 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 435 Banking and Capital Markets (3) Covers the analytical skills necessary to work in the financial services industry, in particular in the bank treasury department or the fixed income capital market sector. A-F only. Pre: (311 and BUS 314) with a minimum grade of B or higher. (Alt. years: spring)

FIN 444 Asian Finance (3) 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 of the risks faced by corporations and developing important risk management techniques with an emphasis on enterprise risk management. Combined lectures, case studies, and discussions. BUS majors only. A-F only. Pre: BUS 314 or consent. (Once a year)

FIN 460 Special Topics in Finance, Real Estate or Insurance (3) Study and discussion of significant topics and problems in the field of finance and finance-related fields. Repeatable two times in different emphasis topics. Pre: BUS 314 (with a minimum grade of B) or consent.

FIN 467 Seminar in Financial Planning (3) A capstone course for services and planning track. This is a case study course intended to provide students the opportunity to integrate concepts from earlier courses and develop a comprehensive view of the financial planning process. A-F only. Pre: 301 and 311 and two of the following courses: 490E, 490F, ACC 401, INS 300.

FIN 470 Sustainable Development in East Asia (3) Interdisciplinary investigation of development in East Asia is an urgent issue. Study and role of Asian business; current technological, economic, and financial developments; impact on world economy. A-F only. (Cross-listed as ASAN 470)

FIN 490 (Alpha) Advanced Topics in Finance (3) In-depth analysis of current practices and issues in finance. (B) equity research and corporate valuation methods; (C) Japanese financial manage-
ing 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 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 a model or write a paper with high practical or scientific merit. Outcome enhances the chances for employment. Represents the culminating experience for students in this program. A-F only. Pre: graduate standing in Financial Engineering program, or consent.

FIN 688 Healthcare Financial Management (3) Focus on important accounting and financial management principles relevant to management of health services organizations. Designed around a series of cases to examine the issues that confront healthcare managers. A-F only. Pre: BUS 629. (Alt. years: fall only)

FIN 701 Foundations of Finance (3) First PhD course in finance. Covers basic theory and empirical methodology in finance, providing a solid framework of conceptual knowledge to understand the literature on financial theory and related empirical evidence. A-F only. Pre: graduate students only.

FIN 702 Seminar in Investments (3) Covers research issues in investments. Topics include empirical asset pricing tests, characteristics of asset returns, behavioral finance, and investment issues that overlap with corporate finance, accounting, and economics, etc. A-F only. Pre: PhD student status in business administration, or consent.

FIN 703 Corporate Finance (3) Covers research issues in corporate finance and financial markets. Topics include capital structure theory, corporate governance, corporate innovations, and mergers and acquisitions, etc. Student develops academic research papers that lead to dissertation work. A-F only. Pre: student status in PhD in business administration, or consent.

FIN 704 Asian Finance (3) Provides in-depth review of scholarly journal articles and working papers relevant to Asian-Pacific financial markets to prepare PhD students to work effectively on market microstructure, corporate finance, investments, A-F only. Pre: PhD student status in business administration, or consent.

FIN 799 Doctoral Research and Writing (3) 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)

College of Tropical Agriculture and Human Resources

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

FSHN 141 Culture and Cuisine: The Global Diversity of Food (3) A timeline of the world history of food and how it relates to culture, diversity, ethnicity, and migration. International food demonstrations and tastings included. FGB

FSHN 181 Introduction to Food Preparation (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 preparation, processing, and storage. Co-requisite: 181L.

FSHN 181L Food Preparation Lab (1) (1 3-hr Lab) Experiments in foods emphasizing ingredient function and standard preparation methods for food groups. Prereq: FSHN 181. (Concurrent). DB

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 are compared among animal species, including humans. An intermediate, general nutrition course for Food Science and Human Nutrition and Animal Science majors. Pre: ANSC 200 (or concurrent), CHEM 161L or higher. (Cross-listed as ANSC 244 DB)

FSHN 311 Institutional Food Service Management and Sanitation (3) Critical and essential aspects of managing institutional food service operations and personnel in healthcare settings; understandingmenu planning, catering, purchasing procedures and inventory control for food and beverages; includes national sanitation exam. Pre: 181 and 181L (or concurrent), or consent.

FSHN 312 Operations and Institutional Purchasing (3) Quantity food and beverage operations, menu development and costing, dietary menu claims, purchasing procedures, inventory control, procurement, taxation, legislation. Institutional food service sanitation, Hazard Analysis Critical Control Point and National Restaurant Association Certification. Pre: 181 and 181L (with a minimum grade of C), or consent.

FSHN 322 Marketing Nutrition and Food (2) (1 Lec, 3-hr Lab) Fundamental marketing principles applied to nutrition and food. Will include concepts such as the psychology of food purchasing decisions and consumer behavior. Field trips and group projects included. Open to non-majors. Pre: 181/181L, 185, 312; or consent.

FSHN 350 Humans, Food, and Animals: Ethics, Issues, and Controversies (3) (2 Lec, 1 3-hr Lab) Ethical issues and other controversies related to human and animal needs; their impact on resource sustainability and quality of life are explored from scientific perspectives. A-F only. Pre: 181 or 181L for ANSC 200 or ANSC 201. (Cross-listed as ANSC 350)

FSHN 370 Lifespan Nutrition (3) Physiological changes and nutritional requirements during human life stages: pregnancy, infancy, childhood, adolescence, adulthood, and older adulthood. Pr: B or better in 185; C or better in CHEM 161/161L; C or better in PHYL 142/142L (or concurrent). DB

FSHN 381 Experimental Foods (3) Experimental approach to study food preparation problems. Applying basic food science research design to conduct experiments, interpret data and write reports. Subject matter used to complement course and food problem solving skills. A-F only. Pre: 181/181L, CHEM 161/161L Co-requisite: 381L. DB

FSHN 381L Experimental Foods Laboratory (1) Experimental approach to study food preparation, food formulation, and sensory evaluation with laboratory exercises in a certified kitchen environment. Applying basic food science research design to conduct experiments, interpret data and write reports. A-F only. Pre: 181/181L, CHEM 161/161L Co-requisite: 381L. DY

FSHN 389 Nutritional Assessment (2) Addresses concepts and uses of nutrition assessment tools at individual and population levels. Students will be introduced to national surveys and new, more sophisticated body composition measurements. A-F only. Pre: 185 and 370 (or concurrent).

FSHN 403 Microbiology of Foods (3) Microorganisms encountered in foods; types of food spoilage; microbial hazards in food; methods of food preservation. Pre: MICR 130 and MICR 140L, or consent. DB

FSHN 411 Food Engineering (3) (2 Lec, 1 3-hr Lab) Principles and application of thermodynamics, electricity, fluid mechanics, heat transfer, materials, energy, and material and energy balances of food processing and preservation. Pre: BIOL 171, CHEM 162, CHEM 181A, MATH 243, PHYS 151 or PHYS 170, or consent. (Cross-listed as ENGR 411 DP)

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

FSHN 430 Food Chemistry (3) Chemical properties of foods constituting in relationship to their effects on processing, nutrition, and spoilage. Pre: CHEM 161 and 161L, or consent. DP

FSHN 430L Food Chemistry Lab (1) (1 3-hr Lab) Application of different chemical methods in the study of food constituents—proteins, lipids, carbohydrates, pigments, enzymes, etc. Pre: 430 (or consent). DB

FSHN 440 Food Safety (3) Discussion of potential microbiological, parasitic, chemical, and natural food hazards; food laws and standards; and related aspects of consumer protection. Pre: 181, CHEM 171, and CHEM 272; or consent. DB

FSHN 445 Food Quality Control (3) Fundamental principles of quality control in the food industry: measurement of quality parameters, utilization and integration of the inspection procedures into grades and standards of quality, sampling, and reporting results.

FSHN 451 Community Nutrition and Nutrition Education (4) (3 Lec) Concepts and methods of nutrition program planning, nutrition education; analysis of nutritional problems of local, national, and international communities; strategies used to educate groups or individuals. A-F only. Pre: 370 and either FAMR 380 or NREM 316; or consent.

FSHN 454 Foundation of Childhood Obesity Prevention in the Pacific (3) Provide students with a basic overview of the causes and effects of childhood obesity, evidence-based approaches, community-based research, and policies to prevent childhood obesity as it relates to the Pacific region. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 455 Childhood Anthropometric and Dietary Assessment (4) (2 Lec, 2 3-hr Labs) Teaches techniques for measuring anthropometry and collecting dietary intake in children. Online course imitates hands-on training through partnering with local organizations and the use of technology. Repeatable one time. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 456 Child Health and Nutrition Monitoring (1) Covers topics related to health and nutritional status monitoring and surveillance, including epidemiology, biostatistics, health and nutrition surveillance systems, and the uses of technology for conducting these activities. Repeatable one time. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 457 Culture and Child Health in the Pacific (3) In-depth study of culture and child health in the Pacific, including an introduction to the land, people, history, culture, and communities. Explore cultural competency, cultural safety, and multidisciplinary approaches to promote a healthy Pacific. Pre: 185 (with a minimum grade of B). (Summer only)

FSHN 460 Food Processing Operations (3) Principles and applications of thermal processing, low temperature preservation, chemical and biochemical preservation, irradiation, packaging, manufacturing, plant sanitation, water and waste management. Pre: 403.

FSHN 467 Medical Nutrition Therapy I (V) Development of dietary, anthropometric and clinical lab assessment skills measuring nutritional status. Understanding pathophysiology of disease processes, medical terminology and nutritional intervention,
FR 110 Immersion French-Early (6)
Content of 101-102 covered in one semester. Three two-hour sessions per week. HSL
FR 201 Intermediate French (3) Reading, conversation, laboratory drill, composition. Pre: 102 or 110 or consent. HSL
FR 202 Intermediate French (3) Continuation of 201. Pre: 201. HSL
FR 210 Immersion French-Intermediate (6)
Content of 201-202 covered in one semester. Two three-hour sessions per week. Pre: 102 or 110 or consent. HSL
FR 258 Intermediate French Abroad (3) Intensive course of full-time formal instruction on the second-year level in French language and culture in a French-speaking country. Pre: 110 or 120 or consent. HSL
FR 259 Intermediate French Abroad (3) Continuation of 258. HSL
FR 301 French Phonetics (3) Analysis of phonological system; methods of teaching pronunciation; understanding various types of spontaneous speech. Drills in pronunciation, intonation, stress, and rhythm. Pre: 202 or 210 or 259 or consent. DH
FR 302 Reading in French (3) Development of language skills based on readings of cultural and literary texts. Pre: 202 or 210 or 259 or consent. DH
FR 306 Structure of French (3) Structure of contemporary French as analyzed by descriptive linguists. Pre: 202 or 210 or 259 or consent. DH
FR 309 Business French (3) Reading and writing commercial materials. Pre: 202 or 210 or 259 or consent.
FR 311 Conversation (3) Systematic practice for control of spoken French. Further development of vocabulary for academic and professional 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 321 Advanced Conversation (3) Systematic and advanced practice for control of spoken French, advanced development for accurate, mature expression. Pre: 311 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 (V) Intensive formal instruction at the third-year level in French language skills: reading, writing, grammar, or conversation in a French-speaking country. Pre: 202 or 210 or 259 or consent.
FR 361 Contemporary French Civilization (3) Survey of cultures of modern France. Pre: 202 or 210 or 259 or consent. DH
FR 364 Survey of French Civilization (3) A historical survey of the development of French culture. The course is interdisciplinary, focusing on the relations between politics, literature, science, and the arts. A-F only. Pre: 202 or 210 or 259 or consent. DH
FR 391 (Alpha) Topics in French Literature (3) (B) French film; (C) the Fantastic; (D) Francophone literature. Repeatable two times with consent. Pre: 311 or 312, or concurrent. 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. Translators of text 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 proses, 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 the 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. Readings in original text in editions giving modern French equivalents for difficult words. Pre: 331 or consent. DL
FR 411 Masterpieces of 17th-Century Literature (3) Principal works of major dramatists: Corneille, Moliere, Racine. Principal movements and major 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 421 20th-Century French Theater (3) Major French playwrights and their works: Claudel, Giraudoux, Anouilh, Sartre, Camus, etc. Pre: 332 or consent. DL
FR 423 20th Century French Prose and Poetry (3) Study of representative prose and poetry of the major trends of 20th century France: modernism, surrealism, existentialism, postmodernism and multiculturalism. Pre: 332 or consent. DL
FR 458 Four-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 Four-level French Abroad (3) Continuation of 458. FR 460 Intensive Four-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 two times per alpha. Pre: 351 (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 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. Repeatable one time.
FR 672 Seminar in Modern Literature (3) Genesis and evolution of literary genres from the 12th to 15th centuries. Epic, romance, lyric poetry, prose, and drama.
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 is required for all 300-level courses except as noted. Junior standing or higher or consent is required for all 400-level courses except as noted.
GEOG 101 The Natural Environment (3) Introduction to physical geography including weather, climate, vegetation, soils, geology, and landforms. Environmental issues and natural hazards. DP
GEOG 101L The Natural Environment Lab (1) A survey of field and laboratory methods commonly used by physical geographers. Pre: 101 (or concurrent). DV
GEOG 102 World Regional Geography (3) World’s major cultural regions; geographic aspects of contemporary economic, social, political conditions. FGB
GEOG 151 Geography and Contemporary Society (3) Elements of economic geography and resource management, population and urban geography; application to economic development of developed and underdeveloped worlds. FGC
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 ATM0 101 or ATM0 200, or consent. DP
GEOG 302 Global Environmental Issues (3) Use and abuse of natural resources and humanity’s progress toward developing a sustainable relationship with its supporting environment. A-F only. (Once a year)
GEOG 303 General Geomorphology (3) Introduction to geomorphological concepts, process mechanics, and relationships between form and process. Emphasis on various subdisciplines of geomorphology: coastal hillslopes, fluvial, aeolian, and glacial. Pre: 101 and 101L, or GG 101 and GG 101L. DP
GEOG 305 Water and Society (3) Interaction of people with water at all scales: 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

Key to symbols & abbreviations: see the first page of this section.
GEOG 310 Introduction to Planning (3) Perspectives on planning; planning tools and methods; specific Hawai‘i planning–research problems from a multidisciplinary approach. Pre: junior standing or consent. (Cross-listed as PLAN 301) 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 migration, regional development, environmental degradation; impacts of globalization on environmentalism 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 Geography, Environment, and Society (3) Examines the geography of resources and environmental change with a holistic and multi-scale perspective. Special emphasis on resolving environmental problems. DS

GEOG 330 Culture and Environment (3) Introduction to cultural geography, the cultural landscape, and perception and expression 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 characteristics of population, natural resources, industry, agriculture, and transportation/communication networks. Pre: 101 or 102 or 151, or consent. DS

GEOG 352 Geography of Japan (3) Regional synthesis of physical and cultural features; economic, social, political geography; origins and development of cities. DS

GEOG 355 Geography of China (3) Topics: environmental resources, resource base, ecological control and resource management, institutional and technological transformation of agriculture, industrial potential and industrial location, settlement patterns and urbanization. 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) An investigation of the development context of Southeast Asia including socioeconomic, cultural, and environmental resources. Problems and prospects for change. (Cross-listed as ASIAN 356) DS

GEOG 365 Geography of the Pacific (3) Physical character of the Pacific; cultural, political, economic geography of Melanesia, Micronesia, Polynesia (except Hawai‘i). DS

GEOG 366 Geography of Honolulu (3) Development of Honolulu and O‘ahu from 1778. 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) Principles of cartography; compilation and measurement from aerial photographs, alternative forms of data presentation, symbolism, design, and map projection. GEOG 376 Map Design and Production (3) (2-3 2-hr Lab) Compilation, design and production of maps for presentation 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 to be explored for describing and interpreting geographic/environmental phenomena. Topics will include data display, measurement, sampling, spatial statistics, dimension-al analysis, and prediction. Pre: 101 or 151 (or concurrent) or consent. DS

GEOG 385 Research Methods in Human Geography (3) Introduction to the methodologies and practice of research in human geography. Combines lectures, workshops, and assignments. Students will conduct and report upon their own research. Pre: 102 or 151, or consent. DS

GEOG 388 Introduction to GIS (3) Design, implementation, and use. Database construction and documentation. Techniques for spatial data manipulation and display. Evaluation of existing systems. Student research projects. Pre: 104 or consent. DS

GEOG 389 GIS Data Visualization (3) Display techniques for statistical and terrain data. Cartographic communication models, data models, algorithms and symbol conventions. Techniques for assessing map design. Pre: 380 or SOCS 225 or ECON 321; or consent. DS

GEOG 399 Directed Reading (V) Limited to seniors majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in geography. DS

GEOG 400 Vegetation and the Climate System (3) Role of vegetation in the climate system; links to hydrology and biogeochemical cycling; vegetation and climate history; evolution of terrestrial ecosystems; effects of global warming. Pre: 101 or 300 or 401 or 402 or 405 or ATM0 101 or ATM0 200 or ATM0 302 or ATM0 303 or ATM0 310, or consent. DP

GEOG 401 Climate Change (3) Approaches to the study of past and future climate change. Pre: 101 or 300 or 401 or 402 or 405 or ATM0 101 or ATM0 200 or ATM0 302 or ATM0 303 or ATM0 310, or consent. DP

GEOG 402 Agricultural Climatology (3) Analyzing climatic data; relation to photosynthesis, pheno- logy and crop yield. Weather and crop models as guides to improved land-use planning and agronomic practices. Pre: 101 or 300 or 400 or 401 or 402 or 405 or ATM0 101 or ATM0 200 or ATM0 302 or ATM0 303 or ATM0 310, or consent. DP

GEOG 403 Fluvial Geomorphology (3) Introduction to the single most important geomorphic agent shaping the terrestrial environment. Focus on fluvial process, fluvial dynamics, fluvial landforms, and sediment transport. Pre: 101/101L or 303 or GC 101/101L. DP

GEOG 404 Atmospheric Pollution (3) Examination of air quality problems from scientific and political perspectives. Policies that explore economic, political, technical, and legal aspects of pollution control. Pre: junior standing or higher, or consent. DS

GEOG 405 Water in the Environment (3) Water fluxes in the environment. Occurrence and movement of water; methods of quantification. Water balance of soil-plant system: precipitation, interception, infiltration, runoff, soil moisture, evapotranspiration, and groundwater. Pre: 101 or 300 or 400 or 401 or 402 or ATM0 101 or ATM0 200 or ATM0 302 or ATM0 303 or ATM0 310, or consent. DP

GEOG 408 Conservation and Evolutionary Biogeography (3) Theories and techniques for the analysis of spatial microevolutionary patterns, taught from an interdisciplinary perspective. Examples and readings emphasize Hawai‘i and the Pacific. A-F only. Pre: junior standing or higher, or consent. (Cross-listed as BIOL 310) DB

GEOG 409 Cultural Biogeography (3) Coevolution 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, conservation, and traditional plant knowledge. The form and function of gardens. A-F only. Pre: junior standing or higher, or consent. (Cross-listed as TSSP 409) DS

GEOG 410 Human Role in Environmental Change (3) Human impacts through time on vegetation, animals, landforms, soils, climate, and atmosphere. Special reference to Asian/Pacific region. Implications of long-term environmental change for human habitability. Pre: with a minimum grade of B, one of 101, BIOL 101, BIOL 123 and either 322 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 Quaternary environments and global processes. Pre: junior standing or higher, or consent. DP

GEOG 412 Environmental Impact Assessment (3) Introduction to analytical methods for identifying, measuring, and quantifying the impacts of changes or interventions in resource, human-environment, and other geographic systems. Pre: junior standing or higher, or consent. (Alt. years) (Cross-listed as PLAN 412) DS

GEOG 413 Resource Management (3) Management of land, water resources, coastal fisheries, forests and agriculture. Focus on managing Hawai‘i and the Pacific. A-F only. Pre: junior standing or higher. DS

GEOG 414 Building Community Resilience (3) Intended to give you a grounding in understanding the natural forces behind the most common natural disasters, and the human actions that reduce or increase vulnerability to natural disasters. Junior standing or higher. (Spring only) (Cross-listed as PLAN 414) DS

GEOG 415 Nature-Based Tourism Management (3) Principles of nature-based tourism, including a survey of impacts, objectives, planning, and management systems. Junior standing. Pre: 101/101L or 304 or 324 or 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. Pre: 102 or 151 or 330, or 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, political and economic changes to food security, environment, and development. Open to nonmajors. Pre: junior standing or higher, or consent. DS

GEOG 423 Marine Policy (3) Introduction to the law and policies concerning the marine environment, commerce and security. Role of science, law and politics in historical and current policies for maritime trade, navigation safety, marine resources, and marine exploration. Pre: junior standing or higher, or consent. DS

GEOG 424 Regional Analysis (3) Spatial dynamics and environmental implications of urban and rural development. Concepts of regions, process of regional development, patterns of spatial interaction, and theoretical bases for development strategies; emphasis on Hawai‘i. Pre: junior standing or higher, or consent. DS

GEOG 425 Geographies of Popular Culture (3) Examines contemporary geographical debates related to concepts of discource, identity, space/place, power, representation, and gender. Focus on the various landscapes of popular culture and how popular culture mediate a sense of place, geopolitics, and identity formation. Pre: junior standing or higher, or consent. DH

GEOG 426 Environment, Resources and Society (3) Human interaction with the environment. How
market, property institution, and technological change affect the environment. Epistemological basis of environmental policies. Debates on controversial environmental issues. Pre: 102, 151, or consent. DS

GEOG 432 Cultural Geographies of Tea (3) Examines the consumption of tea in different parts of the world, focusing on history and culture of tea in China, Japan, and England. Also includes changing technologies and economies of tea worldwide. Junior standing. Pre: consent. DS

GEOG 435 Political Geography of Oceans (3) The geopolitics of the oceans and the law of the sea as applied to regions of conflict and cooperation in marine resource development and preservation. Focus on Indo-West Pacific, South China Sea, Arctic Ocean. Pre: junior standing or higher, or consent. DS

GEOG 436 Geography of Peace and War (3) Geographical factors underlying conflict in the world. Pre: sophomore standing or higher, or consent. DS

GEOG 453 Environment and Society in China (3) Explores the relationship between environment and society in the Chinese society, including both traditional nature-culture connections and modern human-environmental issues. Examines China’s long-range cultural change, environmental transformations, and modern development challenges. Pre: 102 or 151, or consent. DS

GEOG 468 Topics in Geography (3) Selected topics in geography not offered in the regular geography curriculum. Pre: 101 or 102 or 151, or consent. DS

GEOG 470 Remote Sensing (3) (2 Lec, 1-3 hr Lab) Introduction to digital principles of remote sensing and image processing skills. Topics include electromagnetic spectrum, sensors, aerial photo and satellite imagery interpretation, geometric and radiometric correction, digital image processing. Research project, lab. Pre: 370 or consent. DS

GEOG 472 Field Mapping (3) Techniques for field measurement and recording of cultural and physical data. Field sketching, Brunton surveying, plane table mapping, topographic mapping, and representation of field data. Pre: junior standing or higher, or consent. DS

GEOG 476 Advanced Cartography (3) (3 2-hr Lab) Special topics: computer mapping, relief representation, map reproduction methods, use of color, analytic map interpretation, experimental cartography. Pre: consent.

GEOG 489 Applied Geographical Information System (GIS) (3) Application of GIS technologies to various problems or issues in social, natural, and environmental sciences. Research project, lab. Pre: 388 or consent. (Once a year) DS

GEOG 490 Senior Thesis (3) Preparation of research paper under individual faculty supervision. Recommended for admission to graduate program. Pre: senior GEOG major and consent. DS

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. Pre: senior major and consent. DS

GEOG 493 Capstone Undergraduate Seminar (3) Current and historical geographic literature provides a background for local and global issues. Through discussion, written reviews, and research reports, the geographic perspective in modern life will be explored. Pre: senior GEOG major. DS

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. Pre: 300 or 402 or 405 or ATM 363 or ATM 310 or ATM 320; or consent. DS

GEOG 610 Cultural Geographies of Tourism (3) Social and cultural analysis of tourism practices, with emphasis on Europe, China, and the Pacific. Tourism in relation to consumer culture, transnational flows of people and images, post-colonial politics, performance and identity formation. (Cross-listed as ANTH 416) DS

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. Pre: graduate standing or advanced undergraduate standing with consent.

GEOG 620 Theories and Policies of Development (3) 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.

GEOG 621 Human Geographies of the Ocean (3) Core course in the ocean studies specialization in human geography produces graduate students familiar with themes and methods of human geography and cognate fields as applied to the oceans. Repeatable one time with consent.

GEOG 622 Advanced Environmental Impact Assessment (3) Theory and practice of environmental impact assessment. Policy and planning frameworks supporting environmental assessment in the U.S. and abroad. Cumulative environmental effects and strategic environmental assessment. Pre: 412 or consent. (Cross-listed as PLAN 622)

GEOG 628 (Alpha) Resource Systems (3) Resource development and use in a time perspective. Ecological and socioeconomic impacts, concepts, definitions, and methodologies. (B) renewable; (C) non-renewable. 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)

GEOG 637 Environment and Development (3) Theoretical framework 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 ASAN 637)

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

GEOG 639 Seminar in 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)

GEOG 652 Contemporary Japan Seminar (3) Selected physical and human features that represent economic, social, and political life of modern Japan. Repeatable with consent of instructor. Pre: consent. (Cross-listed as ASAN 652)

GEOG 654 Seminar in Geography of Southeast Asia (3) Repeatable with consent of instructor. Pre: consent.

GEOG 665 Seminar in Geography of the Pacific (3) Investigation of geographic problems of 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 scaling up of point measurements to fields, regions, and watersheds. State-space modeling also will be included. A-F only. Pre: 388 or ZOOL 631; or consent. (Cross-listed as TPSS 680)

GEOG 692 Faculty Seminar Series (1) Graduate seminar requirement for M.A. students and recommended for PhD students. Single credit course in which faculty present ongoing research in their fields. Pre: consent. Co-require: 695.

GEOG 693 Tropical and Natural Risks Methods of Analysis (3) Survey of tools for evaluating risks to human health from technological and natural hazards. Historical and international context of methods. Pre: 455 or consent.


GEOG 696 Research Design/Methods in Geography (3) Elements of research design, practical field experience, exposure to research and ideologies, broad exposure to history 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 710 (Alpha) Special Topics (V) Study and discussion of significant topics, problems. (B) regional and locational analysis; (C) geography, environmental, and culture; (H) Multi-objective decision analysis. Repeatable two times. Pre: 455.

GEOG 720 Critical Resource Geography (3) Graduate seminar to provide geography students a roadmap through the important literature and research on political economies of population, resources, 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: graduate status.

GEOG 735 Seminar: Political Geography (3) Topical topics may include borders, boundaries, geopolitics, homelands, identity politics, nationalities and nationalism, social categorization, the sovereign state system, territoriality. Repeatable one time. Pre: graduate standing or consent.

GEOG 740 Seminar: Seminar in the Indian Ocean (3) Repeatable with consent of instructor.

GEOG 750 Research Seminar: Biogeography (3)

GEOG 752 Research Seminar: Resource Management (3)

GEOG 757 Research Seminar: Cultural Geography (3)

GEOG 758 Research Seminar: Conservation (3)

GEOG 761 Research Seminar: Cartography (3)

GEOG 762 Research Seminar: Remote Sensing (3)

GEOG 763 Research Seminar: Agricultural Geography (3)

GEOG 764 Research Seminar: Social Geography (3)

GEOG 766 Society and Space (3) Advanced seminar on social production of space. Topics include spatial metaphor in social theory; western spatiality from the Renaissance through the enlightenment, modernity and post-modernity, and geography of the body, home, landscape, and nation. 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, and other processes inside the Earth and its resources. Field trip. DP

GG 101L Dynamic Earth Laboratory (1) (1 3-hr Lab) Hands-on study of minerals, rocks, and topographic maps. Examines volcanicity, hydrology, coastal processes and hazards, geologic time and earthquakes. Field trips to investigate sandblows, beaches and O‘ahu geology. A-F only. DY

GG 102 Introduction to Global Change (3) Prepares students to inform rational consumers, able to weigh media messages regarding our Earth,
and to act appropriately. Topics include global change, fossil fuel, greenhouse gases, global ice, extinctions, human nutrition and industrial agriculture. A-F only. (Spring only) DP

GG 103 Geology of the Hawaiian Islands (3) Hawaiian geologic processes: origin of Hawaiian islands, volcanism, rocks and minerals, landforms, stream and coastal processes, landslides, earthquakes and tsunamis, groundwater, geologic and geologic field trip. DP

GG 104 Volcanoes in the Sea (3) Lecture with field trips covering the manner in which volcanic conditions, resources, and events have affected past and present circumpacific societies. Credit not given for both 103 and 104.

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 107 Solar System Exploration (4) Explore the wonders of the Solar System through hands-on experience of scientific work. Will study satellite images, evaluate planetary surface observations, analyze data of objects in our Solar System, conduct experiments, and communicate their findings. Repeatable one time. A-F only. DP DY

GG 130 Geological Hazards (3) Introductory course covering the causes of, and effects from, earthquakes, tsunamis, volcanic eruptions, landslides, rockfalls, and other natural geologic phenomena. Open to non-majors. Field trips. (Alt. yrs) DP

GG 200 Geological Inquiry (4) (3 Lec, 1-3 hr Lab) Origin and age of the solar system and earth: interior and surface; plate tectonics; origin of life, 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 303 Structural Geology (3) (2 Lec, 1-3 hr Lab) Introduction to (a) the geometry, kinematics, and mechanics of crustal deformation, and (b) continuum mechanics in geology. Develops skills in three-dimensional visualization of geologic structures, interpretation of cross sections, analysis of potential surface deformation, and field mapping. Pre: 200, 250, MATH 241 or MATH 251A, and PHYS 151 or PHYS 170; or consent. DP

GG 304 Physics of Earth and Planets (4) (3 Lec, 1-3 hr Lab) Essentials of geophysics: formation of Solar System and Earth, gravity, seismology, heat flow, geomagnetism, isostasy, plate tectonics. Coursework involves quantitative analysis of data to understand Earth structure. Labs include field surveys and computer analyses. Pre: 250, 303, MATH 241, and PHYS 272; or consent. DP DY

GG 305 Geophysical Field Methods (3) Methods used in geophysical investigations in the field. Eight hours on Saturday in the field. Pre: 302, 303, and 307; or consent. DP

GG 306 Work of Water (3) Physical properties of water, geological aspects of surface water and ground water occurrence, surface water and groundwater resources, use, and problems. Pre: 200 or consent. (Alt. yrs: fall) DP DY

GG 309 Sedimentology and Stratigraphy (4) (3 Lec, 1-3 hr Lab) Lecture and discussion on the origin, distribution and exploitation of sedimentary rocks, properties and interpretation of these properties and stratigraphic relationships in terms of Earth history. Repeatable one time. Pre: 200 or consent. (Spring only) DP DY

GG 312 Advanced Mathematics for Scientists and Engineers 1 (3) Advanced mathematical methods with emphasis on application to the earth and ocean sciences and engineering. Topics include linear algebra, vector calculus, differential equations, and numerical methods. Pre: MATH 242 or consent. (Cross-listed as OCN 312)

GG 325 Geochemistry (3) Theory and applications of chemical principles and chemical analysis to Earth, ocean and environmental sciences; chemistry of hydrosphere-geosphere-biosphere system, origin and differentiation of Earth/Solar system, volcanic processes, natural radioactivity, organic/inorganic chemistry. Pre: 200, 250, MATH 241 or MATH 251A, CHEM 162 (or concurrent); or consent. (Fall only) DP

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

GG 399 Directed Reading 1 (3) Individual reading in geology and geophysics. Pre: consent.

GG 402 Hawaiian Geology (3) (3) Lecture and discussion on the origin, distribution and exploitation of volcanic rocks, properties and interpretation of these properties and stratigraphic relationships in terms of Earth history. Repeatable one time. Pre: 200 or consent. (Spring only) DP

GG 403 Ocean Geology (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 407 Energy and Mineral Resources (3) Lecture and discussion on energy: coal, nuclear, hydroelectric, oil, gas, wind, geothermal, biomass, and nuclear reactors. Pre: 200 or consent. (Alt. yrs) 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 grade is equivalent of oral communication assignments. Pre: 170 (or 101 and 101L, or 103 and 101L) and 200.

GG 413 Introduction to Statistics and Data Analysis (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 Beaches, Reefs, and Climate Change (3) Global and local aspects of climate change and paleoclimate; beach and reef processes and response to climate change; management of coastal environments; field study local sites. Repeatable one time. Junior standing or higher, or consent. DP

GG 423 Marine Geology (3) Sediments, structure, geology, geochemistry, history of ocean basins and margins. Pre: 200 and 302 or consent. (Cross-listed as OCN 423) DP

GG 425 Environmental Geochemistry (3) Theory and applications of geochemistry to contaminant/ resource distribution and environmental exploration, and interpretation. Seismic reflection and refraction, gravity, and electromagnetic. Constraints on models of Earth's internal structure and composition. Pre: 250, 303 and MATH 242, and PHYS 272; or consent. DP DY

GG 451 Earthquakes and Crustal Deformation (3) Earthquakes and crustal deformation through modern seismological and geodetic observations; origin of rocks, seismic waves, causation, detection, and location of earthquakes; crustal motions of the earthquake cycle; tsunami generation, liquefaction, and planetary observations. Pre: MATH 241 and PHYS 170, or MATH 170. (Alt. yrs) DP

GG 454 Engineering Geology (3) Solutions of geotechnical problems by geologists and engineers through recognition, characterization, evaluation, and assessment of geological processes that impact people, engineering structures, and engineering operations. Group format. GG and CEE majors only. Junior standing and higher. Pre: consent. (Spring only) 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. DP

GG 460 Geophysical Remote Sensing (4) (3 Lec, 1-3 hr Lab) Cobalt in the hydrosphere-geosphere-biosphere system. Topics include aqueous geochemistry, thermodynamics, kinetics, organic and isotopic chemistry of environmental contaminants. Pre: CHEM 161 and CHEM 162, or consent. (Spring only) DP

GG 464 Plate Tectonics (3) (2 Lec, 1-3 hr Lab) Quantitative geological analysis techniques of plate tectonics theory; instantaneous and finite rotation; plate motions; plate boundary stresses. Pre: 200 or consent. (Alt. yrs) DP

GG 450 Geophysical Methods (4) Combined lecture/lab covering basic geophysical principles of investigation, exploration, and interpretation. Seismic reflection and refraction, gravity, and electromagnetic. Constraints on models of Earth's internal structure and composition. Pre: 250, 303 and MATH 242, and PHYS 272; or consent. DP DY

GG 461 Geospatial Information (3) Combined lecture/lab covering the collection, analysis, and use of geospatially registered field data. Pre: 200 (or equivalent). (Alt. yrs) DP

GG 466 Planetary Geology (3) Comparative geology of the terrestrial planets (moon, Mars, Mercury, Venus, and Earth); impact cratering, volcanism, tectonics, 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 thesis report is 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 (V) Designed for in-service school professionals to learn new approaches and concepts in the fields of...
GG 600 Equations of Geophysics (3) Least-square approximation of functions by orthogonal series; potential, wave heat equations; boundary value problems; Bessel Hankel functions, spherical harmonics, potential theory, plane waves, spherical waves; emphasis on geophysics applications. Pr: MATH 244 or MATH 253A, PHYS 400, or consent.

GG 601 Explosive Volcanism (3) Explosive volcan- erkur eruptions: from causes to consequences. Review of current physical volcanology including ash and fragmenta- tion of magma, transport and deposition processes in pyroclastic eruptions, volcanic crisis management and volcanic eruption scenarios. Seven- day field trips. Pr: 200 or consent. (Alt. years)

GG 602 Theoretical Petrology (3) Derivation of phase diagrams from basic thermodynamics prin- ciples. Equilibria of natural silicate systems. Crystal chemistry, kinetics, diffusion, etc. Applied to igneous and metamorphic petrology. Pr: 302, 325, and CHEM 351 (or concurrent); or consent. (Alt. years)

GG 603 Petrology of Ocean Lithosphere (3) (2 Lec, 1.5-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. Pr: 302 or consent. (Alt. years)

GG 604 Disaster Management: Understanding the Natural Hazards (3) Con- duct discussion in disaster management focusing on the scientific understanding of the forces and processes underlying natural hazards; and human attempts to respond through mitigation and planning activities. Pr: PLAN 670 or consent. (Once a year) (Cross-listed as PLAN 671)

GG 605 Lava Flow Rheology and Morphology (3) Eruption processes: from eruption to final flow form. Includes lava flow rate, abundance of heat, and cooling. Pr: 600 or consent. (Alt. years: fall)

GG 606 Current Events in Volcanology (1) Discussion of active areas of volcanism and new publications on volcanology. Repeatable four times. Pr: 300 (or concurrent) or consent. (Alt. years: spring)

GG 607 Submarine Volcanoes (3) Seminar exploring different aspects of submarine effusive and explosive volcanism, hydrothermal activity, and volcano-hosted ecosystems. Repeatable one time. A-F only. Pr: 300 or consent. (Alt. years: fall)

GG 608 Isotopes and Trace Elements (3) Principles of radiogenic and stable isotopes, and trace element geochemistry as applied to igneous petrology, mantle dynamics, plate tectonics, and terrestrial evolution. Pr: 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 student will also review the responsibilities required by the instructor. GG graduate students only. CR/NC only. Pr: consent of instructor and department chair.

GG 610 Graduate Seminar (1) Seminar in which students present their research on a related topic. Meets 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 geol- ogy and geophysics for graduate students. Includes Earth structure, rheology, seismology, dynamics, origin of continents, global change, energy sources, environmental geology, and natural hazards. Saturday field trips. Pr: 200 or consent. (Fall only)

GG 613 Introduction to Statistics and Data Analysis (3) Exploratory data analysis, error propa- gation, probability theory and statistics, curve fitting, regression, sequence and spectral analysis, multivari- ate analysis, and additional statistical data. Credit earned only one time for either GG 413 or 613. Pr: 250 and MATH 242 (or concurrent), or consent. (Fall only)

GG 614 Advanced Field Study (V) Shipboard and land-based projects. Repeatable eight times. Pr: consent.

GG 616 How to Write a Scientific Paper (3) De- signed 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 prepara- tion and submission. GG students only. A-F only. Pr: consent. (Alt. years: fall)

GG 620 Coastal Geology (3) Geological history and geologic framework of the Hawaiian shoreline. Modern climate change, paleoclimate, focus on sea level change. Modern coastal management and problems in the coastal environment. Coastal planning. Pr: Repeatable one time. Pr: 300 or consent. (Spring only)

GG 621 Electron Microprobe Analysis (2) Combined lecture/lab on the principles of geo- chemical analysis by electron microprobe and X-ray fluorescence. Hands-on experience with the electron microprobe. Required to operate the UH electron microprobe. Pr: 301 or consent.

GG 625 Advanced Environmental Geochemistry (3) Theory and applications of contaminant distribution in the hydrosphere-geosphere-biosphere-atmosphere system and remediation methods. Topics include aqueous geochemistry, organic geochemistry, mineral geochemistry, and environmental contaminants. Pr: 325 or consent. (Spring only)

GG 630 Numerical Model 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 631 Geophysics-Solid, Fluid, and Wave Me- chanics (3) Continuum mechanics in geophysics, as applied to the Earth (elastic, viscous, viscoelastic, and plastic deformations) and seismic wave propagation (body waves, surface waves, anisotropy, and attenuation). Pr: (with a minimum grade of B-) for PHYS 272, and MATH 307 or GG 312 (or equivalent). (Spring only)

GG 632 Geophysics-Gravity, Magnetics, and Heat Transfer (3) Fundamental theory and practical applications of the use of gravity, magnetics, and heat conduction to probing the structure of the Earth; heat transfer via mantle convection is a major control on Earth’s internal structure. Pr: (with a minimum grade of B-) for PHYS 170, PHYS 272, and MATH 307 or GG 312 (or equivalent). (Fall only)

GG 635 Seismology (3) Elasticity, wave equations, body waves, surface waves, free oscillations, seismom- etry, seismonic interpretation, tectonics, inversion, source theory, and waveform modeling. Pr: 600 or consent.

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 feedbacks that control the distribution of selected elements or compounds in the geology, oceans, atmosphere, and biota; energy and matter cycles; atmospheric, oceanic, and biological responses to environmental change; and the role of human activity in modifying the Earth system. Pr: 600 or consent.

GG 639 Stable Isotope Biogeochemistry (3) Stable isotope geochmistry applied to questions of biogeo-
ing of scientific data and the automated preparation of maps and illustrations using GMT on UNIX workstations, with introduction to UNIX and the C shell environment.

GG 691 Data Exploration and Processing (3) Time- and frequency analysis, filtering, factor and cluster analysis, interpolation, quantitative map analysis, and introduction to wavelets and fractals. Pre: 413 or consent.

GG 695 Bayesian Data Analysis (3) Linear and nonlinear techniques for model selection, parameter estimation, simulation and forecasting, from Bayesians' principles with particular attention to large data sets and sparse noisy data. Pre: 600 or 691. (Alt. years)

GG 699 Directed Research (V) Repeatable unlimited times. CR/NC only. 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. (Summer) 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 740 MGeo Seminar (1) Seminar to improve student awareness of trends and practices in geoscience professions, and develop ability to prepare, deliver, and evaluate a professional scientific presentation. Topics and form of presentation to be announced. Repeatable two times. A-F only. (Spring only)

GG 750 MGeo Professional Project (V) Practical hands-on professional experience, typically with a local company or agency, and involving a final written report and an oral presentation. A grade of credit is assigned when the internship presentations are satisfactorily completed. Repeatable up to six credits. MGEO majors only.

GG 800 Dissertation Research (V) Repeatable unlimited times.

Geriatric Medicine (GERI)

School of Medicine

GERI 541 Geriatric and Palliative Care (V) This four-week rotation provides medical students with an overview of geriatric and palliative medicine in outpatient, inpatient, home care and nursing home settings. Students will receive one half-day per week of geriatric medicine didactic seminars and one half-day per week of palliative medicine didactic sessions. CR/NC only.

GERI 595 Medical Student Training in Aging Program (2) Introduces medical students to clinical, research, and academic experiences in geriatrics, under the mentorship of faculty members. MD majors only. CR/NC only. Pre: MDED 554 or consent. (Fall only)

German (GER)

College of Language, Linguistics and Literature

All courses are conducted in German. A grade of C- or better in the prerequisite courses is required for continuation.

GER 101 Elementary German (3) Conversation, grammar and reading. HSL

GER 102 Elementary German (3) Conversation, grammar and reading. Pre: 101, HSL

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, DSL

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 two-year level in German language and culture in German. Pre: 102, DSL


GER 302 Structure of Modern German (3) Study of syntactic and morphological structures and basic pragmatic focuses. Focuses on spoken and written Modern German. Pre: 202 or 260.

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. DI

GER 304 Business German (3) Advanced German conversation, reading, and writing with a special emphasis on the 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; newspapers, radio, and television programs and online sources. Pre: 202 or consent.

GER 306 Conversation (3) Intensive practice in spoken German designed to increase vocabulary and improve oral proficiency. Pre: 202 or 260.

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. DI

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. DI

GER 320 German Cinema (3) Study of German film history, film analysis, film theory, and film study. Lecture/discussion. Repeatable one time, or take LEQA 320 one time, for different topics. 6 cr. limit on GER/LEQA 320 courses. Pre: 305 or 306. DH

GER 360 Intensive Third-Level German Abroad (V) Intensive course of formal instruction on the three-year level in German language and culture in Germany. Pre: 260 or in the German Abroad Program. dh

GER 361 Germanic Civilization to World War II (3) German cultural heritage and history in Germany, Austria, and Switzerland until World War II. Pre: 203 or consent. DI

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 and Drang (3) Lessing and his contemporaries; early dramas of Goethe and Schiller; Goethe’s early lyrics. Pre: 306 or consent. DI

GER 410 Classicism (3) Classical writings of Goethe and Schiller; some reference to other writers. Pre: 306 or consent. DH

GER 411 Romanticism (3) Novalis, Tieck, E. T. A. Hoffmann, Eichendorff, etc. Pre: 306 or consent. DI

GER 412 Poetic Realism (3) Masterworks by Büchner, Radd, Storm, Keller, Meyer, Hebbel, and others. Pre: 306 or consent. DI

GER 415 Culture of Two Germanies: 1945-1989 (3) Literature, culture, and film of East and West Germany, 1945-1989. Pre: 306 or consent. DI

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 LEQA 416. Pre: 303 or 306 or consent. DI

GER 428 Survey of German Lyric Poetry (3) Individual interpretation complements lectures on theoretical and historical background. Pre: 306 or consent. DI

GER 460 Intensive Fourth-Level German Abroad (V) Intensive course for students in the fourth-level in German language and culture in a German-speaking country. Pre: 360 or equivalent.

Global Health Protection and Security (GHPS)

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: introductory social science course (ECON 120, 130, 131; GEOG 151; POLS 110; or SOC 100) or consent. DI

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. DI

GHPS 401 Forced Migration (3) Global view of refugee and other forced migration; emphasis on humanitarian assistance. Pre: junior standing and consent. DI

GHPS 412 Analysis in Population and Society (3) Global and U.S. patterns of population growth; composition and distribution, elementary demographic techniques, and 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 Demographic Analysis (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 at 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;
HAW 101 Elementary Hawaiian (4) Listening, speaking, reading, writing. Meets five hours weekly; daily lab work. HSL
HAW 102 Elementary Hawaiian (4) Continuation of 101. Pre: 101 or exam or consent. HSL
HAW 105 Intensive Elementary Hawaiian (8) Content of 101 and 102 covered in one semester. Meets two hours daily, Monday–Friday, plus lab work. HSL
HAW 200 1 Ka 'Olelo Nē Ke Ola (4) Accelerated lecture/lab to bridge fluent speakers mainly from Kula Kaiapuni into Kawaihuelani's system of Hawaiian that reflects a Hawaiian worldview, including HAW 101–201 content, grammar, writing, and spelling competencies. Pre: 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. HSL
HAW 261 Hawaiian Literature in Translation (3) Survey of Hawaiian literature, including prose narration and poetry, translation to Polynesian and Western themes and forms. DL
HAW 284 Papa Mele I (Mele in the Hawaiian Language Classroom) (3) The incorporation of mele and the performance thereof for the enhancement of second language acquisition in Hawaiian. Pre: 102.
HAW 301 Third-Level Hawaiian (3) Continuation of 202. Conducted in Hawaiian. Advanced conversation and reading. Pre: 202 or exam or consent. HAW 302 Third-Level Hawaiian (3) Continuation of 301. Pre: 301 or exam or consent. HAW 321 Hawaiian Conversation (3) Systematic practice on various topics for control of spoken Hawaiian. Repeatable up to six credit hours. Pre: 202 or consent.
HAW 332 Listening Comprehension and Transcription (3) Development of listening comprehension through transcription and discussion of tape recordings. Pre: 202.
HAW 345 Ulukīpili'ōlī (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 1 Ka Mo'omeheu 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 radio broadcast. Includes research, writing, and voicing of mele and their stories on live radio. Repeatable one time. Pre: 302 or 384 (or concurrent) 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), paying close attention to the style of composition by identifying reoccurring nuances found in mele composed by the same as well as various authors. Pre: completion of 202 or 302. Once a year. DH
HAW 401 Fourth-Level Hawaiian (3) Advanced reading, writing, and discussion in Hawaiian. Transcribing and translating Hawaiian language tapes.

Key to symbols & abbreviations: see the first page of this section.
HAW 483 Papa Mele Wahi Pana (3) Will provide students with the opportunity to learn mele, mainly poetry and song, composed specifically for a certain area of Hawaii. Consent.

HAW 484 Hawaiian Poetry (3) Historical survey and analysis of poetry found in traditional chants, folk songs, modern poetry written in Hawaiian. Interpreting and analyzing Hawaiian poetry. Pre: 302 and consent, or 401. DL

HAW 485 Haku Hanakea–Hawaiian Language Playwriting (3) The creation and authoring of Hawaiian language play scripts based on traditional motifs. Repeatable one time. Pre: 402 (or concurrent) or consent. DA

HAW 486 Kahua Hanakea (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 kuona or symbolic meanings. A-F only. Pre: 402 or consent.

HAW 490 Ka Makanʻōlelo Aʻo Kula Kaipuni Hawaiʻi (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 reading in various academic fields. Repeatable up to 6 credits. Pre: 302 and consent.

HAW 601 Kākau Moʻolelo (3) Analyzes various genres of written Hawaiian literature. HAW majors only. Pre: graduate standing and 402, or consent.

HAW 602 Kākāʻōlelo Oratory (3) A survey of oral performance styles to build increased oral skills. Pre: graduate standing and 601, or consent.

HAW 604 Haka Palapala Noʻeau/Literature Writing a Hawaiian Master's Proposal (3) Seminar to select and develop students’ research topic, proposal, and organizational plan for Plan A or B completion. Majors are encouraged not to take this course in their first semester of the program. A-F only. (Once a year)

HAW 605 Ka Hana Noʻei (Research Methods) (3) Research methodology course utilizing active research in the major areas of study: Hawaiian language materials and Hawaiian-related knowledge. A-F only. Pre: 604 or consent. (Once a year)

HAW 612 Nā Manaʻo Politiikā Hawaiʻi (Hawaiian Political Thought) (3) Study of Hawaiian political thought in writing from 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 Kuanaʻike (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 Moʻolelo Hawaiʻi (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 Moʻolelo (3) Intensive study of an individual author, his/her works and nuances of his/her works. (E) J. H. Kanepuʻu; (I) S. M. Kamakau. Pre: 601 or consent. (Once a year)

HAW 643 Ke Aʻo ‘Olelo Hou ʻAna (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 Hawaiian immersion program; historical heritage, syllabus and materials development; practicum. Pre: 401 and 492 or consent.

HAW 652 Pilina ʻOlelo (3) In-depth examination and research into the grammar of Hawaiian includ-
HWST 343 Myths of Hawaiian History (3) Thematic exploration of some common myths of Hawaiian history, including incarnation, slavery, feudalism, constant warfare, human sacrifice, and a limited concept of consent, 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. Pre: 351 or consent.

HWST 353 Malama Loko ‘a ‘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 356 Aloha Kanaloa-Marine Resources and Abundance (3) Undergraduate course exposing students to the resources and processes of the ocean, research, and management approaches, as well as a Hawaiian worldview of oceanic elements. Junior standing or higher. Pre: 207, HAW 102 (or concurrent).

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 metaphysical significance in Hawaiian literature. Pre: 270, 341, and HAW 202.

HWST 365 Pana Paemoku o Kanaloa: The Northwestern Hawaiian Islands (3) Will look at the use of the Northwestern Hawaiian Islands during pre-contact times, the historical period of the Kingdom of Hawai‘i, after the islands were ceded to the U.S., and the contemporary political issues that surround the region today. A-F only. Pre: 107 or consent.

HWST 372 Oli Hawai‘ulu Makawalu Methodology in Hawaiian Practice (3) Introduces the use of Makawalu Methodology to analyze kaona in Hawaiian protocol chants, which influences the oral production of such chants. A-F only. Pre: 270 (or concurrent) and HAW 201 (or concurrent), or consent.

HWST 385 Lī‘au Lapa‘au II: Advanced Medicinal Herbs (4) (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 development; forms of native self-determination. Pre: junior standing or consent. DH

HWST 396 Native Hawaiian Rights and Practices (3) Students will strengthen their cultural, political, and legal foundations by: (1) reviewing Hawai‘i’s historical traditions and customs, (2) learning legal analysis techniques, and (3) applying those techniques to issues that govern native Hawaiian “rights” today. Sophomore or higher standing. Pre: 107, 270, and 341 (or concurrent) and HAW 102. (Fall only) DH

HWST 421 Visiting Artist Seminar (4) (2 cr. Lec, 2 cr. Lab) Explore indigenous concepts through the media of a visiting indigenous master artist by looking at cultural concerns of Indigenous cultures, and the possibilities for contemporary expression in other media. Repeatable one time. HWST majors only. A-F only. Pre: 107, one course in 220 level (222, 224, 225), one course in 320 level (322, 324, 325), and 341 (or concurrent). (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.

HWST 441 Ceded Lands: Focus on Crown and Government Lands (1848 to Present) (3) Inventario “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 442 Introduction to Indigenous Research Methods (3) Survey course introduces students to a range of methods by beginning with a critical analysis of dominant research methodologies from the perspective of Indigenous scholars. HWST majors only. Junior/senior standing only. (Fall only)

HWST 445 Hawaiian Institutions (3) Comprehensive analysis of institutions like Bishop Estate, Kamehameha Schools, OHA, Lī‘i’ukalani Trust, Department of Hawaiian Home Lands and The Queen’s Hospital. Pre: 342.

HWST 454 Hawai‘i’s Water and Sovereignty in Hawai‘i (3) Focus on Hawaiian relationships with Ka Wai Ola a Kane (water), traditional and contemporary water management practices, as well as contemporary issues and Native Hawaiian community advocacy for water. Pre: 307 and HAW 202 (or concurrent).

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

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

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

HWST 460 Hui Konohiki Practicum (3) Hands-on intensive environmental or resource-management organization in Hawai‘i. The experience will be broadened and supplemented by classroom lectures, discussion and analysis from traditional Hawaiian, scientific and economic perspectives. A-F only. Pre: 457 or BOT 457, 458 or BOT 458 (or co-requisite), 459 or BOT 459; or consent. (Spring only) (Cross-listed as BOT 460)

HWST 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 ‘Āina Field Methods Course (6) Intensive field methods program to research Mālama ‘Āina strategies. Introduces students to a variety of field techniques in doing land research and integrating it with writing techniques. Team-taught by student. Junior standing or higher. Pre: 307 and 457 or consent. (Summer only)

HWST 470 ‘Ike Akua Papakī Makawalu: Ancestral Understanding of Elements (3) Uses Dr. Pu‘ulani Kanahele’s Papakī Makawalu 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 concurrently). (Cross-listed as BOT 470)

HWST 472 Mele Au Hou: Music and Native Identity (3) Presents Hawaiian music as it has been written, recorded, and performed. Special emphasis on the roles of Native Hawaiian orators. A-F only. Pre: 107, 270, 341 or consent. Pre: 222 or 224 or 225 or 372 or 478 or (or concurrent). (Fall only)

HWST 493 Hawaiian Political Speech: Ha‘a‘ole loa (3) Students will examine political speeches in persuasive, passionate and dynamic styles of Native Hawaiian orators. A-F only. Pre: 107, 341, 342, or HAW 202; or consent. (Once a year)


HWST 495 Ku‘u Kana‘wai: Western Law and Hawai‘i (3) The rise of Western law in Hawai‘i, its contribution to nation building and colonialism. Pre: 342 or 343 or 390; or consent. DH

HWST 496 Kana‘wai II: Practical Application of Rights (3) Historical, current, and future issues 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: instructor consent. Students must receive a grade of B- or better in ALL courses counted towards their MA in Hawaiian Studies degree.

HWST 501 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 342 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 502 Hawaiian Archival Research (3) Research seminar aimed at familiarizing students with the rich historical primary sources existent in various archives in Honolulu. A-F only. Pre: 107, 270, 341 or 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 503 Review of Hawaiian Literature (3) Seminar in review of Hawaiian literature to understand the signification of secondary sources in Hawaiian literature. This makes the Hawaiian Studies graduate core. A-F only. Pre: 107, 270, 341 (or concurrent), 342 (or concurrent), and one of the following: 343 (or concurrent) or 390 (or concurrent) or 490 (or concurrent); or consent.

HWST 604 Writing a Hawaiian Thesis (3) Seminar to help fashion student’s research and thesis proposal. To be taken by all HWST MA students as they begin designing their capstone project. Course will be team-taught by HWST faculty. Repeatable one time. A-F only. Pre: 601 and 602 (or concurrent).

HWST 620 ‘Ike Pono-Vision/Cultural Interpretations (3) Graduate seminar to study that examines (from a Kanaka Maoli viewpoint) colonial imaging; collecting and site of contestation; resistance and resilience; and re-righting. A-F only. Pre: 107; and course from 222 or 224 or 372 or one course from 320-325; or consent. (Fall only)

HWST 621 ‘Ike Maka-Vision/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(im)-ag(in)-ing. HWST majors only. A-F only. Pre: 620 or consent. (Spring only)

HWST 640 Ma‘oe‘oe Mālama Perspectives (3) Research seminar for developing interpretations of the past from Native Hawaiian and foreign world views with particular emphasis on understand-
ing 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 Kahiko: Comparative Hawaiian and Tahitian Cosmonogies (3) Seminar comparing Gods/myths from Ancient Tahiti by Tetiaro 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 Kahiko: Pacific Life Narratives in Mixed Media and Literature (3) Research seminar in relevant literary traditions, histories of interaction, colonization, and literacy in the Pacific region through the examination of life narratives in mixed media and literature. A-F only. HWST majors only. Pre: 603 (or concurrent) or consent. (Once a year)

HWST 675 Huaka`i Huli Heiau Hawai`ini`ua`kea: Study Abroad on Polyneuinian Temples (6) Comparative study of Hawaiian/Polyneuinian temple design taught over a 3-week period in Hawai`i and Polyneuinia. 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 Kūkūlā 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 Kūkūlā Aupuni: Sovereign Hawaiian State, Domestic Kingdom Law, Governance and Politics (3) Research seminar on the subject of domestic law, governance, and politics of the Hawaiian Kingdom and the historical relevance of this to the contemporary case for independent, sovereign state continuity under public international law. A-F only. (Alt. years)

HWST 695 Practicum Research Plan B (V) Practicum for Plan B. Repeatable unlimited times. CR/NC only. Pre: consent.

HWST 699 Directed Reading and Research (V) Repeatable unlimited times. A-F only. Pre: consent.

HWST 700 Thesis Research (V) Research for master’s thesis. F(S/U): Full-time only. SU for (F) only. Repeatable up to six credits. Repeatable unlimited times for (F). Pre: 700 for (F).

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**Health Sciences and Social Welfare (HSSW)**

**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)**

**Hindi Language, Linguistics and Literature Students choosing Hindi for the language require-**
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, cultural history from Augustus to 476 A.D. Emphasis on literary and archaeological materials. (Alt. years: spring) DH

HIST 335 Early Medieval Europe 300–1050 (3) Formation of the European societies after the western Roman Empire and in relation to Byzantine and Islamic cultures. DH

HIST 336 Medieval Europe 1050–1350 (3) Main trends in European economy, society, religion, politics, and institutions. Emphasis on the arts; interactions with Byzantine and Islamic worlds. 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 social movements. Protestant and Catholic Reformations. (Alt. years: fall) DH

HIST 340 Comparative Economic History (3) Comparative historical study of economic ideas and change since around 1700. Considers the histories of capitalism, poverty, industrialization and labor in Europe, Asia, the U.S., and other regions. (Cross-listed as ECON 341) DH

HIST 342 The History of Economic Thought (3) Introduction to 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 political economy. Pre: 151, 152, ECON 130, or ECON 131; 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 II, Federal Republic, Hitler’s Third Reich, post-World War II. DH

HIST 345 France in the Old Regime (3) Major social, political, and intellectual developments: Renaissance, French 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 indigenous societies in Asia and the Pacific. A-F only. Pre: sophomore standing or consent. DH

HIST 351 East European Empires (3) Comparison of Austro-Hungarian and tsarist 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. 354. DH

HIST 356 Survey of African History (3) The history of Africa from earliest times to the present: the rise of indigenous civilizations, European and Arab Muslim impact, colonialism and nationalism, and current issues. DH

HIST 358 The World of Mekong (3) Historical survey, from BC period to present, of the peoples of the Mekong region, an area covering southwestern China, Thailand, Cambodia, Laos, and southern Vietnam. Open to nonmajors. Pre: upper division standing or consent. DH

HIST 361 U.S. Women’s History (3) History of U.S. women and gender relations. Topics include women’s work in and outside the household, women’s involvement in social movements, changing norms about gender identity and shared 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. Junior standing or higher. (Once a year) (Cross-listed as LLEA 362) 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: To 20th Century (3) Politics, family, philosophy, technology, etc.; their interrelationship within the total society. Pre-colonial to the end of the 19th century. (Cross-listed as AMST 373) DH

HIST 374 American Thought and Culture: 20th Century (3) Continuation of 373: the 20th century. (Cross-listed as AMST 344) DH

HIST 378 History of American Business (3) The evolution of American business and capitalism through the various 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: imperial competition and policies; wars 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 389 The Asia-Pacific War (3) Explores WWII in the Asia-Pacific region, focusing on the interaction of grand strategy, military operations, and war crimes. Includes source analyses and discussions. 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) Historical Theories and Methods (3) Examination of the nature of historical understanding, research, and writing, and of recent trends in historical scholarship; preparation for senior thesis (496). (B) historiography; (C) education. Pre: any 300- or 400-level HIST course.

HIST 400 Digital History in the Global Village (3) History of the digital age in global perspective connecting people, media, and technology. Faculty and students will use digital media to introduce innovative approaches to doing history. (Fall only) DH

HIST 401 History of the Indian Ocean World (3) Explores the transnational history of the Indian Ocean world, especially realms beyond 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 402 Researching WWII in Southeast Asia (3) Introduces students to the practice of conducting research by using primary source documents for World War II in Southeast Asia that have been digitized by various institutions around the world and available on the internet. Junior standing or higher. (Spring only) 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.

HIST 405 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 405) DH

HIST 407 Modern Malaysia (3) History of Malay peninsula and northern Borneo, emphasizing developments since 18th century: trade, commerce, foreign migrations, pluralism, nationalism, and Islam. DH

HIST 408 Modern Indonesia (3) Indonesia from 14th century to present. Emphasis on period from late 18th-century Western colonial impact to struggle for independence and peace problems of nationalism. DH

HIST 409 History of Islamic Southeast Asia (3) History of the coming of Islam to Southeast Asia, the spread of its ideas, and its role in the lives of Muslim communities living in the region. Junior standing or higher. Pre: 151, 152, or consent. DH

HIST 412 Local History of 20th-Century China (3) Survey of developments from pre-colonial through Spanish and American colonial periods, the revolution, Japanese occupation, and post-war republic. (Cross-listed as AMST 412) DH

HIST 411 Local History of Late Imperial China (3) Chinese government and policies in the context of local and regional perspectives; modes of control and disorder during the 19th century. DH

HIST 412 Local History of 20th-Century China (3) Sociopolitical change and continuity at local and regional levels since 1900, stressing provincial reform, Hsien and sub-Hsien politics, warlordism, Kuomintang tutelage, and the Chinese Communist movement and rule. DH

HIST 416 Chinese Intellectual History (3) An interpretive survey of Chinese ideas and values in their cultural, social and political settings from classical age to 1600. Pre: upper division standing or consent. DH

HIST 417 Chinese Intellectual History (3) Interpretive survey of Chinese thought from 1600 to the contemporary period, with special emphasis on the themes of cultural collision and change. DH

HIST 418 China’s Foreign Relations (3) Systematic review of major periods from the beginning of modern and contemporary history, analyses of for-
eign policy formulation, objectives, and implementation. Recommended: 312. DH

HIST 419 The Search for Modern China (3) Origins, development, and meaning of modern revolution in China, 19th century to People’s Republic. Recommended: 211 or 412. DH

HIST 420 People’s Republic of China (3) Salient developments from 1949 to the present. Social revolution and modernization, critically relevant foreign relations. Recommended: 419 or 421. DH

HIST 421 China in World History (3) Interpretative survey of China’s changing position, significance, and function in the evolution of world history as a way to provide a better understanding of its past and present. Juniors and seniors only. DH

HIST 422 Tokugawa Japan (3) Japanese history and culture, 1600–1867. Recommended: 321. DH

HIST 423 Okinawa (3) Survey of social, cultural, economic, and political history from earliest times to the present. DH

HIST 424 20th-Century Japan (3) Problems of Japan’s political, economic, and social development since institutional consolidation of Meiji state (c. 1890). Pre: upper division standing or consent. DH

HIST 425 Women in East Asian History (3) Survey of the changing political, social, economic, and cultural positions of women in China, Japan, and Korea from ancient times to the present. Pre: one course in Japanese or Korean. DH

HIST 428 WWII and the Making of Modern Japan (3) Explores how the history of the Asia-Pacific War both shaped and was shaped by the rise and fall of Japan in the twentieth century. Involves extensive source analyses and discussions. Pre: 389 or 424 or consent. DH

HIST 429 War Crimes Trials in Asia (3) Explores post-WWII Allied war crimes trials in the Asia-Pacific region and transitional justice in Asia. Involves extensive source analyses and discussions. Repeatable one time. Pre: 389 or consent. DH

HIST 431 Ancient Near East: Pyramids and Writing Tablets (3) Civilizations of the Sumerians, Babylonians, Assyrians, ancient Egyptians, Hittites, Hebrews, and Achaemenid Persians. Emphasis on discussion of literary and archaeological materials. DH

HIST 432 Crisis and Conflict in the Middle East (3) In depth study and analysis of major crises and conflicts in the Middle East since World War II: the Arab–Israeli Wars, revolutions in the Arab countries, the Turkish revolution and secularism, the Iranian Islamic revolution, Afghanistan, the Gulf War. Recommended: 354 or 355. DH

HIST 433 Medieval Cultures (3) Topical study of cultural and cross-cultural issues in the medi eval period (c. 500–1500). Class discussion and written work analyses emphasis of primary source documents using cultural and world history theories. Regional focus and readings vary by semester. Repeatable one time. DH

HIST 434 History of Christianity to 1500 (3) Historical analysis of the main traditions of Christianity and elements of diversity within Europe and in relation to other parts of the world. Focus on the interpretation of primary sources and discussion of cultural issues. (Alt. years: spring) DH

HIST 436 World Environmental History, 1500 to Present (3) Explores interactions between humans and the natural world from early modern era to the 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 primitivistic ideas shaped historiography, religion, art, gender, political economy, and empire. Pre: upper division standing or consent. (Alt. years: spring) DH

HIST 439 The Darwinian Revolution (3) Social and intellectual origins of evolutionary thought and its continuing impact; emphasis on Darwin and the Victorian scientific community. Pre: upper division standing or consent. DH

HIST 440 20th-Century Europe (3) Contemporary problems and their historical background. DH

HIST 441 Expansion of Europe (3) Historical processes that lead to European expansion and colonization from 16th to 20th century; impact on non-Europeans in Asia and Africa. (Alt. years: fall) DH

HIST 442 War and Violence in Early Modern Europe (3) History of the intellectual, social, and cultural causes and consequences of violence, including military conflicts. Pre: upper division standing or consent. (Once a year) DH

HIST 443 Nazi Germany (3) Origins, establishment, and impact of Hitler’s Third Reich. Recommended: 344. (Alt. years: spring) DH

HIST 444 The History of the Holocaust (3) The origins and progression of the Holocaust, the almost complete destruction of European Jews, and other Nazi genocidal policies. Open to nonmajors. DH

HIST 445 French Revolution and Napoleon (3) Causes, course, and conduct of the Revolutionary and Napoleonic periods, their impact upon Europe; emphasis on the conflict of ideologies inherent in the Revolutionary process. DH

HIST 448 Imperial Spain and Portugal (3) The influence of Spain and Portugal on peoples and cultures in Europe, Africa, America, and Asia; Portugal’s captivity and the defeat of the Spanish Armada. DH

HIST 450 Topics in World History (3) Selected themes important in African history, including, for example, the politics, economics, societies, and cultures of pre-colonial, colonial, or modern Africa. Topics to be announced. Repeatable one time. (Once a year) DH

HIST 451 (Alpha) History and Literature (3) Explores the many relationships between history and literature, including how literature has reflected and shaped society in the past and our relationship to the past; (B) United States; (C) Europe; (D) Asia/Pacific; (E) World/Comparative; (F) Provisional topics. Repeatable one time for different alphas, not repeatable for (C). DH

HIST 452 (Alpha) History and Film (3) Explores the many relationships between history and film including how film has reflected and shaped society in the past and our relationship to the past; (C) Europe; (D) Asia/Pacific. Repeatable one time for different alphas. Pre: junior standing or consent. (Once a year for (D)) DH

HIST 453 Colonial Medicine (3) Evolution of Western medicine and public health created by European expansion and colonial interactions; development of modern racial and gender theories. Junior standing or higher. A-F only. (Spring only) DH

HIST 454 Tsarist Russia (3) Development of the Russian state from 16th century. Russian society and early development of culture and art; Mongol era; rise of Moscow, autocracy, and serfdom; Petrine reforms; Western impact; emergence as a major European power. DH

HIST 456 Modern Russia (3) Creation of the Soviet Union, Stalinization, the Cold War, the collapse of the empire, the post-Soviet era. DH

HIST 457 Russia in Asia and the Pacific (3) Russian-Soviet relations with Central Asia; Russian American Company and the Pacific; evolving relations with Asian and Pacific powers. DH

HIST 458 The American Revolution (3) Lecture/discussion on the origins, development, and consequences of the American Revolution, explored within the context of the broader revolutionary Atlantic world. Pre: junior standing or consent. (Once a year) DH

HIST 459 African American History (3) Lecture/discussion on the origins of racial slavery, slave and free black culture, slave resistance and antislavery, post-emancipation black life, the rise of Jim Crow, the Harlem Renaissance, and the Civil Rights Movement. DH

HIST 460 Native American History (3) Lecture/discussion on the history of North American Indians from the seventeenth century to the present. Open to nonmajors. DH

HIST 461 Early America (3) Lecture/discussion on Native Americans, Africans, and Europeans in North America from contact to independence. Social, cultural, and economic themes and intersections of race, class, and gender explored. DH

HIST 462 The Early American Republic (3) Lecture/discussion on the Constitution, the growth of partisan politics, the market revolution, religious revivalism, abolitionism, and the expansion of slavery in the U.S. during the age of Jefferson and Jackson. DH

HIST 463 American Civil War Era 1841–1877 (3) The crisis of the Union: antebellum society and culture, slavery, reform, sectionalism, the Civil War and Reconstruction. DH

HIST 464 Transformation of America 1877–1920 (3) Selected themes that explain major changes in American life during the late 19th and early 20th centuries, including the westward movement, consolidation of capitalism, world power diplomacy, popular culture, progressivism, and World War I. DH

HIST 465 The United States 1920–1948 (3) The Roaring Twenties, the Depression, New Deal, coming of World War II, America during the war, origins of the Cold War. DH

HIST 466 The U.S.: 1948 to the Present (3) The atomic age and the Cold War, the age of anxiety, the 1960s, the Vietnam War, the Reagan-Bush era, and beyond. DH

HIST 467 American Television History (3) Lecture/discussion examining the impact of television on American society, culture, and history. Analysis in depth are family sitcoms, presidential politics, Vietnam and the presentation of gender and ethnicity. Open to nonmajors. DH

HIST 468 Viva Las Vegas (3) Upper-division lecture on the historical and cultural significance of Las Vegas in twentieth-century America. Open to nonmajors. DH

HIST 469 The Cold War (3) Cold War as a global struggle. Topics will include economic and political rivalry, Capitalism vs. Communism as practical policy and ideology, and the force of Third World anti-colonial nationalism. A-F only. Pre: junior standing or higher, or consent. DH

HIST 471 Music, Industry, and Society (3) History of U.S. music and recording industry. How industry relates to economy as a whole, and how it reflects broad patterns and trends in American culture and society. (Cross-listed with MUS 440) DH

HIST 472 American Social History (3) Introduction to the new social history; interdisciplinary approaches to the study of the everyday lives of ordinary Americans in past generations. DH

HIST 473 Slavery and the Post-Encomienda System (3) Examines the history of slavery, race, and abolition in the Americas from a comparative, global perspective, and traces the legacy of slavery in the post-emancipation societies of the New World. (Cross-listed as AMST 432) DH

HIST 474 The American West (3) Lecture/discussion surveying the conquest, colonization, and consolidation of North American frontiers and the post-frontier development of the American West. DH

HIST 475 Constitutional History of the U.S. (3) Origins, development of Constitution, Colonial to modern times. DH

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

HIST 477 History of American Workers (3) Conditions of labor in major phases of American development; response of labor and community to changing work environment. Capitalism, unionism, race, gender, law, etc. Emphasis on 20th century. (Cross-listed as AMST 431) DH

HIST 478 Colonial Latin America (3) Pre-Colonial civilizations: Spanish and Portuguese colonization; political, economic, social, and religious evolution to 1810: independence. (Cross-listed as LATS 468) DH

HIST 479 Latin America Since Independence (3) Political, economic, and social development since
HIST 480 American Environmental History (3) Survey history of the relations between American societies and diverse U.S. ecosystems, from European colonization to the present. (Cross-listed as AMST 425) DH

HIST 481 Pacific Islands I (3) The Pacific past from first human settlement to the start of the colonial period. Emphasis on historical geography and analysis of islanders’ responses to European intrusion. DH

HIST 482 Pacific Islands II (3) The colonial experience to the present. DH

HIST 483 United States in the Pacific (3) Growth of economic and political interests and policies. DH

HIST 484 The Hawaiian Kingdom 1819–1893 (3) Transformation of Hawaii’s into a state influenced by American and European ideas and institutions and Asian peoples. Pre: upper division standing or consent. DH

HIST 485 History of 20th-Century Hawaii (3) Formation of an American Hawaii with its unique local culture from 1898 to the present. Pre: pre-division standing. DH

HIST 489 World Maritime History (3) Survey of world maritime history from earliest times to the present, with emphasis on the evolution of nautical technology, motives from maritime enterprises, and the impact of contact and encounters between oceanic peoples. (Cross-listed as AMST 489) DH

HIST 490 Maori and American Indians (3) Compares indigenous sovereignty issues arising among the Maori of Aotearoa–New Zealand and Indian tribes of the U.S. from 1776 to the present. (Once a year) DH

HIST 492 Women and Revolution (3) Conditions under which women’s activism and participation in protest and revolutionary movements developed in the 19th- and 20th-centuries. Cross-cultural comparisons. (Cross-listed as ASAN 492 and WS 492) DH

HIST 495 (Alpha) History Colloquium (3) Extensive or intensive treatment of special problems. Pre: appropriate 400-level course or consent. DH

HIST 496 (Alpha) Senior Tutorial in History (3) Analysis of sources and evaluation of methods of historical writing. Students undertake a major research and writing project of special interest. Capstone course requires a 20-25 page minimum final research paper. Required for majors except those in Honors Program. (B) United States; (C) Europe; (D) Asia/PacificWorld; A-F only. Pre: 396(B) or C and any 400-level HIST course.

HIST 499 Directed Reading (V) Individual projects in various fields. History majors with consent. Maximum 5 credit hours. (1) American; (2) Pacific; (3) Japanese; (4) European; (5) English; (6) Chinese; (7) Russian; (8) Hawaiian; (9) South Asian; (10) Southeast Asian; (11) Korean.

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

HIST 602 Seminar in Historiography (3) History of history and historians; philosophies of history.

HIST 605 Seminar in Digital History (3) Examines the various ways that the production, presentation, and learning of history through digital media is changing the way people access and process information about the past. Graduate standing only.

HIST 607 Advanced Topics in Environmental History (3) Introduction to leading themes, methodologies and debates in world environmental history. Drawing on new and influential scholarship, readings explore the diverse forces that shape humans’ adaptation to and impact on the natural world. Pre: (Alt. year). DH

HIST 609 Seminar in World History (3) Analysis, research, and discussion of themes and issues in study of history of humankind. Repeatable one time. Pre: graduate standing or consent.

HIST 610 Topics in World History (3) Selected themes—feudalism, economic and industrial development, etc.—important in global history. Topics pre-announced. Repeatable one time. Pre: 609.

HIST 611 (Alpha) Advanced Readings in European History (4) Selected topics for advanced research. (B) ancient; (C) medieval; (D) early modern; (E) modern; (G) intellectual. Repeatable one time. Pre: graduate standing or consent. (Alt. years: spring for (G); fall for (E))

HIST 612 Erogicnographic History (3) Critical inquiry into historical representations of the “other” and ways in which modern historians have used culture and other anthropological concepts to write and think about the past.

HIST 613 Introduction to Cultural Studies (3) Graduate seminar designed to introduce history students to the multidisciplinary theories that are appropriate to cultural studies. A-F only. Repeatable one time.

HIST 614 (Alpha) Research in European History (3) Selected topics for advanced research. (B) ancient; (C) medieval; (D) early modern; (E) modern; (G) intellectual. Repeatable one time. Pre: graduate standing or consent. (Once a year)

HIST 615 (Alpha) Topics in European Colonialism (3) Selected topics for comparative advanced reading and research. (D) early modern; (E) modern. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 616 Topics in Historical Methods and Theory (3) Seminar covering one specific approach to historical method or theory. The goal is a deep engagement with a particular historical approach via research and reading not bounded by region, time, or specialty. Repeatable one time. Graduate standing only.

HIST 617 Atrocity Crimes: Law and History (3) Seminar on history of mass atrocity and international justice in the modern world. Topics include post-WWII Allied war crimes prosecution, post-cold war ad hoc international tribunals, and contemporary international law and national legal systems. Repeatable one time.

HIST 618 (Alpha) Advanced Readings in Russian History (3) Early Russia; (C) modern. Repeatable one time. Pre: graduate standing or consent.

HIST 621 (Alpha) Russia in East Asia and the Pacific (3) Advanced readings: (A) advanced reading on Siberia, Russian activities in the Pacific basin, evolving relations and power. Repeatable one time per alpha. Pre: 457 and either 454 or 456; or consent.

HIST 632 (Alpha) Advanced Readings in American History (3) Interpretations and literature of important themes in early America; (C) the Republic to 1877; (D) industrial America; (E) recent America. Repeatable one time per alpha. Pre: appropriate 400-level U.S. history course or consent for (D) and (E); graduate standing or consent for (B) and (C). (Alt. years for (B)) (Cross-listed as AMST 610)

HIST 643 Research in American History (3) (B) early America; (C) the Republic to 1877; (D) industrial America; (E) recent America; (F) foreign relations. Repeatable one time. Pre: appropriate 400 level course or consent.

HIST 650 Seminar: Comparative Asia (3) This reading seminar in the comparative study of modern Asia will investigate student’s themes, particularly in social, cultural, and intellectual history, which lend themselves to comparison across the region. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 656 Topics in Southeast Asia (3) Reading and research seminar on themes about the past and present of Southeast Asia in a comparative framework. Pre: graduate standing or consent.

HIST 657 Historiography of Southeast Asia (3) Examination of contested boundaries of Southeast Asia, the various historiographic traditions, the colonial legacy, and the cultural issues emerging from a dialogue of historians from the “region” and the outside world. Repeatable one time.

HIST 658 Seminar in Modern Southeast Asian History (3) Graduate level reading seminar in modern Southeast Asian history. Repeatable one time. Pre: graduate standing or consent.

HIST 659 The Seas in Southeast Asian History (3) Seminar on the seas in Southeast Asian history. (Alt. years)

HIST 660 Seminar: Vietnamese History (3) Reading and research seminar on Vietnamese history. Repeatable one time. Pre: graduate standing or consent. (Alt. years)

HIST 661 (Alpha) Seminar in Chinese History (3) Problems and readings in political, social, and cultural history. (B) early; (C) middle; (D) modern. Repeatable one time.

HIST 662 Seminar: Islam and Islamic Civilization (3) Reading and research on Islamic spread and development. Repeatable one time. Pre: graduate standing or consent.

HIST 663 Seminar in South Asian History (3) Graduate-level reading and research seminar on topics in Indian and South Asian history. Repeatable one time. Pre: graduate standing or consent.

HIST 665 (Alpha) Seminar in Japanese History (3) Problems, principal sources of bibliographic information. (B) traditional period to c.1600; (C) early modern 1600–1868; (D) 1868 to present; (E) 20th-century diplomatic. Repeatable one time per alpha.

HIST 667 (Alpha) Seminar in Korean History (3) Reading major interpretive works, and research in selected topics. (B) reading; (C) research. Repeatable one time per alpha. Pre: graduate standing or consent.

HIST 670 Topics on the Asia-Pacific War (3) Research seminar on topics of the Asia-Pacific War (1931-1945). Explores war, war crimes, and issues of war guilt, accountability, and war commemoration. Involves extensive source analyses and discussions. Repeatable one time.

HIST 675 (Alpha) Seminar in Pacific History (3) Reading and research on major themes and issues. (B) South Pacific; (C) Micronesia; (D) 19th century; (E) 20th century. Repeatable one time per alpha. Pre: graduate standing or consent.

HIST 677 Seminar in History of Hawai‘i (3) Reading seminar with shorter 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 (3) 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, pre-announced.

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. Repeatable one time. Maximum 2 credit hours. Repeatable one time. Pre: consent.

HIST 700 Thesis Research (V) Repeatable unlimited times.

HIST 702 Institutional History of Korea (3) Major political, economic, and social institutions. Repeatable one time. Pre: graduate standing or consent. (Alt. years: spring)

HIST 790 Teaching History (1) HIST 151-152 faculty supervisors mentor their Teaching Assistants who teach the discussion labs. Course addresses issues of teaching strategy, grading and historical content. Enrollment limited to current Teaching Assistants in the World History Program. Repeatable seven times. A-F only. Pre: History graduate Teaching Assistants assigned to 151-152.

HIST 800 Dissertation Research (V) Repeatable unlimited times. Pre: consent.

Honors (HON) Honors Programs

These courses are limited to students in the Honors Program.

HON 101 Introduction to Research and Creative Work at Mānoa (3) Combines lectures by instructors and faculty guests with workshops and hands-on experience in small group projects, including bibliographic searches, laboratory science, social surveys and interviews. A significant portion is dedicated to writing instruction. Honors Program students only. A-F only.

HON 120 Mathematical Modes of Thinking (3) Mathematics as both a language and a thought process explored in that language. Historical and contemporary relations to culture. A-F only.

HON 190 Honors Tutorial (1) Supplements a 100 or 200 lecture course or standard lab time with discussion sections and/ or intensive lab time of directed research. Limited enrollment. Repeatable three times.

HON 291 (Alpha) Sophomore Seminar (3) Special inquiry-based study of multi-disciplinary topics in particular historical, cultural, geographical, environmental, or other contexts. Emphasis on primary sources and/or fieldwork and extensive instruction in writing, (B) biological science; (H) humanities; (P) physical science; (R) arts; (S) social science; (T) literature. Repeatable one time. A-F only. Pre: 101 or departmental approval. DB for (B); DH for (H); DP for (P); DA for (R); DS for (S); DL for (T)

HON 301 Public Policy-Making (3) Students develop understanding of theory, practice, and ethical issues of public policy-making. Combines lecture/discussion and field trips. Students develop policy analysis and strategic plans that identify issues, interests, and methods of influence. Repeatable one time. A-F only. Pre: 101 or 291, or departmental approval. (Cross-listed as POLS 386)

HON 303 Civic Engagement, Voluntarism & Community Service (3) Seminar on historic and contemporary ethical and political dimensions of voluntarism in the U.S. Involves comparative study of voluntarism, individual research projects on voluntarism, and conduct of field service activities together with written reports. Repeatable one time. A-F only. Pre: 101 or 291, or departmental approval.

HON 330 Honors Study Abroad Project (V) Honors students participating in study abroad enhance their experience by planning and implementing an individually proposed project to be carried out in the host country. Project must be approved by the Honors and Study Abroad directors. Repeatable one time. Honors students only. A-F only. Pre: consent of Honors director and Study Abroad director.

HON 333 Experiential Learning and Scholarly Engagement (3) Students develop an understanding of theory and practice of experiential learning through direct engagement and focused scholarly reflection while assimilating and synthesizing new knowledge and developing critical thinking skills. Repeatable two times. Honors Program approval only. A-F only.

HON 340 The Publication Process (3) Publication process focuses on experiential learning and ethics. Learn how to solicit contributions, review and edit articles, and learn about publishing from multiple perspectives. Repeatable one time. Honors students only. Pre: consent of Honors director and instructor. (Spring only)

HON 380 Peer Mentoring (3) Students develop understanding of dynamics of leadership skills within the contexts of paired to large groups. Significant portion is dedicated to writing and oral communication instruction. Honors Program students only. Pre-semester training sessions, on-going training and supervision. Repeatable one time. A-F only. Pre: 101 or departmental approval.

HON 399 Internship (V) Field placement integrated with academic study of institutions and/or organizations. Repeatable 3 times or up to 12 credits. Pre: departmental approval.

HON 491 Junior Seminar (3) Project-based experiential learning involving community-based research or creative work. Focus on project design, practical skills, and teamwork. Significant portion is dedicated to writing instruction. Multi-disciplinary topics vary each semester. Honors Program students only. Repeatable one time. A-F only.

HON 492 Honors Colloquium (3) Weekly meetings for discussion of enduring issues and problems of an interdisciplinary nature. Limited to candidates for Honors degree. CR/NC only.

HON 494 Honors Workshop (0) Supplemental workshop for students beginning independent work on their senior honors thesis. Honors students only. Junior or senior standing only. CR/NC only. Pre: 495 or consent.

HON 495 Honors Thesis Proposal (3) Library research skills: scholarship of research and creative work; methodological and ethical issues; development of individual proposal or prospectus for Senior Honors Project. Limited to candidates for the Honors degree. Repeatable one time. CR/NC only.

HON 496 Senior Honors Project (3) Original research, creative work, performance or other form of scholarly project appropriate to a major and supervised by a faculty member. Limited to candidates for Honors degree. Repeatable one time for each major. A-F only. Pre: 495 or consent.

HON 499 Directed Reading/Research (V) Directed reading and/or research. Repeatable 3 times or up to 12 credits. Selected students also have the option of taking A-section courses from the following list when they are offered by departments:

- ACC 201A Introduction to Financial Accounting
- AMST 150A America and the World FGB
- AMST 202A Diversity in American Life DH
- AMST 220A Introduction to Indigenous Studies DH
- ANTH 151A Emerging Humanity FGA
- ANTH 152A Culture and Humanity S
- ART 101A Introduction to Visual Arts DA
- ART 175A Survey of Global Art I FGB
- ART 176A Survey of Global Art II FGB
- ASAN 312A Contemporary Asian Civilizations S
- ASTR 110A Survey of Astronomy DP
- ASTR 120A Astronomical Origins DP
- BOT 101A General Botany DB
- BOT 105A Ethnobotany FGB
- 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 S
- ECON 131A Principles of Macroeconomics S
- ECON 300A Intermediate Economics: Macroeconomics Analysis DS
- ECON 301A Intermediate Economics: Price Theory DS
- ECON 317A The Japanese Economy DS
- ECON 362A Trade Policy and Globalization DS
- ENG 100A Composition I FW
- ENG 270A Introduction to Literature: Literary History 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
- ES 101A Introduction to Ethnic Studies DS
- GG 101A Introduction to Geology DP
- HIST 107A Hawai‘i: Center of the Pacific DH
- HIST 161A World Cultures in Perspective FGB
- HIST 162A World Cultures in Perspective FGB
- ICS 101A Digital Tools for the Information World
- ICS 111A Introduction to Computer Science
- ICS 211A Introduction to Computer Science II
- 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 FGB
- 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 100A Survey of Psychology DS
- PSY 371A Abnormal Psychology DS
- REL 151A Religion and the Meaning of Existence DH
- REL 210A Understanding Christianity DH
- SOC 100A Introduction to Sociology 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)

Our mission is to provide leadership and support that fosters effective human resource management and development. We strive to align our efforts with the university’s strategic goals and objectives.

HRM 200 Career Development (1) A comprehensive approach to career development, including exploration of career options, self-assessment, and planning.

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
introduction of corporate goals with the organizational culture.

HRM 361 Labor Problems (3) Problems and economics of labor; history, structure, government, activities of trade unions. DS

HRM 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor.

HRM 453 Personnel Compensation (3) Selected topics. HRM majors only. A-F only.

HRM 463 Negotiation and Workplace Dispute Resolution (3) Theory and practice in negotiating; design and operation of different kinds of workplace dispute resolution (such as mediation, arbitration, and various alternative procedures); features exercises on bargaining and negotiation and advocacy and decision skills. (Spring only)

HRM 465 Labor and Social Legislation (3) Evolution, interpretation, and application of labor and social welfare legal standards and procedures with special emphasis on impact of labor-management relations. Prerequisite: 361.

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 given to current problems on the mainland and Hawai'i. Prerequisite: consent.

HRM 468 Training and Development (3) Analysis of the current concepts and practices in the design, delivery, and assessment of training. A-F only.

HRM 469 Seminar in HRM (3) In-depth analysis of selected current practices and trends in HRM. Repeatable one time for different topics. Prerequisite: consent.

HRM 671 Human Resource Management (3) Analysis and critical evaluation of basic issues, policies, and trends in personnel administration. HRM majors only. Graduate students only. A-F only.

HRM 676 The Staffing Process (3) Recruiting and selection to optimize organizations including job design, job analysis, recruitment and selection methods, interview techniques, and assessment centers within the legislative environment. HRM majors only. Graduate students only. A-F only.

HRM 677 Negotiations and Labor Relations (3) Theory and practice of negotiation. Exploration of appropriate strategies, tactics, and communication techniques. Study of dyadic multi-party, cross-cultural, and assisted negotiations. MHRM majors only. A-F only.

HRM 678 International Human Resources (3) Exploring global trends in human resources with focus on the Asia Pacific region. HRM majors only. Graduate students only. A-F only.

HRM 679 Human Resource Management-Topics (3) In-depth analysis of selected current practices and trends in human resources. Repeatable four times with change in topics. 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.

HRM 688 Human Resources Leadership in Healthcare Organizations (3) Builds on previous leadership and management courses, focus on development of individual leadership skills emphasizing ethical and critical decision making, effective teaming relationships, and a systems-perspective relevant to healthcare organizations. A-F only. Prerequisite: BUS 626. (Alt. years)

Ilokano (ILO) College of Languages, Linguistics and Literature

ILO 101 Beginning Ilokano (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets four hours weekly. HSL

ILO 102 Beginning Ilokano (4) Continuation of 101. Meets one hour weekly. HSL

ILO 107 Ilokano for Health Sciences (3) Development of listening, speaking, reading, writing, and other communication skills designed specifically for Nursing, Dentistry, Dental Hygiene, Public Health and Social Work students. Culture integrated with language study.

ILO 201 Intermediate Ilokano (4) Continuation of 102. Meets four hours weekly; three of four hours devoted to drill and practice. Prerequisite: 102 or consent. HSL

ILO 202 Intermediate Ilokano (4) Continuation of 201. Meets one hour weekly. HSL

ILO 301 Third-Level Ilokano (4) Continuation of 202. Conversation, advanced reading, composition. Meets three weeks of six hours weekly. Prerequisite: 202 or consent. HSL

ILO 302 Third-Level Ilokano (4) Continuation of 301. Prerequisite: 301 or consent. HSL

ILO 315 Ilokano Aural Comprehension (3) Training in listening comprehension of different authentic and simplified Ilokano presented in documentaries, soap operas, radio and television news and other broadcasts, formal lectures, songs, natural conversations, songs, and student-created sitcoms and dramas. Prerequisite: 202 or consent.

ILO 331 Contemporary Ilokano Literature (3) Conducted in Ilokano, this course explores the literary landscape of Ilokano literature from the perspective of Ilokano writers based in the Philippines as well as those outside of the country. Prerequisite: consent.

ILO 401 Fourth-Level Ilokano (3) Continuation of 302. Conducted in Ilokano. Advanced reading, writing, and composition Ilokano literature; cultural and historical topics. Prerequisite: 302 or equivalent.

ILO 402 Fourth-Level Ilokano (3) Continuation of 401. Prerequisite: 401 or consent.

IP 424 Introduction to Ilokano for Interpreters (3) Techniques for interpreting Ilokano into English and vice versa. A-F only. Prerequisite: consent.

IP 425 Ilokano Interpretation Field Practicum (3) Provide extensive practical training in consecutive, simultaneous, sight and telephonic interpreting. It requires observation and study of interpretation strategies and techniques in relevant situations. Prerequisite: consent.
popular culture produced in the Philippines and in the diaspora; an evaluation of such forms using critical hermeneutic frames. A-F only. Prereq: 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 variety of South Asian literatures will be determined by faculty resources and student interest. DL

IP 367 Persian Theater and Culture (3) Study of Persian and Iranian theater and culture with an overview of history from 2500 B.C. to the contemporary era. Prereq: THEA 101 or consent. DH

IP 368 Introduction to South/Southeast Asian Film, History, Theory and Appreciation (3) Study and analysis of South/Southeast Asian film–history, forms, development, theoretical framework and relationship to cultural, social, philosophical and aesthetic context. (B) Filipino; (C) Iranian. Sophomore standing only. A-F only. DH

IP 369 (Alpha) Study Abroad (3) (B) Samoa; (E) Vietnam. Repeatable one time for (B)

IP 370 Philippine Travelogue: People, Places, and Practices (3) A virtual guided tour of the Philippines that explores its multicultural diversity through its people, places, and practices. Sophomore standing or higher. A-F only. DH

IP 373 Vedic Hindu Mythology (3) Study of major Hindu myths of the Vedic Sanskrit literature within the perspective of ancient Indian civilization. Literary sources will be tapped for understanding creation, cosmos and celestial, atmospheric and terrestrial divinities. A-F only. Prereq: ASN 202, HIST 151, LLEE 122, or PHIL 102; or consent. (Fall only)

(Cross-listed as REL 373)

IP 374 Classical Hindu Mythology (3) Study of major myths of Epic Sanskrit literature, primarily with focus of the Ramayana and Mahabharata. Literary sources will be tapped for appreciating myths and epics, especially with reference to dharma, karma, ways of life. Prereq: ASN 202, HIST 151, LLEE 122, or PHIL 102; or consent. (Spring only) (Cross-listed as REL 374)

IP 376 Philippine Diasporic Literatures (3) Appreciation, recollection, and analysis of Philippine literature of exile; a reevaluation of Philippine writing from the diaspora. Sophomore standing or higher or consent. DL

IP 377 Critical Discourses in IPLL Studies: Philippines (3) Reevaluation 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 voices within the Philippines. Prereq: 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, riddles, jokes) examined in translation and culturally and structurally interpreted. Prereq: one of ENG 270-272. DL

IP 396 Philippine Literature and Folklore in Translation (3) Philippine folk literature translated into English: exus, myths, legends, and other folklore. Classic works of vernacular writers. Prereq: 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. Prereq: at least 6 credits of intermediate study of the same language.

IP 401 Directed Fourth-Level Language Study (3) Continuation of 302. Prereq: consent.

IP 402 Directed Fourth-Level Language Study (3) Continuation of 401.
Technology (ICT), and the information professions. A-F only. Pre: departmental approval. (Once a year)

ICS 211 Introduction to Computer Science II (4) (3 Lec, 1-3 hr. Lab) Reinforce and strengthen problem-solving skills using abstract data types and introduce computer science paradigms. Emphasize the use of searching and sorting algorithms and their complexity, recursion, object-oriented programming, and data structures. 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 registration.

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 concurrent.

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, and event handling for languages such as Perl, JavaScript, PHP, Python, shell scripting, A-F only. Pre: 211 (or concurrent), or consent. (Once a year)

ICS 222 Basic Concepts of Computer Science (3) What is the subject of computer science? What is a computer? Understand the basic models of computation and the concepts of computability, complexity, and algorithmics. Pre: Programming and learn to use them in practice. A-F only. Pre: 141.

ICS 241 Discrete Mathematics for Computer Science I (3) Includes program correctness, recurrence relations and their solutions, relations and their properties, divide and conquer, graph theory, trees and their applications, Boolean algebra, introduction to formal languages and automata theory, Pre: 141 (with a minimum grade of B) 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 (4) (4 1-hr Lec) Design and correctness of algorithms, including divide-and-conquer, greedy and dynamic programming paradigms. Complexity analyses using recurrence relations, probabilistic methods, and NP-completeness. Applications to order statistics, disjoint sets, B-trees and balanced binary search trees, and string matching. Pre: 211 and 241, or consent.

ICS 312 Machine-Level and Systems Programming (3) Machine organization, machine instructions, addressing modes, assembler language, subroutine linkage, linking to higher-level languages, interface to operating systems, introduction to assemblers, loaders and compilers. Pre: 212 (or concurrent), (311 or EE 367), and 314, or consent.

ICS 313 Programming Language Theory (3) Syntax, semantics, control structures, variables, binding and scopes, data and control abstractions, Programming in functional (LISP) and logic (Prolog) programming styles. Pre: 212 and (311 or EE 367), and 314, or consent.

ICS 314 Software Engineering I (3) Problem analysis and design, team-oriented development, quality assurance, configutation management, project planning, These topics are covered in the sequence 314-414. To take 414, 314 must be taken in the semester immediately before 414. Pre: 211 and 241, or consent.

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: (311 or EE 367) and 314, or consent.

ICS 332 Operating Systems (3) Operating system concepts and structure, processes and threads, CPU scheduling, memory management, scheduling, file systems, inter-process communication, virtualization, popular operating systems. A-F only. Pre: (311 or EE 367) and 314.

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: (311 or EE 367) and 314, or consent. (Once a year)


ICS 361 Introduction to Artificial Intelligence Programming (3) Introduction to the theory of Artificial Intelligence and the practical application of AI techniques in Functional (Common LISP and Prolog) and Logic (Prolog) programming languages. Students gain practical experience through programming assignments and projects. A-F only. Pre: (212 or 215) and (314, or consent. (Once a year)

ICS 390 Computing Ethics for Lab Assistants (3) A lecture/discussion/internship on ethical issues and instructional techniques for students assisting a laboratory section of ICS 101. The class uses multiple written materials along with activities to help students learn course content. Pre: 101(Alpha) and consent.

ICS 414 Software Engineering II (3) Continuation of 314. Project management, usability, and productivity control, testing and validation, team management, Team-oriented software-implementation project. The second course of a year sequence and must be taken in the semester following 314. Pre: (311 or EE 367) and 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 EE 367) and 314, or consent.

ICS 419 The Science, Psychology and Philosophy of Systems Design (3) Scientific, psychological and philosophical bases of systems design, including a survey of human-factor standards and the nature of innovation and creativity as it relates to systems design. Web-enhanced course. Pre: (311 or EE 367) and 314, or consent. (Once a year)

ICS 421 Database Systems (3) Principles of database systems, data modeling, relational models, database design, query languages, query optimization, concurrency control data security. Pre: 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 424 Application Frameworks (3) Experience producing applications with at least two different applications frameworks. A-F only. Pre: (311 or EE 367) and 314, or consent.

ICS 425 Computer Security and Ethics (3) Theoretical results, security policy, encryption, key management, digital signatures, certificates, passwords, Ethics of computer crime, professional ethics. Effects of the computer revolution on society. A-F only. Pre: 355 or consent. (Once a year)

ICS 426 Computer System Security (3) Information flow, confinement, information assurance, malicious programs, vulnerability analysis, network security, writing secure programs. A-F only. Pre: 355 or consent. (Once a year)

ICS 431 Computer Architecture (3) Memory management, control flow, interrupt mechanisms, microprocessors, special-purpose devices. Pre: 331 or EE 361/361L.

ICS 432 Concurrent and High-Performance Programming (3) Principles of concurrent and high performance programming using C and Java for shared-memory programming. Distributed memory programming with Java. Introduction to cluster computing. A-F only. Pre: 212 and (311 or EE 367) and 314, or consent.

ICS 435 Machine Learning Fundamentals (3) Introduction to machine learning concepts with a focus on relevant ideas from computational neuroscience. Information processing and learning in the nervous system. Neural networks. Supervised and unsupervised learning. Basics of statistical learning theory. Pre: (311 or EE 367) and 314, or consent. Recommended: MATH 307. (Once a year)

ICS 441 Theory of Computation (3) Grammars, sequential machines, equivalence, minimalization, analysis and synthesis, regular expressions, computability, unsolvability, Godel’s theorem, Turing machines. Pre: (311 or EE 367) and 314, or consent.

ICS 442 Analytical Models and Methods (3) Applications of mathematical methods in computer science with emphasis on discrete mathematics, numerical computation, algebraic models, operations research. Pre: (311 or EE 367) and 314, or consent.

ICS 443 Parallel Algorithms (3) Introduction to parallel models of computation and analysis of parallel algorithms. Pre: (311 or EE 367) and 314. (Fall only)

ICS 451 Data Networks (3) Network analysis, architecture, digital signal analysis and design; circuit switching, packet switching, packet broadcasting; protocols and standards; local area networks; satellite networks; ALOHA channels; examples. Pre: 212 and (311 or EE 367) and 314, or consent.

ICS 452 Software Design for Robotics (3) Sensors, actuators, signal processing, paradigms of robotic 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 algorithms, machine learning, tactics. Extend games with your own AI implementations; experience “shootout” contests for the best AI algorithm/implementation. Pre: 212 and (311 or EE 367) and 314 and (PHYS 151 or PHYS 170). (Alt. years)

ICS 464 Human Computer Interaction I (3) Application of concepts and methodologies of human factors, psychology and software engineering to address ergonomic, cognitive, and social factors in the design and evaluation of human-computer systems. Pre: (311 or EE 367) and 314, or consent.

ICS 465 Introduction to Hypermedia (3) Basic issues of interactive access to information in various forms on computers, integrated media and software: editing, integration, programming. Implementation of a sample information system. Pre: (311 or EE 367) and 314.

ICS 466 Design for Mobile Devices (3) Lecture introducing design issues, programming languages, operating systems and mark-up languages for internet-enabled mobile devices, such as cell phones

Key to symbols & abbreviations: see the first page of this section.
and PDAs, A-F or Audit. Pre: (311 or EE 367) and 314, or consent. (Spring only)

ICS 469 Cognitive Science (3) Introduces basic concepts, central problems, and methods from cognitive science. Identifies contributions from disciplines such as psychology, linguistics, artificial intelligence, philosophy, and neuroscience. Pre: (311 or EE 367) and 314, or consent.

ICS 471 Probability, Statistics, and Queuing (3) A hands-on introduction to probability, statistical inference, Markov chains, queuing theory. Use of an interactive statistical graphics environment such as R. Pre: (311 or EE 367) and 314, or consent.

ICS 475 Introduction to Bioinformatics Sequences and Genes (3) Introduction to bioinformatics to computer science students by focusing on how computer science techniques can be used for the storage, analysis, prediction and simulation of biological sequences (DNA, RNA and proteins). A-F only. Pre: (311 or EE 367) and 314, or consent. (Once a year)

ICS 476 Bioinformatics Algorithms and Tool Development (3) Study of commonly used bioinformatics algorithms, with an emphasis on string, tree, and graph algorithms. Presentation of probabilistic and clustering methods. Implementation of the studied algorithms and design of applications. Pre: 475 or consent. (Once a year)

ICS 481 Introduction to Computer Graphics (3) Fundamentals of computer graphics including graphics hardware, representation, manipulation, and display of two and three-dimensional objects, use of commercial software. Pre: (MATH 216, MATH 242, or MATH 252A) and (311 or EE 367) and 314; or consent.

ICS 483 Computer Vision (3) Introductory course in computer vision. Topics include image formation, image processing and filtering, edge detection, texture analysis and synthesis, binocular stereo, segmentation, tracking, object recognition and applications. A-F only. Pre: 312 and (311 or EE 367) and 314, or consent. Once a year.

ICS 484 Data Visualization (3) Introduction to data visualization through practical techniques for turning data into images to produce insight. Topics include: information visualization, geospatial visualization, scientific visualization, social network visualization, and medical visualization. Junior standing or higher. Pre: (311 or EE 367) and 314. (Spring only)

ICS 485 Video Game Design and Development (3) Students will team design, build, and demonstrate video games or related interactive entertainment environments. Topics will include emerging computer science techniques relevant to the development of these types of environments. Junior standing or higher. Pre: two 300-level courses. (Spring only)

ICS 491 Special Topics (3) Reflects special interests of faculty. Oriented toward juniors and seniors. Repeatable one time for BS/CS students. Pre: at least two 300-level ICS classes or consent.

ICS 495 Special Topics in Security (3) Special topics in security oriented toward juniors and seniors. Repeatable unlimited times. Pre: at least two 300-level ICS courses or consent. (Alt. years: fall)

ICS 499 Computer Project (V) Individual or small-group projects in a system or application under faculty supervision. Pre: consent.

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

ICS 606 Intelligent Autonomous Agents (3) Theor- etical 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 projects and senior project. Pre: 313 or EE 467 (or equivalent), graduate standing; or consent. (Once a year) (Cross-listed as EE 606)

ICS 611 Compiler Theory and Construction (3) Design and implementation of compilers, syntactic and semantic descriptions of programming languages, algorithms for syntactic analysis and object code generation. Pre: 312 or consent.

ICS 612 Theory of Operating Systems (3) Advanced study in operating systems theory and design with emphasis on case studies and distributed systems.

ICS 613 Advanced Software Engineering (3) Fundamental problems and emerging trends in software 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 at the intersection of the public health, information science, computer technology and communications technology. Concentration on current issues. Pre: consent.

ICS 616 Information Architecture and Web Design (3) Advanced study in information architecture and design focusing on the basic principles of 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 Network Science (3) Modeling human-made and natural systems as networks to understand their structure and dynamics. Computational and statistical methods to model and explain results they entail. Use of network analysis software. Application to topics of interest to students.


ICS 624 Advanced Data Management (3) Exploration of information retrieval and object-related 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 related field or consent. (Once a year)

ICS 635 Machine Learning (3) Introduction to key theoretical concepts of machine learning. Practical experience with decision free methods, artificial neural networks, Bayesian belief networks and contemporary statistical methods including regression, clustering and classification. Pre: consent. (Once a year)

ICS 636 Information Theory in Machine Learning (3) Basics of information processing and learning in the brain; neural networks; learning algorithms based on information maximization; applications in molecular biology and bioinformatics. A-F only. Pre: graduate standing in computer science or mathematics background, or consent. (Once a year)

ICS 641 Advanced Theory of Computation (3) Advanced topics in formal languages, automata, computability, computational complexity. Pre: 441 or consent.

ICS 643 Advanced Parallel Algorithms (3) Design and analysis of parallel algorithms, with emphasis on advanced techniques and latest advances in parallel algorithms. Pre: 311 (with a minimum grade of B or equivalent).

ICS 651 Computer Networks (3) Elementary principles of modern computer networking. Detailed coverage of overall architecture and the physical, data link, and network layers, with emphasis on the networking protocol. Pre: consent.

ICS 655 Security and Trust II: Cyber Security and Commerce (3) Tools and methods for security managers. Tools and methods to secure and monetize services and applications. Network as a computer and as a market. Problems of cyber war, cyber crime, cyber bullying. Graduate students only. (Spring only)

ICS 660 Computer Architecture I (3) Models of computation, high-performance computer architecture, RISC, processors, VLIW, superscalar and fine-grain parallel machines. Data-flow architectures. Hardware/software tradeoffs. Pre: EE 461. (Cross-listed as EE 660)

ICS 661 Advanced Artificial Intelligence (3) Current issues in artificial intelligence, including expert systems, knowledge representation, logic programming, machine 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 571.

ICS 664 Human-Computer Interaction II (3) Studies of human performance in designing and using information systems. Emphasizes concepts and methodologies from human factors, psychology, and software engineering relating to human performance. Pre: 464 or consent.

ICS 665 User Interfaces and Hypermedia (3) Advanced concepts in construction of interfaces between computers and their users. Hypermedia information structures, guidelines, problems, and tradeoffs. Discussion of selected readings, implementation of prototypes. Pre: 465.

ICS 667 HCI Design Methods (3) Advanced analytical and empirical methods for the design and evaluation of usable, useful, and robust human-computer interfaces. Students will apply selected methodologies to a major system design project. Pre: 464 or 465, or consent.

ICS 668 Social Informatics (3) An advanced introduction to the design of human-computer systems and other technological artifacts for supporting human collaboration in learning, work and social contexts, and to theoretical perspectives and empirical studies of collaboration and design. A-F only. Pre: 464 or 465 or 664 or 665 or 667 or LIS 677; or consent.

ICS 669 Social Computing (3) Participative analytical studies 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 algorithms are surveyed in the field to prepare students for research. Topics include diverse engineering applications, theory, and concepts including search space, representation, object functions, variation operators, selection, and population based search. Pre: 211 (B or better) and 241 (C or better) and admitted to a graduate program or capable of graduate-level work in computer sciences, or consent. (Once a year: fall)

ICS 675 Bioinformatics: Sequences Analysis (3) To expose students to bioinformatics at the biological sequences analysis level (DNA, RNA, proteins). Several bioinformatics methods and algorithms are introduced. Students are required to present one paper and to participate in a small group project. A-F only, Pre: 475 or MBBE 685, or consent. (Once a year)

ICS 676 Bioinformatics: Microarrays (3) Introduction to the basic principles of biology relevant for microarray gene expression data and to Bioconductor. Collaborative open-source project to develop a modular general framework for the analysis of DNA 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, mathe- matical programming. Pre: consent.

ICS 683 Advanced Computer Vision (3) Funda- mental 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 685 Virtual and Augmented Reality (3) Students will learn the science, engineering, art, and applications of virtual reality and augmented reality, with an emphasis on the construction of working virtual environments. Graduate students only. (Fall only)

ICS 686 Digital Video Information (3) Principles and techniques of technical and content analysis of digital video information. Video capture and editing tools, compression and analysis algorithms, visual culture, narrative structure, juxtaposition of multimedia elements and their effects on information transmission. Pre: graduate standing or consent. (Alt. years)

ICS 690 Seminar in ICS (1) Series of talks on advanced research topics. Repeatable unlimited times. CR/NC only.

ICS 691 (Alpha) Topics in Computer Science (3) Reflects special interests of faculty in various areas of computer science. (B) area 1; (C) area 2; (D) area 3; (E) area 4; (G) general. Repeatable unlimited times in different topics and different areas. Pre: consent.

ICS 695 Advanced Special Topics in Security (3) Current topics and upcoming issues relevant to the field of information assurance and cyber security. Repeatable unlimited times. (Alt. years: spring)

ICS 699 Directed Reading/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) Scholars College of Business

ITM 101 (Alpha) Using Computers and Applications (3) Using Windows computer 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 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. A-F only. Pre: 352 and BUS 311.

ITM 354 Database Systems (3) Introduction to database management and data structures, including database planning and design, normalization, relational and network data models, and physical organization and implementation. A-F only. Pre: 353.

ITM 360 Current Topics in ITM (3) Repeatable three times with permission of department chair. Pre: varies with topic.

ITM 366 Information Systems in Organizations (3) Practice of information systems in organizations. Capstone course for MIS majors. A-F only. Pre: 353 and 354 (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 practices; legal, ethical issues. A-F only. Pre: BUS 311 or consent.

ITM 387 (Alpha) Advanced Topics in Information Systems (3) Computerized management information systems, operations research or business statistics; (B) software systems economics; (C) 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. Repeats 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. Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and the faculty advisor.


ITM 433 Advanced Security (3) Designed around the plan-protect-respond cycle. Security threats, cryptographic security, security policy, 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. Repeatable three times. ACC, CIS, and BUS majors only. Pre: BUS 630 and BUS 631.

ITM 680 Project Management, Information Technology and Change (3) Lectures and discussions to contextualize knowledge and techniques of project management in organizational change, globalization and technology, global teamworking, intercultural awareness, negotiation and leadership. Semester long group project. Open to all graduate students. (Once a year)

ITM 683 Business Intelligence and Data Analytics (3) Addresses hands-on data analytics at operational, tactical, and strategic levels using basic data science techniques, including visual, descriptive, diagnostic, predictive, and prescriptive analytics methods and hands-on learning using current software tools. A-F only. Pre: 621 (with a minimum grade of B) or equivalent.

ITM 685 Electronic Commerce (3) Overview and discussion of the latest developments in e-commerce, hardware and software developments to support e-commerce, cases 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 688 Management of Health Information Technology and Population Health (3) Covers latest trends/innovations in HIT designed to reduce costs, improve quality/access, and reduce outcome disparity through population health management. Includes management of financial, organizational, and professional barriers to effective HIT. A-F only. Graduate students only. Pre: BUS 630 and BUS 631. (Alt. years)

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. Cannot be taken for credit. Repeatable three times. A-F only. Pre: CIS 703 (or concurrent) or consent.

ITM 706 International IT Organizational Research Methods (3) Overview of current survey methodology and data collection methods in 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 special area of major under direction of faculty member(s). A-F only. Pre: PhD student status in international management or consent.

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

Institute for Teacher Education (ITE)

College of Education

ITE 312 (Alpha) Introduction to Teaching, Elementary (V) Standards-based planning, assessment, instruction, reflection; inclusive classroom management; unique multicultural environment; educational issues in education and curriculum. Developing knowledgeable, effective, caring professionals to support student’s academic, social, emotional, physical needs. Emphasis on writing and dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 313 (Alpha) Principles and Methods of Reading Instruction (V) First of two methods courses focusing on theories and research-based practices related to reading instruction in elementary classrooms. Emphasis on writing instruction; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 314 (Alpha) 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; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 315 Field Training – Blended ECE (4) Students spend 15 hours per week in classrooms, plus mandatory seminar scheduled by UH Master's Program. Taken in conjunction with professional education courses; (B) dual preparation in ECE and elementary education; (C) elementary education. Repeatable two times or up to 9 credits per alpha. CR/NC only.

ITE 318 Child Development from Prenatal Through Age Eight (3) Growth and development of children from prenatal through age eight. Historical and current issues through a research-based ecological, cross-cultural perspective. Focus on children's optimal development and how this informs teaching practices in early education. A-F only.

ITE 319 Children's Literature (2) Acquaintance with wide range of children's books; criteria for evaluation of literature; using literature in the classroom. DL

ITE 320 Instructional and Assessment Methods for Multilingual Learners (3) Introduction to language use and development as it relates to multilingual learners (MLL). Candidates analyze and apply strategies to create inclusive and collaborative classrooms for learners at various levels of English language development. A-F only.

ITE 321 Social Studies and Science in Early Childhood Education (3) Assessment, instructional methods, and materials for teaching social studies and science to children in preschool through grade 3. Emphasis on developmental appropriate practices and lesson planning for teaching social studies and science. A-F only. Pre: 417, and 315 (or concurrent) or SPED 315 (or concurrent). (Alt. years: spring)

ITE 322 (Alpha) Social Studies, Elementary (V) Purposes, methods, assessment in teaching social studies. Focus: enriching children's understanding of the communities of which they are a part through inquiry, investigation, collaboration, and group think; methodology, organization, instructional strategies; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 323 (Alpha) Science, Elementary (V) Science education in elementary school: methods and materials; laboratory activities selected from new science curriculum; (B) dual preparation in ECE and elemen-
tary education; (C) elementary education. Each alpha repeatable one time, up to 3 credits. A-F only.

ITE 324 (Alpha) Mathematics, Elementary (V) Inquiry-based approach to concepts and algorithms of whole numbers and introduction to geometry and measurement experiences with appropriate manipulatives; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only. Pre: MATH 111 and MATH 112.

ITE 325 (Alpha) Elementary II (V) Inquiry-based approach to concepts and algorithms of fractions, decimals, graphing, and probability and statistics. Laboratory experiences with appropriate manipulatives in ECE and elementary education; (C) elementary education. A-F only. Pre: 324B or consent for (B); 324C or consent for (C).

ITE 326 (Alpha) Visual Art, Elementary (V) Scope and organization of art in PK-6 school curriculum, creative use of art media through laboratory experience; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 327 Curriculum, Materials, and Assessment Development for Multilingual Learners (3) Introduction to the development of curriculum materials, and assessments for diverse and multilingual learners. Teacher candidates will develop their ability to organize, develop, and assess learning around standards-based subject matter and language learning objectives. A-F only.

ITE 328 Responsive Pedagogy for Multilingual Learners (B) Introduction to the teaching of multilingual learners (MLL) in an elementary school context. Teacher candidates will learn specific strategies and methods for teaching non-native speakers of English. A-F only.

ITE 329 (Alpha) Performing Arts Expression, K-6 (V) Standards-based teaching, with, in, through, and about music, dance, and drama. Developing verbal and non-verbal communication skills through creative expression with an emphasis on planning, teaching, and assessing preK-6 lessons that integrate the performing arts; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 334 (Alpha) Personal and Social K-6 Health Skills (V) Standards-based planning, teaching, assessment in health education. Developing interactive learning opportunities to teach personal and social responsibilities through curriculum integration. Training, practice and evaluation of oral communication skills; (B) dual preparation in ECE and elementary education; (C) elementary education. A-F only.

ITE 346 Methods of Instruction, Industrial/Agricultural Education (3) Techniques of individual and group instruction in laboratory and related classes, evaluation 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. Pre: MKT 411 or MKT 51.

ITE 353 Music in the Elementary School (2) Goals, concepts, literature, materials, procedures, and evaluation for teaching music in grades K–6. For students in elementary education. Not intended for elementary music majors.

ITE 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. A-F only.

ITE 390 (Alpha) Student Teaching (V) Full-time supervised experience in school. (B) dual preparation in ECE and elementary education; (C) elementary; (D) secondary; (S) dual preparation in ECE and special education. CR/NC only. Pre: completion of all other program requirements, passing Praxis II exam(s). Co-requisite for D: 391D.

ITE 392 (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. CR/NC only. Pre: 390 or consent of instructor.

ITE 392 Directed Study (V) Individual work supervised by instructor. May consist of reading, research, observation/participation, teaching, and/or projects. Repeatable up to 12 credits. Pre: consent of instructor.

ITE 401 Engaging the Adolescent Learner (3) Examines how reading, writing, speaking, listening, viewing, the technology, etc. tools for learning content and engaging diverse adolescents across all disciplines. Includes a disciplinary literacies framework influencing curriculum planning, classroom culture, and assessment. CR/NC 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 (Alpha) Seminar in Educational Inquiry (V) Study of discipline-related and school-related topics and issues, e.g. dimensions of elementary and/or secondary schooling, school governance, curriculum design and development, the student learner, classroom (B) service learning; (C) exploratory learning. Each alpha is repeatable one time, up to six credits. Junior standing or higher. A-F only.

ITE 404 (Alpha) Teaching in the Subject Field (3) Purposes, procedures, curricula, evaluation in secondary school subject field: (B) art; (C) business and marketing; (D) language arts; (E) physical education; (F) industrial arts/agriculture; (G) mathematics; (H) science; (I) social studies; (J) foreign languages; (K) music; (M) home economics; (N) interdisciplinary; (P) English as a Second Language. Repeatable seven times for (P). A-F only. Pre: 401 or consent. Co-requisite: 402.

ITE 405 (Alpha) Teaching Residency, Secondary (V) Full-time student teaching experience in school. Student teachers will receive training and evaluation for oral communication, cooperation, and planning skills. Subject field: (B) art; (C) business and marketing; (D) language arts; (F) industrial arts; (G) mathematics; (H) science; (I) social studies; (J) foreign languages; (M) home economics; (P) English as a second language. CR/NC only. Pre: successful completion of all required courses; pass the content test(s) required by the state teaching licensure.

ITE 406 Seminar in Teaching Residency (3) Analysis and resolution of current ethical issues and practices in classrooms; teaching skills and strategies; curriculum planning, professional growth and development; and integration of teaching experiences with professional standards. Instruction in preparing an extensive written portfolio. A-F only. Pre: successful completion of all required courses or consent.

ITE 410 Supervision of the Observation-Participation Student (2) Basic guidelines for developing effective team relationships between the professional teacher and the observation-participation student. Pre: two years’ teaching experience and consent.

ITE 415 Observation and Assessment in Early Childhood Education (3) Introduction to the observation process, methods, and assessment of early childhood development. Emphasizes observation, documentation, and assessment to provide evidence of children’s development and learning and how to use assessment to guide teaching and learning. Pre: FAMR 331 or consent.

ITE 415L Observation and Assessment in Early Childhood Education Lab (3) Field experience in early childhood settings to facilitate young children’s growth and learning. CR/NC only.

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

ITE 416L Teaching and Learning for Diverse Young Children Lab (3) Field experience of 416L. CR/NC only. Co-requisite: 416. (Cross-listed as EDCS 416L)


ITE 420 Supervision of Student Teaching (3) Principles and methods; role of supervisor; human resources supervision in student teaching. Open to teachers interested in pre-service teacher education. Pre: three years teaching experience and consent.

ITE 425 Family and Community Centered Programs (3) Knowledge and appreciation for the complex characteristics of children, families, and communities. Analysis and development of methods for creating respectful, reciprocal relationships with diverse children and families from diverse backgrounds. Pre: FAMR 331 or consent.

ITE 430 Advanced Supervision of Student Teaching (3) Advanced principles and procedures: clinical supervision, observation recording, analysis, interpretation of classroom teaching; human resources supervision in student teaching. Pre: 420, successful supervision of two or more student teachers, and consent.

ITE 436 Cooperative Vocational Education (3) Planned work-experience program for special areas of vocational technical education. Acceptable type of wage-earning employment. Minimum of six 40-hour weeks or 240 work hours required. Repeatable unlimited times. Pre: consent.

ITE 438 Foundations of Vocational Education (3) Historical and philosophical foundations of vocational technical education, overview of federal and state legislation and contemporary practices. Special emphasis on vocational education program in Hawai‘i.

ITE 439 Office and Marketing Technology (3) Understanding and use of word processing, spreadsheet, and database software for business applications. Explore software across the office and marketing content areas.

ITE 440 Curriculum Implications of Multicultural Education (3) Examination of trends, issues, school programs, and program in multicultural education and its related area of study—bilingual-bicultural education. (Cross-listed as MCHS 440)

ITE 441 Hawaiian Studies, Methods (3) Examination of issues in Hawaiian and U.S. views of education and their application to the teaching of
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.

ITE 445 Educating Exceptional Students in Regular Classrooms, Secondary (3) Teaching secondary students those who are gifted/talented. Meeting academic/social needs, classroom management, peer interaction, collaboration between special and regular educators. Includes an emphasis on instruction in writing.

ITE 480 Issues in Computer Education (3) Integration of microcomputers into school curriculum and key issues related to microcomputer use in education. Pre: LTEC 442 or consent. (Cross-listed as EDCS 480)

ITE 499 Directed Activity (V) Individual work supervised by instructor. May consist of reading, research, teaching, and/or projects. Pre: consent of division director.

ITE 500 Co-op Plan B/C/Study (1) Enrollment for degree completion. CR/NC only. Pre: master’s Plan B or C candidate and consent.

ITE 550 Newspaper in the Classroom (2) Development of pedagogical skills in planning and practice teaching. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to 12 credits. A-F only.

ITE 560 alpha is repeatable one time, up to six credits. A-F only.

ITE 612 (Alpha) Clinical Partnership and Practice IV (V) Full-time supervised teaching experience. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 619 (Alpha) Clinical Partnership and Practice V Collaborative problem solving of issues and concerns encountered in current teaching experiences. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable five times. A-F only. Pre: written consent.

Insurance (INS) Shidler College of Business

INS 300 Principles of Insurance (3) Risk management and insurance applications 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 resulting from incidents caused by fire and allied perils. Forms of insurance used by individual business executives and firms including crime, transportation, liability, and worker compensation.

INS 431 Life Insurance (3) Treatment of the risk of premature death through use of various life insurance policies. Policy forms, calculation of premiums, reserves, non-forfeiture values, underwriting, regulation of policy provisions, related coverage. Pre: 300.

Interdisciplinary Studies (IS) Office of Undergraduate Education

IS 100 Marine Option Program Seminar (1) Directed reading and research. Repeatable two times. Pre: participation in London Semester Program. Required for Abroad Program students participating in the UH Mānoa Semester in London. Emphasis is placed on understanding within historical contexts important issues for contemporary British society—particularly those of class, power, gender, and race. A-F only. Pre: participation in London Semester Program. IS 359 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. 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) and his influential statesman, classical scholar, 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. (Once a year) (Cross-listed as ANTH 414 and LING 414) DS

IS 489 Environmental Practicum (3) Field experience in study and treatment of environmental problems under faculty direction. Project proposal, narrative activity log, and documentary report are required. Pre: upper division standing, courses in appropriate discipline, instructor consent. (Alt. years) (Cross-listed as ANTH 312) DS

IS 500 Principles of Oceanography (3) Oceanography, history of studies, field work, and key issues related to ocean pollution, ocean technology. Pre: OCN 201, ORE 202, or ZOOL 200; or consent. (Once a year) (Cross-listed as LING 347)

IS 530 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 531 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 540 Human Values and the Environment (3) Examination of nature-culture dynamic over a range of contexts–literary ecology, systems ecology, political ecology, eco-feminism, and environmental ethics–in order to articulate new possibilities for interdisciplinary understanding of the human place in nature. A-F only. Pre: any ENG DL or PHIL or GEOG course, or consent. (Once a year) (Cross-listed as LING 347)

IS 561 People, the Ocean and the Environment (3) People’s impact on quality of coastal and ocean environments, especially Hawaiian; scientific, legal, socioeconomic aspects. Ocean pollution, ocean technology. Pre: OCN 201, ORE 202, or ZOOL 200; or consent.

IS 572 Common Core State Standards in ELA: Content and Curriculum for Teachers (V) Professional development for K-12 teachers to upgrade their knowledge of ELA content and develop their instructional strategies to be consistent with the Common Core State Standards. Repeatable unlimited times. CR/NC only.

IS 578 Common Core State Standards in Mathematics: Content and Curriculum for Teachers (V) Professional development for K-12 teachers to upgrade their knowledge of mathematics content and develop their instructional strategies to be consistent with the mathematical practices of the Common Core State Standards. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

IS 582 (Alpha) Practicum in Curriculum Development: Natural Science (2) For in-service teachers to upgrade subject matter teacher and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

IS 583 (Alpha) Practicum in Curriculum Development: Natural Science (3) For in-service teachers to upgrade subject matter and develop teaching methods and materials for instruction. Repeatable unlimited times. CR/NC only. Pre: teaching experience.

ITE 599 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. Pre: admittance to an international exchange program.

IS 100 Marine Option Program Seminar (1) Overview of organizations involved with marine activities, management, education, research, and business. Exploration of internships, research, and career opportunities. Preparation of resumes, proposals, and other documents. Repeatable one time. Pre: OCN 201, ORE 202, or ZOOL 200; or consent. (Cross-listed as BIOL 104)

IS 210 Academic Exploration Through Advising (3) Students explore personal, career, and educational goals and the impact of these goals on the decision-making process. Emphasis on self-reflection and decision-making will serve as the core. A-F only.

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. Pre: written proposal approved by Honors director and appropriate faculty advisor.

IS 300 Field Study (V) Pre-arranged systematic field investigation of selected topics. Pre: written proposal approved by Honors director and appropriate faculty member. Repeatable up to 16 credits.

IS 421 (Alpha) Independent Study I (V) Independent study. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.

ITE 410 (Alpha) Independent Study II (V) As EDCS 480

ITE 411 (Alpha) Independent Study III (V) Supervised experience in instructional planning and practice teaching. (B) licensure; (C) non-licensure. Each alpha is repeatable one time, up to six credits. A-F only.
in gerontology students. Placements arranged at community programs, research sites, and special projects at the Center on Aging. Repeatable one time. A-F only.

ITAL 611 Integrative Seminar in Gerontology (V) Integrative seminar. A-F only. Pre: graduate standing or consent.

ITAL 650 Principles of Applied Evolutionary Ecology: Biodiversity Loss, Biological Invasions and Emerging Disease (3) Practical/lecturer/laboratory field rotation on the ecological and evolutionary underpinnings of the coupled process of biological invasion, disease emergence and biodiversity loss. A-F only. Pre: consent. (Once a year)

ITAL 651L 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)

ITAL 750 Topics in Biocultural Diversity and Conservation (3) Biological, cultural, and linguistic conservation are closely 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)

International Cultural Studies (CUL)

College of Social Sciences

CUL 609 Faculty Seminar Series (1) Seminar consists of a series of presentations by certificate faculty on topics of ongoing research. Presentations will open current debates about theory and method in cultural studies. Repeatable one time. A-F only.

CUL 610 International Cultural Studies: History and Theory (3) Seminar on the history and theory of interdisciplinary cultural studies. The politics of culture are examined in comparative perspective, focusing on their significance for identity formation, intercultural relations, and global flows of images, people and capital. Credits may be earned more quickly for students with some language background. Pre: placement test.

CUL 750 International Cultural Studies: Research Project (3) Directed reading and research culminating in a project that engages issues in international cultural studies. Types of projects include scholarly essays, community-based projects, performances or exhibitions. Written statement of purpose and self-evaluation required. A-F only. Pre: 609 and 610.

Italian (ITAL)

College of Languages, Linguistics and Literature

ITAL 101 Elementary Italian (3) Conversation, grammar, and reading. HSL

ITAL 102 Elementary Italian (3) Conversation, grammar, and reading. Pre: ITAL 101 or consent. HSL

ITAL 110 Immersion Italian-Elementary (6) Combined content of 101 and 102 covered in one summer session. (Summer only) HSL

ITAL 160 Intensive Elementary Italian Abroad (V) Intensive course of formal instruction on the 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 to 110. 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 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 equivalent.

ITAL 459 Fourth-Level Italian Abroad (3) Continuation of 458.

ITAL 460 Intensive Fourth-Level Italian Abroad (V) Intensive course of formal instruction on the fourth-year level in Italian language and culture in Italy. For semester programs only. Pre: 360 or equivalent.

Japanese (JPN)

College of Languages, Linguistics and Literature

All students taking language courses in this program for the first time must take a regularly scheduled placement test; those with no background must come to the Department of East Asian Languages and Literatures for a brief interview. A grade of C or better in the prerequisite courses is required for continuation.

JPN 100 Elementary Japanese, Special (3) Same material as 101, covered more quickly for students with some language background. Pre: placement test.

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 100 or 101. Pre: 100 or 101, or consent. HSL

JPN 105 Accelerated Elementary Japanese (8) Content of 101 and 102 covered in one semester. Meets two hours, four times a week, plus lab work. Pre: 202, 205, 217, or consent.

JPN 307 Special Japanese Reading and Writing (3) For bilingual students whose aural and spoken skills in Japanese were acquired informally. Emphasis on reading and writing through 301 level. Pre: placement test.

JPN 308 Special Japanese Reading and Writing (4) For bilingual students whose aural and oral skills in Japanese were acquired informally. Emphasis on reading and writing. Pre: placement test or consent of instructor.

JPN 311 Third-Year Japanese for Professional Communication I (3) 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. Pre: 202, 205, 217, or placement test; or consent. (Fall only)

JPN 312 Third-Year Japanese for Professional Communication II (3) Training in oral communication skills essential for operating in a Japanese-speaking professional environment or workplace. Pre: 311 or placement test, or consent. (Spring only)

JPN 315 Third-Year Japanese Aural Comprehension (3) Training in strategies for listening to various types of spoken material presented in narrations, interviews, news broadcasts, and lectures, etc. Pre: 301 or consent.

JPN 318 Oral Fluency Through Film (3) Training in oral communication and comprehension skills utilizing the spoken text and visual segments from Japanese film and television dramas. Pre: 301 or consent.

JPN 332 Advanced Japanese Reading and Writing (3) Web-based training in Japanese reading and writing to develop skills at the advanced level. Course activities combine independent work with communicative activities on the website. Ideal for in-service professionals seeking language development and maintenance. Repeatable one time. Pre: 301 (or concurrent) or consent.

JPN 350 Introduction to Japanese Linguistics (3) Introduction to major areas of linguistic description as applied to Japanese language. Pre: 301 or 307, or consent. DH


JPN 359 Third-Level Japanese Abroad (4) Continuation of 358. Pre: 301 or 358.


JPN 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., reading texts in area of specialization or at a pace more rapid than those of standard courses. CR/NC only. Repeatable three times. Pre: consent.
JPN 401 Fourth-Year Japanese I (4) Continuation of 302 and 305 emphasizing all four skills. Transition to longer and more complex written and spoken Japanese. Meets 50 minutes, four times a week. Pre: 302, 305, 308, or placement test; or consenting language student. Pre: 308 or placement; or consent.

JPN 402 Fourth-Year Japanese II (4) Continuation of 401. Transition to longer and more complex written and spoken Japanese. Meets 50 minutes, four times a week. Pre: 401 or placement test; or consent.

JPN 403 Fourth-Year Japanese for Advanced Speakers I (3) Continuation of 308 for bilingual students. Pre: 308 or placement; or consent.

JPN 404 Fourth-Year Japanese for Advanced Speakers II (3) Continuation of 403 for bilingual students. Pre: 403 or placement test; or consent.

JPN 405 Fourth-Level Japanese Reading: Accelerated (8) Content of 401 and 402 covered in one semester. Meets two hours, four times a week. Pre: 302, 305, 308, or placement test.

JPN 407 (Alpha) Readings in Original Texts (3) (D) academic and journalistic texts; (E) modern literature. Pre: 402, 404, or 405; or consent.

JPN 415 Japanese Aural Comprehension (3) Training in comprehension of spoken material presented in taped or recorded broadcasts, documentary narration, formal lectures, etc. Pre: 402, 404; or consent. May be concurrent with 407.

JPN 420 Fourth-Level Spoken Japanese (3) Training in oral communication skills in varied social contexts. Pre: 402 or 404.

JPN 421 Japanese Composition (3) Writing skills refined through practice in various styles (essays, letters, etc.). Pre: 402, 404, or 405; or consent.

JPN 423 Advanced Listening and Speaking (5) Training in listening and speaking for bilingual and other advanced learners. Emphasis on formal Japanese such as academic lectures, news, exchanges in business settings, public speaking, etc. Pre: 421 or consent.

JPN 424 English to Japanese Translation (3) Training in techniques of translating English in Japanese. Pre: 407D or 407E; or consent. (Cross-listed as TI 424)

JPN 425 Japanese to English Translation (3) Training in techniques of translating Japanese into English. Pre: 407D or 407E, or consent. (Cross-listed as TI 425)


JPN 432 Structure of Japanese (3) Introduction to phonology, morphology, syntax, and semantics of modern colloquial Japanese. Pre: 402, 404, or 405; or consent.

JPN 451 Introduction to Japanese Manuscripts (3) Introduction to Japanese manuscripts, emphasis on their cultural and historical context. Pre: 407 or consent.

JPN 454 Writing Skills for Business, Technology, and Media (3) Training in writing skills for business, technology, and media. Pre: 407 or consent.

JPN 466 Readings in Classical Japanese (3) Introduction to major genres of prose and poetry. Repeatable one time with permission. Pre: 461 or consent. DL

JPN 471 Okinawan Language and Culture I (3) The first of a series of two courses (JPN 471-472) focusing on the language, heritage, and folk culture of Okinawa. Pre: 202, 205, or consent. DH

JPN 472 Okinawan Language and Culture II (3) The second of a series of two courses (JPN 471-472) focusing on Okinawan literature, language skills, heritage, and cultural understanding. Pre: 471 or consent. DL

JPN 475 Introduction to Japanese Sociolinguistics (3) Application of general linguistics to social phenomena such as group identity, language and gender, dialects and intercultural communication. Pre: 350 and 370, or consent.

JPN 485 Advanced Readings in Modern Japanese Literature (3) Advanced course to foster speed, accuracy and attention to stylistic issues in modern Japanese literature. Pre: 407D and 407E, or consent. DL

JPN 486 Advanced Readings in Modern Japanese Contemporary Topics (3) Advanced course to foster speed, accuracy, and attention to content in reading modern discursive texts. Pre: 407D and 407E, or consent. DH

JPN 490 Advanced Japanese Language Study (3) Advanced course in spoken and written Japanese stressing intensive Internet, oral presentations, written reports and journal writing. Repeatable one time. Pre: 485 or equivalent and consent.

JPN 493 Project Work in Japanese (3) Enhances Japanese language skills through a field-based research project on a topic of the individual student’s choice. Interviews, surveys, observations, written materials and AV-assisted oral presentations. Repeatable one time. Pre: 402 or 405 or equivalent, or consent.

JPN 495 (Alpha) Internship Program (3) Analysis of intercultural dimensions of specific job experiences under faculty supervision through participation in an organization serving native speakers of Japanese. Business, repeatable one time; (C) travel industry internship. Repeatable one time. A-F only. Pre: 570 or consent for (C). 451 for (B).

JPN 499 Directed Fourth-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. Primarily for graduate students from other departments. CR/NC only. Repeatable three times. Pre: consent.

JPN 601 Japanese Phonology and Morphology (3) Introduction to the phonology and morphology of modern colloquial Japanese. Pre: 451 or consent.

JPN 602 Japanese Syntax and Semantics (3) Introduction to theories of syntax, sentence structure, parts of speech, constituency, grammatical relations and case marking, word order, passives, causatives, tense, aspect, and embeddings. Pre: 451 or consent.

JPN 604 Introduction to Japanese Language Pedagogy (3) Training in the identification and analysis of general problems in Japanese language learning, teaching, and testing. Pre: 451 or equivalent.

JPN 605 Research Methodology in Japanese Linguistics and Language Teaching (3) Japanese-specific training in empirical and descriptive hypothesis testing, in basic statistical and other evaluation techniques, and in the organization and presentation of ideas and data in paper, abstracts, etc. Pre: 407 or equivalent.

JPN 626 Introduction to Japanese Manuscripts (3) Intensive course of full time instruction on the fourth-year level in Japanese language and culture in Japan. Pre: 302, 305, 308, 359, or consent.

JPN 640 Topics in Japanese Literature (3) Advanced course to foster speed, accuracy, and attention to content in reading modern discursive texts. Pre: 407D and 407E, or consent.

JPN 701 Research Seminar in Japanese Language (3) Advanced seminar focusing on a specific topic of interest in Japanese linguistics. Pre: 461 or consent. DH

Key to symbols & abbreviations: see the first page of this section.
JOUR 460 Media Ethics (3) Ethics and social responsibility for media professionals. Application of ethical theories and principles to case studies and research projects. Pre: any 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 global communication. Open only to 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, but credit earned one time only. Pre: JOUR and junior standing; or consent. (Cross-listed as COM 485) DS

JOUR 499 Directed Research (V) Individual research projects. Pre: senior standing and consent of department chair.

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JOUR 365 Communication and Law (3) Role of communication in legal process; impact of law on communication processes. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 451) DS

JOUR 372 Interpretive Journalism (3) Writing articles of news analysis, editorials, and critical reviews. Pre: consent.

JOUR 385 Practicum (1) Working on campus student or quasi-professional publications under professional and faculty supervision. CR/NC only. Repeatable up to three credits. Pre: consent.

JOUR 390 (Alpha) Journalism/Communications Workshops (V) Short-term intensive workshops in journalism and 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 up to 6 credits. JOUR or COM majors only. Pre: consent. (Cross-listed as COM 390)

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 and 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: 401.

JOUR 407 Advanced Photojournalism (3) Computer experience in the creation, manipulation, and editing of color news, feature, sports, and documentary images. Study of the ethical and legal dimensions of electronic imaging. Pre: 307 or consent.

JOUR 425 Publication Layout and Design (3) Visual display concepts and procedures for newsletters, brochures, newspapers, magazines. Pre: upper division standing.

JOUR 459 Special Topics (3) Topics of interest to faculty and students; taught by regular and visiting faculty. Repeatable on different topics to six credit hours. JOUR majors only. Pre: COM/JOUR major and junior standing, or consent. (Cross-listed as COM 459)

JOUR 460 Media Ethics (3) Ethics and social responsibility for media professionals. Application of ethical theories and principles to case studies and research projects. 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 global communication. Open only to 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, but credit earned one time only. Pre: JOUR and junior standing; or consent. (Cross-listed as COM 485) DS

JOUR 499 Directed Research (V) Individual research projects. Pre: senior standing and consent of department chair.
KRS 151 Adapted and Prescribed Exercises (1) Small group and individual guidance and instruction for students recommended by student health service. Repeatable unlimited times, but credit earned one time only. Pre: consent.

KRS 152 Weight Training (1) Kinesiology of lifting and weight training, various types of exercises and methods of resistance. Repeatable unlimited times, but credit earned one time only.

KRS 153 Olympic and Power Lifting (1) Exercise technique and prescription with emphasis on anaerobic exercise. Explores advanced periodization models and their application, mastery of Olympic lifts, and plyometric programs. Repeatable unlimited times, but credit earned one time only. Pre: 152 or consent.

KRS 154 Tumbling and Rebound Tumbling (1) Single and combination stunts on tumbling mats and trampoline, balancing stunts; techniques of spotting; safety procedures. Repeatable unlimited times, but credit earned one time only.

KRS 155 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 Ta’ Chi Ch’uan (1) Classic forms of t’ai chi ch’uan. Repeatable unlimited times, but credit earned one time only.

KRS 164 Karate: Beginning (1) Rules, etiquette, basic stances, blocks, thrusts, kicks, ippon kumite, and selected kata. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only.

KRS 165 Karate: Intermediate (1) Emphasis on improving the basic techniques (stances, punches, kicks, forms, and sparring); introduction to combination techniques. (Student to provide own gi.) Repeatable unlimited times, but credit earned one time only. Pre: 164.

KRS 167 Wrestling: Beginning (1) Rules: fundamental defensive and offensive maneuvers and competitive strategy, i.e., takedowns, reversals, escapes, and pinning combinations; conditioning exercises. Repeatable unlimited times, but credit earned one time only.

KRS 170 Yoga: Beginning (1) Experiencing yoga and its effects on body, mind and consciousness of individual. Encompasses exercise, breathing techniques, deep relaxation, meditation, practice in concentration, and yogic postures. Repeatable unlimited times, but credit earned one time only.

KRS 171 Yoga: Intermediate (1) Corrective work and improvement of basic techniques. Exercise sets and combinations designed to develop endurance, flexibility, muscle and nerve strength, meditation, and deep relaxation technique. Repeatable unlimited times, but credit earned one time only. Pre: 170 or consent.

KRS 173 Water Polo (1) Fundamentals of basic water polo skills, namely, ball handling, passing, shooting, swimming, and swimming after the ball. Initial introduction into beginning techniques of individual offense and defense. Repeatable unlimited times, but credit earned one time only. Pre: 104 or consent. (Student to provide own swimming attire approved by instructor.)

KRS 181 Sport Proficiency I: Invasion (3) Knowledge, skill development, and strategy of various invasion type games and sports. Sports like basketball, soccer, ultimate frisbee and/or others are introduced within a tactical framework. Repeatable one time, but credit earned one time only. A-F only.

KRS 182 Sport Proficiency II: Net, Field, and Target (3) Knowledge, skill development, position, and strategy of net, field and target sports. Sports like volleyball, tennis, softball, and golf are introduced within a tactical framework. Repeatable one time, but credit earned one time only. A-F only.

KRS 185 Floor Exercise Gymnastics (1) An entry-level course designed to develop students’ knowledge of men’s and women’s gymnastics floor exercise routines, execution, skill progression, spotting techniques, and routine choreography. Primarily for KRS majors; others admitted on space-available basis. Repeatable unlimited times, but credit earned one time only.

KRS 186 Track and Field for Physical Education (1) Knowledge, skills, and rules of various track and field events. Organization of track meets and strategy in competition for KRS majors; others admitted on space-available basis. Repeatable unlimited times, but credit earned one time only.

KRS 187 Softball (1) Combined lecture-lab-physical activity with emphasis on basic skills, rules, etiquette, offensive and defensive strategies, position play, and game situations. Open to all students.

Repeatable unlimited times, but credit earned one time only.

KRS 201 School Health Problems: Elementary (2) Responsibilities of elementary school teacher in recognizing and meeting pupils’ needs, emphasizing teacher’s role in health instruction, health services, school health policies. Repeatable one time.

KRS 202 School Health Problems: Secondary (2) Responsibilities of secondary school teacher in recognizing and meeting pupils’ needs, emphasizing health instruction, health services, healthful school living, school health policies. Repeatable one time.


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. A-F only.

KRS 210 Leisure Education and Life Skills Development (5) Using sports as a learning tool, students will gain 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. Pre: 211.

KRS 222 Safety and Risk Management (2) Under-standing 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. A-F only.

KRS 238 Outdoor Recreation Management (3) Objectives and values of outdoor recreation; characteristics 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 curriculum and organization of the 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 leading recreation programs; characteristics and responsibilities of leadership in relation to nature, scope, and resources of a variety of programs. Repeatable one time. A-F only. Pre: 208 or consent.

KRS 250 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 is included. Repeatable one time. A-F only. Pre: consent. (Fall only)

KRS 271 Evaluation in Health Education (2) Processes involved in assessing school health educa-

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

KRS 337 Fieldwork in Recreation I (5) Initial supervised leadership experience in recreational agencies. One hour per week in class discussion sessions. For recreational majors. Repeatable one time. A-F only. Pre: consent of recreation advisor.

KRS 339 Special Recreation (3) Special recreation as a professional field. Overview of special recreation services. Repeatable for special populations. Repeatable one time. A-F only. 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. A-F only. Pre: 113 or BIOL 171/171L or PHYL 103 or PHYL 141/141L or PHYL 301/301L. DB

KRS 354 Exercise and Sport Physiology (3) Emphasis on physiological responses to exercise and physical training as related to stress, muscular endurance, cardio-respiratory endurance, primarily for KRS majors, but open to others with consent. Kinesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 113 or PHYL 142L (or concurrent), or BIOL 171/171L (or concurrent); or consent. Co-requisite: 354L. DB

KRS 354L Exercise and Sport Physiology Lab (2) Laboratory for KRS 354. Emphasis will be hands-on data collection and analysis of the physiological responses to exercise and physical training. Lab report development and scientific writing will also be emphasized. Kinesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 113 or PHYL 103 or PHYL 142L (or concurrent), or BIOL 171/171L (or concurrent); or consent. Co-requisite: 354L. DB

KRS 371 Teaching Techniques I: Elementary (3) Teaching techniques and methods of elementary physical education. Content to include basic skills and games in a school-based experience. Repeatable up to 6 credits. Primarily for KRS majors. A-F only.


KRS 384 Drugs and Society (3) Introduction to psychoactive drugs and their effects; drug regulations; education and rehabilitation programs; psycho-social variables related to the decisions to use/abuse drugs. Pre: consent.

KRS 385 Physical Fitness for Physical Education Teachers (1) Diagnosis and prescription for basic health and fitness problems, scientific principles of teaching, guidelines for exercise; essentials of scientifically based individualized physical fitness program. Repeatable one time.

KRS 388 Field Work in Strength and Conditioning I (1) Supervised practicum in strength training and conditioning. Students will be exposed to the theory and practice of designing and implementing both strength/power, and general conditioning programs. Repeatable one time. Pre: 152, 354 (or concurrent) or consent.

KRS 395 Personal Health and Wellness (3) Scientifically based information will be presented to help the student make decisions and take responsibility for his/her own health and health-related behaviors. The student will develop a personal, daily physical activity/exercise program, in which he/she will participate and be monitored. Repeatable one time. DB

KRS 399 Directed Reading (V) Individual problems. Limited to senior majors in health education, physical education, athletic training, and recreation. A-F only. Pre: 353 with a minimum GPA of 2.75 in major field. Repeatable unlimited times.

KRS 401 Current Trends in Health (3) Identification and analysis of the most important health issues for individuals, families, schools, and communities. Focus on cultural and local considerations in health promotion and education. Repeatable one time. A-F only.

KRS 402 (Alpha) Teaching Practicum in Physical Education I (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. (E) elementary; (S) secondary. KRS majors only. A-F only. Pre: admission to licensure track; pass basic skills tests specified by the Hawai'i Teacher Standards Board (www.hstb.org) or bachelor's degree from an accredited institution, or PHYL 301; or 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) Emphasis 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. Co-requisite: 402E.

KRS 405 (Alpha) Teaching Residency (9) Full-time supervised experience in elementary and secondary school field. School field level corresponds to level of education license sought: (E) elementary; (S) secondary. Each alpha can be taken one time. Kinesiology & Rehabilitation Science, Physical Education, and Secondary Education-Physical Education majors only. A-F only. Pre: 404E (with a minimum grade of B-), 402S (with a minimum grade of B-), admittance to licensure track, pass Praxis II Core Academic Skills tests. DB

KRS 406 Seminar in Teaching Residency (3) Analysis and resolutions of issues in teaching residency; teaching strategies and techniques; curriculum planning; professional growth and development. Repeatable one time. A-F only. Pre: consent of advisor. 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 laboratories. A-F only. Pre: 113, or PHYL 103 or PHYL 142L/142L, or consent of advisor. DB

KRS 416 Fundamentals of Ergonomics (3) Introduction to ergonomics principles and their application in understanding and prevention of Muscular Skeletal Disorders encountered in the working environment including introduction to legal aspects of ergonomics. Post-Master's Certificate in Nursing majors only. Pre: 463 or consent.


KRS 420 Lower Extremity Assessment (3) An examination of the pathology of injuries to the lower extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. A-F only. Pre: 353, 415; or consent.

KRS 421 Upper Extremity Assessment (3) An examination of the pathology of injuries to the upper extremities and their care and treatment designed for Athletic Training, Exercise Science and Allied Health professionals. Kinesiology and Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 353 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.

KRS 428 Current Issues in Leisure Services (3) Philosophical foundations and current and emerging issues in leisure services management and program development. Coverage of leisure research and its implications to practice. Repeatable one time. Pre: 238, 249, and 329; or consent.

KRS 429 Evaluating and Marketing Leisure Services (3) Basic methods of evaluating programs, developing, evaluating programs and problem-solving methods, survey research, research design, data analysis, and report generation for parks, recreation, and tourism systems. A-F only. Pre: 329 (or concurrent), or consent.

KRS 432 Emergency Care for the Professional Rescuer (3) 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.

KRS 434 Coaching Athletics (3) Combined lecture-lab with emphasis on scientific principles, theory, practice and ethical and professional considerations of the coach. A-F only. Pre: consent.

KRS 437 Camp Resources and Planning (2) (1 Lec, 1-3 hr Lab) Combined lecture-lab for camp directors and campмеbers. Plan and evaluate camp experiences for children and youth, including those with disabilities. Includes field trips. Pre: 331 and 332, or consent.

KRS 438 Practicum in Camping (V) Supervised leadership at a camp setting for 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.

KRS 443 Disability and Diversity in Physical Activity (4) (3 Lec, 1-1 hr Lab) Participants will explore issues of socio-cultural, sexual orientation, religion, and individuals with exceptionalities, and how these affect a student’s learning and behavior in the physical education setting. Required field experience. Repeatable one time. A-F only. (Cross-listed as SPED 443)

KRS 463 Sport Biommechanics (3) Concepts and scientific principles essential to efficient human movement; proper application of biomechanical principles to fundamental movements and selected complex motor skills. A-F only. Pre: 353, and either PHYS 100, PHYS 151, or PHYS 170; or consent. DB

KRS 470 Fitness for Life (3) Physical education teachers will gain knowledge, skills, and experience necessary to plan, implement, and evaluate Fitness for Life curriculum (grades 6-12). Information is guided by national and state standards. Includes lecture, lab, and teaching experiences. Repeatable one time. A-F only. (Once a year)

KRS 471 K-12 Teaching Methods in Health (3) Experiences in developing standards-based, interactive learning opportunities in the health classroom that engage students in the development of social skills for health in schools. Focus on National and Hawai‘i’s Health Content Standards, priority-risk/conten areas, the Coordinatored School Health Program, and responsibilities and competencies. A-F only.

KRS 472 Learning Communities (3) Theory, basic research, interactive process, and methodology of the cooperative learning process known as Tribes. Will develop participant skills to foster and facilitate learning communities in a variety of settings. Repeatable one time. (Summer only)

KRS 473 Ethnic Groups and Education in Hawai‘i (3) Identity and learning within and among Hawai‘i’s ethnic groups; study inter-ethnic and inter-ethnic hostilities as these impact education and teaching. Pre: consent. DS

KRS 474 Introduction to Statistics in Kinesiology (3) Basic elements for: descriptive statistics, prob-
ability, inference, regression, and correlation analysis. A-F only. Repeatable one time.

KRS 476 Motor Learning and Performance (3)
Basic consideration is kinesthesis, motor ability, fatigue, developmental factors, practice, motivation in relation to movement and human performance. Repeatable one time. Pre: EDEP 311 or consent.

KRS 477 Motor Development and Learning (4)
(3 Lec, 1 1-hr Lab) Motor development through the lifespan with fundamental principles and patterns. Factors affecting motor learning performance as a function of memory, practice, knowledge of performance, and motivation are incorporated. Required 6 credits experience. Repeatable one time. A-F only.

KRS 478 Adapted Physical Activity in Early Childhood (3)
Concepts of developmentally appropriate practice, importance of movement in overall development, and design of physical activity sessions and environments for young children with and without disabilities are covered. A-F only. Pre: consent.

KRS 480 Nutrition in Exercise and Sport (3)
Effects of physiologic demands of exercise on nutrition. Emphasis on physiologic and biochemical basis for nutrition recommendations to enhance exercise participation and optimize athletic performance. Pre: FSHN 185, and PHYL 140 or 141 or 301. (Cross-listed as FSHN 480) DB.

KRS 481 Introduction to Research in KRS (3)
Research methods in the study of physical activity, types of research, statistical concepts and techniques, and reporting research findings. A-F only.

KRS 482 Commercial Recreation (3)
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: 428 or consent.

KRS 483 Recreation Planning and Maintenance (3)
Examination of social, economic, and environmental factors of recreation and tourism development. Emphasis on methods, processes, citizen participation, recreation and tourism regulations, and land use. Repeatable one time. A-F only. Pre: 238 and 329; or consent.

KRS 484 Promoting a Drug-Free Lifestyle (3)

KRS 485 Healthy Sexuality Education, K-12 (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.

KRS 487 Exercise Assessment and Conditioning Lab (4) Designed to provide knowledge of laboratory techniques and procedures for aerobic and anaerobic fitness assessment, interpretation of aerobic and anaerobic testing results, and individual exercise program/prescription. A-F only. Pre: 480 and EDEP 425; or consent. (Fall only)

KRS 488 Practicum in Health and Exercise Science (4) Application of various testing procedures with substantial written reports on human subjects with different physical capacities. Repeatable one time. Pre: 152, 353, 354, and 463; or consent.

KRS 489 Program Design in Strength Training and Conditioning (3) Designed to provide theoretical and practical experience in supervision of a strength training center. Content includes program design, motor learning and organization, testing, evaluation, methods of strength development, facility design and special populations. Kinesiology & Rehabilitation Science, Health/Exercise Science and Lifestyle Management, and Physical Education majors only. A-F only. Pre: 152, 153, 355, 354, 354L, and 463; or consent.

KRS 490 Introduction to Athletic Training Clinic (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, PHYL 302/L, and 50 hours observation experience in an athletic training clinic. Co-requisite: 415. (Once a year)

KRS 491 AT Practicum I (3) Introductory-level supervised experiences within the profession of athletic training. This practicum is required for the KRS entry-level Graduate Athletic Training Education Program. A-F only.

KRS 492 AT Practicum II (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.

KRS 493 Athletic Training Practicum III (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.

KRS 494 Athletic Training Practicum IV (3) (5 2-hr Practicum) Advanced-level supervised experiences within the profession of athletic training. This practicum is a requirement for entry to the KRS Master’s Athletic Training Program. A-F only.

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

KRS 600 Counseling in the Schools (3) History, philosophy, and organization of school counseling programs. Counseling role and functions, legal and ethical issues, contemporary counseling methodology and resources. (Meets EdD common core elective.) Pre: consent.

KRS 603 Lower Extremity, Thorax, and Abdomen (3) Human gross anatomy dissection of the lower extremity, thorax, and abdomen with emphasis on muscles, function, innervation, and vascular supply. Repeatable one time. Enrolled in DRB or KRS graduate programs (including Biomed Sci-Anat/RepoBiol & Phys majors) only or consent. A-F only. Pre: consent. (Spring only) (Cross-listed as ANAT 603)

KRS 604 Upper Extremity, Head, Neck, and Spine (3) Human gross anatomy dissection of the upper extremity, head, neck, and spine. Emphasis is placed on muscles, function, innervation, and vascular supply. Repeatable one time. Enrolled in DRB or KRS graduate programs (including Biomed Sci-Anat/RepoBiol & Phys majors) only or consent. A-F only. Pre: consent. (Fall only) (Cross-listed as ANAT 604)

KRS 605 Human Growth and Development—Life Span (3) Life span perspective on psychological, social, and physical development. Major theories and related research on human development; applications in policy planning and service delivery in counseling. Pre: consent.


KRS 607 Scientific Principles of Physical Conditioning (3) Application of physiological principles to physical conditioning and athletic performance. Pre: graduate standing or consent.

KRS 608 Muscular Strength and Power Development (3) Principles of muscular strength and power development. Emphasis on muscular adaptations to increased and decreased use. Pre: graduate standing or consent.

KRS 609 Athletic Training, Clinical Experience (3) (3 2-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 to the program. A-F only. Pre: 490; or consent. Co-requisite: 615B and 617.

KRS 610 Athletic Training, Clinical Experience II (3) (1 Sem, 5 3-hr Practicum) Practicum in which the student will perform the duties and responsibilities of an athletic training student. This practicum must be completed during the second semester post admission to the program. A-F only. Pre: 609 or consent. Co-requisite: 615U and 618.

KRS 611 Athletic Training, Clinical Experience III (3) (1 Sem, 5 3-hr Practicum) 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: 615B.

KRS 612 Athletic Training, Clinical Experience IV (3) (1 Sem, 5 3-hr Practicum) Practicum in which the student will perform the duties and responsibilities of a second year graduate athletic training student. A practical field experience in athletic training will be required. A-F only. Pre: 611 or consent.

KRS 613 Athletic Training Clinical Practicum (V) (1 Sem, 5 4-hr Practicum) Advanced practicum in which the student will be required to demonstrate a level of responsibility necessary to the BOC certified athletic trainer. Pre: consent. A-F only. Pre: consent.

KRS 614 Athletic Training Research Practicum (V) (1 Sem, 5 4-hr Practicum) Advanced research practicum in which the BOC certified or certification-eligible 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 615 (Alpha) Clinical Examination of Pathology (3) (2 Lec, 1 3-hr Lab) Examination, care and treatment of musculoskeletal, neurological, and neuromuscular systems and conditions; (B) lower extremities; (H) head, neck and spine; (U) upper extremity. EL-GATEP majors only. Graduate students only. A-F only. Pre: 428 for (B) and 615U for (H); or 615B for (H) or 615U for (U). Co-requisite: 609 and 617 for (B); and 490 and 611 for (H); and 610 and 618 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 sports-related injuries. (e.g. epidemiology, legal, ethical, environmental, and social considerations as related to sports, violence, and drug/abuse. health issues) Pre: ANAT 604 or consent.

KRS 617 Therapeutic Interventions: Modalities (3) (3 Lec, 1 3-hr Lab) The physiology principles and operational procedures and operational procedures of contemporary Therapeutic modalities as they relate to the care and treatment of athletic injuries. Pre: consent. Co-requisite: 609 and 615B.

KRS 618 Therapeutic Interventions: Rehabilitative Exercise (3) (3 Lec, 1 3-hr Lab) Concepts and principles of comprehensive rehabilitation programs (e.g. therapeutic goals and objectives, exercise selection, methods of evaluation and recording progress, progression and return to competition criteria, and the physiological effects of inactivity). Pre: consent. Co-requisite: 610 and 615U.

KRS 619 General Medical Conditions in Sports Medicine (3) Examination/evaluation of general medical conditions associated with sports medicine including pathology, care and treatment. Pre: PHYL 301, PHYL 302 or consent. Major restriction: KRS Athletic Training.

KRS 620 Seminar in Athletic Training (1) Designed to provide the student with analytical skills and practical experience relative to research as it applies to 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 exercise into physical conditioning and therapeutic exercise, including objective and functional goal setting and evaluation for appropriate progression and expedited return to activity. KRS majors only. Pre: 617 and 619 or basic therapeutic exercise and therapeutic modalities.

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 one time.

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

2017-2018 Courses 451
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 athletic training, physical education, recreation, coaching, 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, function, and functions 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 in practicum 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)
Theories 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 special education. 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 633 Crisis Intervention (3) Professional concerns about crisis intervention, and counseling skills development. Crisis theory as applied to suicide, sexual assault/rape, natural and man-made disasters, personal loss, terminal illness, life cycle crisis, and the like. Pre: 606 or consent.

KRS 634 Inclusive Physical Activity (3) Advanced knowledge on issues of socio-cultural, learning styles, diversity, and exceptionalities, and how these influence instruction, evaluation, and community participation 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. (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times. Pre: consent.

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 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 responsibilities.

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. (Spring only)

KRS 641 Seminar: Health/Exercise Science (V) Review of selected current literature in exercise/sport science and leisure studies. Practice of presentation in group setting. Repeatable up to 3 credits. Pre: 673 (or concurrent) or EDCS 632 (or concurrent).

KRS 643 Secondary Physical Education (3) Detailed examination of effective physical education curricula, and in-service middle and high schools. Repeatable one time. A-F only. Pre: consent.

KRS 646 American College Student (Study) Study of psychosocial characteristics of American college students and issues from viewpoint of student personnel work. Pre: consent.

KRS 660 Marriage, Family, and Child Counseling (3) Theory/practice of marriage, family, and child counseling, including major model in clinical practices in each. Liability insurance required. Pre: 629 or consent.

KRS 663 Biomechanics of Human Motion (3) Principles of motion as applied to sport and physical rehabilitation. Introduction to the technology used in the analysis of motion. Pre: consent.

KRS 664 Physiology of Exercise (3) Physiological bases of modern physical training methods and sports science. Repeatable one time. Pre: consent.

KRS 665 Metabolic Analysis (3) Theory and practice of metabolic analysis of human performance examining each of the power systems used in energy production during exercise and how to use this information to prescribe exercise programs. Pre: consent.

KRS 666 Advanced Fitness Assessment and Exercise Prescription (3) 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 implementing changes in body composition. 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. Emphasis on use of motor assessments and practices in collection of data will be specifically addressed. A-F only. Pre: consent. (Spring only)

KRS 675 Transdisciplinary Approach to Teaching the Motor Domain (3) Highlights a transdisciplinary approach to teaching students with disabilities in the motor domain. Important characteristics and components of this approach will be shared. Strategies for its implementation will also be addressed. A-F only. Pre: consent.

KRS 680 Principles and Practice of Rehabilitation Counseling (3) Principles, practices of rehabilitation counseling; review of history and influence of legislation on vocational rehabilitation; current issues, developments, with emphasis on local situation. Pre: consent.

KRS 681 Medical and Psychosocial Aspects of Disability (3) Functional implications of chronic illnesses and disabilities on personal, 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 life situations.

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, intake process, decision-making goal-setting, recording/documentation, time management, and other tasks. Pre: 680 and consent.

KRS 684 Psychopathology in Counseling (3) Discussion-oriented course (potentially Web-based). Examination of theory and practice of diagnosis in the assessment and treatment of mental disorders and the use of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) multi-axial system. Case studies will illustrate diagnostic issues. A-F only. Pre: 606 and 681, and consent. (Cross-listed as EDEA 684)

KRS 685 Ethical Issues for the Helping Professional (3) Developing ethical reasoning capabilities for resolution of ethical dilemmas likely to be encountered in counseling, psychology, and specialty fields (e.g., community, school, mental health, alcohol and substance abuse, marriage and family counseling, and the like). A-F only. Pre: 606 and consent.

KRS 686 Vocational Evaluation and Assessment in Rehabilitation (3) Theory, process, and techniques of vocational evaluation and assessment. Assessment methods and processes as they relate to vocational choice and adjustment of special groups. Pre: 681 and consent.

KRS 687 Assistive Technology in Rehabilitation Counseling (3) Study of application of assistive technologies to enhance the lives of people with disabilities. Case studies provide the vehicle in guiding students toward integration of available information into reality of actual situations. Special emphasis on the importance of using a consumer-centered approach in providing assistive technology services. A-F only. Pre: 681 and consent.


KRS 695 Promoting Physical Activity (3) Overview of the theoretical and applied study of physical activity epidemiology. Physical activity content includes benefits, factors that influence behavior, valid instruments to assess, and programs to promote physical activity. (Fall only) (Cross-listed as PH 695)

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


KRS 703 (Alpha) Practicum in Counseling (V) Supervised clinical experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times. Pre: 626 or 683, and consent.


KRS 733 (Alpha) Internship I (V) Supervised post-practicum experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times. Pre: 703 and consent.

KRS 734 (Alpha) Internship II (V) Supervised post-internship I experience in counseling and guidance activities at an approved site, including a weekly class meeting. Provides practical application of formal academic training: (C) community service; (E) elementary; (H) secondary; (R) rehabilitation; (U) college. Each alpha is repeatable three times. Pre: 703 and consent.

KRS 741 Seminar in School Counseling (3) In-depth study of professional concerns in school counseling. A-F only. Pre: 703 (E or H) and consent.

KRS 751 Seminar in Community Counseling (3) In-depth study of professional concerns in community counseling. A-F only. Pre: 703E and consent.

KRS 761 Seminar in College Counseling (3) In-depth study of professional concerns in college counseling. A-F only. Pre: 703U and consent.

KRS 775 Doctoral Seminar and Research I in Kinesthetics (3) Will expose the PhD student to the basic nature of behavioral and somatic science research. Learning experiences will consist of journal
KOR 302 Third-Level Korean (3) Continuation of 301. Pre: 301 or consent. (Spring only)
KOR 305 Accelerated Third-Level Korean (6) Content of 301 and 302 covered in one intensive summer course. Five 3-hour sessions per week, Monday-Friday. Pre: 202, 205, placement test, or consent. (Summer only)
KOR 307 Readings in Chinese Characters I (3) Training intermediate and advanced learners of Korean to recognize and understand some 250 basic Chinese characters as they are used in a wide variety of Korean reading texts. Pre: 202 or consent.
KOR 308 Readings in Chinese Characters II (3) Continuation of 307. Read 250 additional 250 basic Chinese characters. Pr: 307 or consent.
KOR 380 Korean Proficiency Through TV Drama (3) Students who try to elevate proficiency level to Advanced by challenging themselves to understand culturally and situationally-rich text, i.e., Korean drama. Increasing Korean proficiency within context is the main objective of the course. Pre: 302 or consent.
KOR 399 Directed Third-Level Reading (V) For those who need special assistance, e.g., in reading texts in area of specialization or at a pace more rapid than those of standard courses. Offered if staff available. CR/NC only. Repeatable three times. Pre: consent.
KOR 401 Fourth-Level Korean (3) Continuation of 302. Pre: 302 or consent. (Fall only)
KOR 402 Fourth-Level Korean (3) Continuation of 401. Pre: 401 or consent. (Spring only)
KOR 403 High-Advanced Korean I (3) Continuation of 402. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture, using authentic materials. Pre: 402 or consent. (Fall only)
KOR 404 High-Advanced Korean II (3) Continuation of 403. Emphasis on highest level of listening, speaking, reading and writing, with application to Korean culture using authentic materials. Pre: 402 or consent.
KOR 411 Advanced Oral Communication in Korean (3) Fourth-year advanced Korean course to increase learners’ oral fluency and accuracy; with an emphasis on formal speaking. Covers linguistic proficiency as well as social and cultural proficiencies. Pre: 402 or consent.
KOR 420 Korean Composition (3) Training in modern structural and stylistic techniques; writing on designated themes. Repeatable one time. Pre: 402 or consent.
KOR 421 Media Analysis in Korean I (3) Focus on analyzing, comparing, and evaluating current media materials in South Korea to develop professional proficiency level 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.
KOR 451 Structure of Korean (3) Introduction to phonology, morphology, and history. Pre: 302 or consent. Pre: 402 or consent.
KOR 452 Structure of Korean (3) Introduction to syntax and semantics. Pr: 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) Study of Korean culture through films to elevate students’ oral proficiency level and improve their knowledge of Korean. Emphasis on writing instructions. Requires a minimum of 16 pages of graded writing. Pre: 402 or consent.

KOR 485 (Alpha) Korean for Career Professionals (V) Combined lecture-conference on functional command of 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 Korean faculty and flagship instructor in domain of (B) economics; (C) political science; (D) computer science; (E) engineering; (F) travel industry management; (G) business; (H) law; (I) medicine; (J) nursing and public health, and (K) others. Repeatable one time. Pre: 402 or consent.
KOR 493 Introduction to Traditional Korean Literature (3) Critical readings from earliest times and presentations that emphasize genre, style, and context. Pre: 402 or consent. DL
KOR 494 Introduction to Modern Korean Literature (3) 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 on O'ahu. Students will also attend on-campus preparatory and follow-up language class. A-F only. Pre: 486, diagnostic assessment procedures; or consent.
KOR 496 Korean Abroad (V) Supervised intern- ship 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 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 of department chair.
KOR 613 (Alpha) Korean Verse (3) Intensive and analytical reading of selected works of Korean lyric and didactic verse (e.g., byangga, changga, banhwi, sijo, kana, free form): (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).
KOR 614 (Alpha) Korean Discourse (3) Intensive and analytical reading of selected works of Korean narrative (e.g., myth, pansori, shaman song, essay, biography, fiction): (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).
KOR 615 (Alpha) Korean Drama (3) Intensive and analytical reading of selected materials in Korean performing arts (e.g., spectacle, farce play, mask dance, staged narratives, theatrical drama): (M) modern; (T) traditional. Pre: 494 or consent for (M), 493 or consent for (T).
KOR 621 Media Research in Korean (3) Focuses on searching, analyzing, and evaluating media data for research in areas of student specializations. Students are required to write short analysis papers and a final research paper. Pre: diagnostic assessment (equivalent to IRL Level 2) or consent. (Once a year)
KOR 622 Comparative Studies of Contemporary South and North Korean Languages Comparing and analyzing language data to investigate language heterogeneity problems, its causes, and importance of comparative studies in NK/ SK language differentiation, language socialization, dialect, grammar, and vocabulary, pronunciation, and discourse style. Pre: 621 or consent. (Once a year)
KOR 623 Interdisciplinary Research in Korean (3) Combined lecture-discussion on preparing students to be able to conduct interdisciplinary research in Korean. Require advanced-level Korean proficiency. Pre: diagnostic assessment (equivalent to IRL Level 2) or consent. (Once a year)
KOR 624 (Alpha) Analysis of Korean Academic Discourse (3) Covariation of professional schools and Korean instruction in domain of (B) economics; (C) political science; (D) computer science; (E) travel industry management;
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: sophomore 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: sophomore 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 320 German Cinema (3) Study of German film history, film theory, film analysis, and film style. Repeatable one time or take GER 320 one time for different topics. 6 cr. limit on GER/LLEA 320 courses. Sophomore standing only. DH
LLEA 340 Classical German Literature (3) Readings in translation from dramatic works of Lessing, Goethe, Schiller. Philosphic and aesthetic views of leading writers of the Enlightenment, Storm and Stress, and classical period. DH
LLEA 342 German Fascism and Propaganda (3) Lecture/discussion. Study of German Fascism and propaganda in German literature, art, and film. Sophomore standing or higher. A-F only. DH
LLEA 416 German Literature, Culture and Film: 1890 to Present (3) Study of German literature, culture and film, 1890 to present. Credit cannot be earned for both 416 and GER 416. Sophomore standing or higher. 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
LLEA 350 Italian Short Story (3) Origin and development (19th and 20th century), periods, themes, styles, and major authors. Pre: sophomore standing or consent. DL
LLEA 351 19th-Century Russian Literature (3) Survey in English of major writers from Pushkin through Chekhov; lectures, discussions, short papers. Pre: sophomore standing or consent. DL
LLEA 352 Russian Literature 1900–1950 (3) Survey in English of major Russian writers from 1900–1950. Pre: sophomore standing or consent. DL
LLEA 353 20th-Century Russian Arts and Culture (3) Aspects of culture (literature, film, theater, music, arts, etc.) in 20th century Russian society. Pre: sophomore standing or consent. DH
LLEA 354 Russian Literature Today (3) Survey in English of contemporary authors and their works for perspective of reality and poetic representation. Pre: sophomore standing or consent. DL
LLEA 355 Russian Film (3) A study of Russian film from the 1920’s to the present. Pre: sophomore standing or consent. DH
GENERAL AND GRADUATE COURSES

LLEA 270 Freaks and Monsters (3) Monsters, freaks and otherness 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 (B) Film as a reflection of the 20th century's social, cultural and political upheavals; (B) World Cinema (1890s to 1950s); (C) World Cinema (1960s to present). Pre: preceptorship and consent. DH

LLEA 390 Teaching Practicum in Large Lecture Courses (1) Graduate teaching practicum in large-lecture LLEA courses. Repeatable two times. CR/NC only. Pre: completion of a course in which practicum will be done and consent of instructor, no waiver.

LLEA 470 Freaks and Monsters 2: The Ethics of Otherness (3) An interdisciplinary examination of corporeal Otherness. Unusual real and fictional bodied images from fairies, vampires, monsters, aliens, 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 monster 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 (Study in English of epic, lyric, 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) in undergraduates in European languages read works in their major in the original. Pre: graduate standing or consent of department chair.

LLEA 681 (Alpha) Topics in Language (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) Independent study of approved research and reading with faculty supervision. Repeatable two times. A-F only. Pre: consent and departmental approval.

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.

Linguistics, Languages, and Literature (LLL)

LLL 150 Literature and Social Change (3) Study of works produced in Africa, the Americas, Asia, Europe, and Oceania from prehistory to the present, showing how the spoken and the written word reflect and effect social change. A-F only.

LLL 455 Second Language Learning and Teaching Methodology (3) Hybrid technology intensive course for pre- or in-service teachers of world languages. Topics: online learning, curriculum and lesson planning, assessment, language teaching approaches, technology for learning world languages.

Latin (LATN)

College of Languages, Linguistics and Literature

A grade of C- or better in the prerequisite courses is required for continuation.

LATN 101 Elementary Latin (3) Grammar and vocabulary, with reading of simple Latin. HLS

LATN 102 Elementary Latin (3) Continuation of 101. Pre: HLS

LATN 201 Intermediate Latin (3) Development of reading and translation skills. Emphasis on prose. Pre: 102 or equivalent. HLS

LATN 202 Intermediate Latin (3) Continuation of 201: emphasis on poetry. Pre: 201. HLS

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, Sallust, 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.

Latin American and Iberian Studies (LAIS)

College of Languages, Linguistics and Literature

LAIS 360 (Alpha) Studies in Culture (3) Politics of culture and representation. Will consider issues, traditions, movements, national icons for their significance for national and regional identity formation, intercultural relations and global flows of ideas, people, and capital. (B) Latin America; (C) Iberian Peninsula. 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. DH

LAIS 363 U.S. Latino Culture and Literature (3) The culture and history of U.S. Latinos through an analysis of their literature and arts and their sociopolitical relationship to 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 perspectives on household and community level organizations in Latin America and elsewhere. Topics may include gender relations, kinship structures, political economy, impacts of colonization, modernization, and globalization on households. 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, arts and practices. (B) Mesoamerica; (C) Andean South America. Repeatable one time for different alphas. Pre: sophomore standing or consent. (Cross-listed as ANTH 372) (Alpha) DH

LAIS 380 Studies in Culture: Portugal and Brazil (3) Surveys the cultures of the Portuguese-speaking world from pre-Lusitanian times, including connections with Africa, Asia, the U.S., and Hawai‘i. Pre: sophomore standing or consent.

LAIS 468 Colonial Latin American History (3) Pre-Colombian civilizations: Spanish and Portuguese colonization; political, economic, social and religious evolution to (1810); and ghettos or colonias: 360 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 creolization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), Andean Christianity, spiritual conquest, concepctions of death, etc. Sophomore standing or higher. Minimum of C- required grade in pre-requisites. Pre: 360, or consent. (Fall only) (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 Iberian or Latin American topics. Topics pre-announced. Repeatable one time. Pre: 360 B or C, or consent. (Once a year)

LAIS 683 Hispanic Cultural Studies (3) Critical overview of contemporary theories on Hispanic culture. Issues of identity such as mestiza/hood, hybridity, and pluralism will be discussed from a hemispheric perspective. Pre: consent.

Law (LAW)

School of Law

LAW 099 Exchange Student Program (V) Designed for students accepted to participate in an exchange program while enrolled at William S. Richardson School of Law. Must obtain prior approval for the transfer credits. LAW majors only. CR/NC only.

LAW 501 Organizing for Social Change (V) Examines conditions that lead people to become active, self-governing agents. Covered are strategies and tactics of organizational history of social change movements, anti-subordination theories of justice and organizing case studies. Repeatable up to four credits. (Once a year)

LAW 503 Historic Preservation Law (V) Introduction to the protection of cultural, archaeological, and historical resources with emphasis on key federal and state laws. (Once a year)

LAW 504 Lawyering Fundamentals I (V) Comprehensive program that provides the analytical and presentational skills necessary for excellent legal writing. Introduces students to legal problem solving and writing through the types of documents lawyers prepare in practice.

LAW 505 Lawyering Fundamentals II (V) A comprehensive program that teaches students the analytical and presentational skills necessary for excellent legal writing. Introduces skills and strategies for preparing written legal arguments and oral advocacy. Pre: 504.
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 negotiation, as well as centuries-old techniques, about the skill lawyers will use most often in their private practice—negotiation. The class also examines the rapidly developing field of alternative dispute resolution (ADR), including mediation, facilitation, arbitration, and court-annexed ADR. (Cross-listed as CEE 614)
LAW 509 Contracts I (V) Law of private agreement. 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 economy, and in influencing business decisions involving guarantees 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, standards, and responsibilities of the legal profession and its future role in society. CR/NC only.
LAW 512 Reparations and Reconciliation (V) Seminar and practical assignment focusing upon 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 Law (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 their families. Rights and obligations are balanced with those of parents and state. (Once a year)
LAW 515 Business Reorganization in Bankruptcy (V) Course explores and debates the effects of business seeking to reorganize its business and financial obligations. (Once a year)
LAW 516 Civil Procedure I (V) Basic course in procedure. Emphasis on theory.
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 students' area of specialization 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) property law; (J) public interest law; (K) topic 10; (L) topic 11; (M) topic 12; (N) topic 13; (O) topic 14; (P) topic 15; (Q) topic 16; (R) topic 17; (S) topic 18; (T) topic 19; (U) topic 20. (Repeatable up to 3 times, up to 12 credits; alphas R-W)
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.
LAW 523 Law and Psychology (V) Approaches psychology as a problem solving tool that can facilitate legal analysis. Covers a variety of areas including jury selection, jurisprudence, research methodology, social cognition, culture, and behavioral economics, among others. (Once a year)
LAW 524 Advanced Torts and Insurance Law (V) Advanced topics in 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. 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 on the framework of Federal Indian Law. (Once a year)
LAW 529 Peacemaking (V) Introduction for lawyers to peace studies and analysis of contemporary armed conflict, pacifism, just war doctrine, historical causes of war. (Once a year)
LAW 530 Second-Year Seminar (V) Seminar required for spring semester of all second-year law students. Substantive paper required. Topics announced in previous fall semester. Placement in the seminar is by lottery. Repeatable up to three times. Pre: 530 or departmental approval. (Once a year)
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, takeover, 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 delivery system, 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 rights secured by the First, Fifth, and Fourteenth Amendments to the Constitution of the U.S. Pre: 533.
LAW 535 Intellectual Property (V) A study of the law relating to property rights resulting from intellec- tual effort, including patents, copyright, trademarks, and trade secrets.
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 ways that individuals trained as lawyers can promote equality, diversity, and cultural pluralism and within the institutions in which we live and work. Pre: 533. (Once a year)
LAW 538 Conflict of Laws (V) Problems respecting the law applicable in transactions or to relationships with elements in more than one state.

LAW 572 International Protection of Human Rights (V) The growing body of international human rights law, 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 philosophy.

LAW 574 State and Local Government Law and Finance (V) City, town, county, district governments: administrative organization; regulatory powers; police power; local governmental taxation; relationship between local, state, and federal government.

LAW 576 Directed Study and Research (V) Individual research and writing under the direction of faculty.

LAW 580 Land Use Management and Control (V) Survey course of public land use management. (Cross-listed as PLAN 680)

LAW 583 Real Estate Development and Financing (V) Federal and state laws in the practice of real estate development and financing law. Condominiums, securities, subdivisions, consumer protection, and mortgage areas.

LAW 584 Civil Rights (V) Focuses on the civil rights of Americans and introduces alternative remedies and processes to address these rights.

LAW 586 Hawai’i Legislative Process and Drafting Workshop (V) Workshop to learn policy development, procedure, legislative drafting, and legislative research skills applicable to Hawai’i’s State Legislative process.

LAW 589 Labor and Employment Law (V) Employment law, statutory rights affecting the employment relationship, and alternative contract provisions to secure the parties’ intentions. Focus on the practical application of labor and employment law. Materials relating to the unionized employment relationship. Emphasis on the labor arbitration process and possibilities to issues regarding internal union affairs.

LAW 590 (Alpha) Workshops and Clinics (V) (B) Prosecution Clinic; (C) Defense Clinic; (D) Elder Law Clinic; (E) Environmental Law Clinic; (G) Estate Planning Workshop; (I) Native Hawaiian Rights Clinic; (J) Family Law Clinic; (K) Entrepreneurship and Small Business Clinic; (M) Mediation Clinic; (N) Lawyering Skills Workshop; (P) Media Law and Policy at state, national, and international levels.

LAW 591 Government Contracts Law (V) A primer on statutory, regulatory, and decisional laws that shape the government procurement process; covers contract relationships between private party contractors and federal, state, and local governments; examines the federal acquisition process, bids and proposals, and contract award controversies before judicial and administrative tribunals; reviews social, economic, and political forces impacting the government contract law.

LAW 593 Integrity and Ethics in the Real World (3) Interactive course addressing important ethical issues for practicing the corporate, entertainment, medical, legal, political, education, and sports worlds. Renowned knowledgeable guests will discuss critical issues in their respective fields through panel and roundtable discussions. LAW majors only. (Summer only)

LAW 595 Internet Law and Policy (V) Explores recent developments and use of new technologies in the global economy, social culture, copyright law, cyberlaw, e-commerce, electronic markets, domain names, tort liability, criminal activity, speech, and social and ethical issues.

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

LAW 599 (Alpha) Independent Study (V) Designed for law students participating in an international exchange program, visiting student program, or independent study while enrolled at UH Manoa. Students must obtain departmental approval prior to registering. CR/NC only.

Law-Doctor of Juridical Science (LSJD) School of Law

LSJD 500 SJD Dissertation (V) Research and writing of SJD dissertation under supervision of dissertation advisor. Repeatable four times, up to 60 credits. LAW students only. Satisfactory/Unsatisfactory only.

LSJD 501 SJD Directed Reading (V) Individual reading and research for SJD dissertation under supervision of faculty instructor. Repeatable two times, up to 36 credits. LAW students only. CR/NC only.

LSJD 590 SJD Legal Scholarship (V) Provides SJD students with an overview of legal scholarship in a series of related fields. Students will be introduced to different research approaches and areas of legal analysis through presentations by instructor and other faculty. Repeatable two times, up to 12 credits. LAW students only.

LSJD 591 SJD Legal Writing Seminar (V) Provides SJD students with an overview of fundamentals for academic writing skills and opportunity to improve their writing of dissertations. Repeatable two times, up to 12 credits. LAW students only.

Law-Environmental Law (LWEV) School of Law

LWEV 503 Wildlife and Natural Resources Law (V) Seminar covering federal and 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 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 statutes, regulations, and case law.

LWEV 527 (Alpha) Topics in Environmental Law (V) Study of contemporary topics in environmental law to change periodically as to issues and topics. (B) advanced environmental law; (C) regulatory; (D) legislative; (E) policy; (F) judicial. Repeatable six times, up to 36 credits. LAW students only.

LWEV 528 International Environmental Law (V) Study of the international regulation of activities and processes used to prevent environmental degradation and to preserve resources of environmental value.

LWEV 529 Environmental Litigation Seminar (V) Seminar on the techniques, law, and strategy involved in federal and state court environmental litigation.

LWEV 530 Climate Change Law and Policy (V) Climate change is a core challenge that will influence law and policy well into the future. Students will study climate change science, legislation, law and policy at state, national, and international levels.

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, communities, and businesses.

LWEV 582 Environmental Law (V) Basic statutory law and policy questions and problems concerning the environment. Focus on federal Hawai’i issues.

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 U.S. and Hawai’i ocean and coastal law covers modern issues concerning the protection...
and use of the native environment including challenges in Hawai‘i.

LWVE 593 International Ocean Law (V) Examination of the history of international ocean law, including comprehensive coverage of modern problems and issues concerning the laws of the sea.

Law-Journal and Team Credits (LWJT)

School of Law
LWJT 536 (Alpha) Moot Court Team (V) An honors program for students who prepare for and compete in national advocacy. Travel/registration fees required. (B) Black Law Students Association; (C) client counseling; (D) Hispanic Bar Association; (E) environmental law; (H) Native American; (J) Jessup international; (K) international environmental law; (M) intellectual property; (N) labor; (O) other; (S) space law; (T) trial team. Repeatable one time; up to four credits for (S) and (T), CR/NC only. Pre-requisites: 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 responsibilities for publication of the journal. Repeatable five times. CR/NC only.

Law-Law Research (LWLR)

School of Law
LWLR 501 Legal Research (V) Provides a theoretical understanding of the process of law making and of developing and implementing a research plan. LAW majors only.

LWLR 505 Scholarly Research Methods (V) Learn to plan the prewriting process for such scholarly assignments as a law review (SJR), writing for law review, moot court competitions, and in any course involving a scholarly approach to research and writing. LAW majors only.

LWLR 510 (Alpha) Advanced Legal Research (V) Designed to meet the needs of students who require an advanced course on research in a specific area of law. (E) environmental law research; (F) foreign law research; (H) Hawai‘i law research; (I) international and foreign law research (P); compare to practice; (Q) topic 5; (R) topic 6; (S) topic 7; (T) topic 8; (U) topic 9; (V) topic 10. Each alpha repeatable four times, up to 15 credits. LAW students only.

Law-Legal Writing (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 one time, up to 4 credits. LAW majors only. A-F only.

LWLW 537 Law Teaching Seminar I (V) Interdisciplinary seminar by the 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 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 materials from composition theory and linguistics into practical papers and methods to assist students to research and write legal documents. Instructor approval required. Repeatable one time. (Spring only)

LWLW 545 Master of Law (LWLM)

School of Law
LWLW 570 Introduction to American Law (V) General introduction to the fundamental principles and distinctive aspects of the American legal system and its institutions.

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 memorandum and client opinion letters. LLM. students only.

Law-Pacific and Asian Law (LWPA)

School of Law
LWPA 514 Law and Society in Japan (V) An extended historical review of the foundations of Japanese law in some detail and an introduction 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 factors influencing the legal system, some important legal doctrines, and the real-world operation of Japan’s laws today.

LWPA 553 Asian Pacific Insolvency Law (V) Comparison of approaches to selected Asian and Pacific island countries, with a focus on recently enacted laws and pending proposals that have followed the 1997 Asian Financial Crisis. LAW students only. Recommended: LAW 515, LAW 554, LAW 562. (Alt, years)


LWPA 564 International Criminal Law (3) Designed to 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 (3) Provides students with an understanding of the law, society, and legal systems in Korea. Areas of law including constitutional, civil 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, (B) business; (C) China; (G) global; (H) Philippines; (I) India; (J) Japan; (K) Korea; (P) Pacific; (S) Southeast Asia; (T) Topic 10; (U) Topic 11; (V) Topic 12; (W) Topic 13; (X) Topic 14; (Z) topic 15, and (F) repeatable. Repeatable up to 6 times for (C), (J), (K), (P), (S), (T), (U), (V), (W), (X); repeatable five times, up to 18 credits for (B), (H); not repeatable for (G).

LWPA 577 Japanese Business Law (V) Focus on the legal environment of foreign businesses operating in Japan. Includes consideration of the business environment and culture, issues relating to governmental oversight, contract consciousness, corporate governance, and dispute resolution. Includes 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) Introduces to business and commercial law in the People’s Republic of China. After a brief overview of China’s political and legal systems, the course will examine basic areas of domestic business legislation, including torts, property, and contract law, the regulation of private business, the reform of state enterprises, the development of companies 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 usufructs. Potential of utilizing native rights based on statute, custom, and use to develop new and expanded rights.

LWPA 582 (Alpha) Topics-Native Hawaiian Law (V) Specific topic areas depend on current developments and issues in Native Hawaiian and Indigenous law in Hawai‘i, the nation, and internationally, and expertise of faculty and visiting faculty. (B) policy and governance; (C) business and economic development; (D) law and culture; (E) Indigenous peoples; (F) Indigenous environment and sustainability. Repeatable up to 9 credits. LAW students only.

LWPA 583 Legal History of Hawai‘i (V) Designed to acquaint the student with the unique legal history of Hawai‘i, emphasizing particular legal controversies that have shaped the law of our island society. LAW majors only.

LWPA 584 Emerging Hawai‘i Water Issues (V) Introduction to the legal framework for water resource management in Hawai‘i; case studies illuminate the litigation process and evolution of the public trust, precautionary principle, and other legal, scientific, and policy areas.

LWPA 585 International Law (V) Evolving process of formulating rules to govern nations and peoples of the world in their attempts to solve problems recognized as requiring global solutions.

LWPA 586 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 ASAN 686)

LWPA 587 Comparative Law (V) Introduction to the civil law tradition, particularly as exemplified by the legal systems of East and Southeast Asia. After a brief review of comparative law study and the historical development of the civil law, the course will examine the structure and role of the professional legal and administrative law in Western Europe and in the Asian civil law countries.

LWPA 588 International Human Rights Advocacy (V) Applying international human rights law and legal skills to promote and protect human rights by way of United Nations Charter-based human rights mechanism, treaty-based mechanism, or other international human rights institutions.

LWPA 589 International Law, Transitional Justice, and War Crimes Tribunals (V) Discusses central problems of responsibility for mass atrocities such as genocide and crimes against humanity, including accountability through criminal accountability or other means such as truth commissions in post-conflict societies.

LWPA 590 International Economic Law (V) Problems-based course teaches the theory and practice of interconnected global private regulation and public development consequences, as situated in cross-border transactions and dispute resolution in world financial, international investment law, and international financial law.

LWPA 594 Pacific Islands Legal Systems (V) Study of substantive rules of one or more Pacific Islands jurisdictions, development of legal systems, relationships 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 develop-
ments in intellectual property as well as analyze international methods to harmonize several regional and national laws to protect rights in trademarks, patents, and copyrights. Students will be exposed to issues of territory and identity, international antitrust issues, and international dispute resolution, and human rights implications of international intellectual property rights protections. Pre: LAW 535.

Learning Design and Technology (LTEC)

LTEC 112 Technologies for Academic Success (3) Virtual and hands-on analysis of technology resources and utilization in learning.

LTEC 113 Technologies for Academic Success–Business (1) Virtual and hands-on analysis of technology resources and utilization in learning with an emphasis on business education. A-F only.

LTEC 414 Educational Media Technology (3) Introduction to educational technology theory and practice with an emphasis on meaningful integration of technology and media into a variety of face-to-face and online learning environments for diverse populations. A-F only. Pre: upper division standing.

LTEC 415 Technology for Teachers (3) Introduction to the theoretical and practical aspects of the integration of technology in teaching and learning, including strategies in design, selection, development, integration, and evaluation. Interactive delivery via distance education technologies. A-F only. Pre: basic teaching certification.

LTEC 430 Video Technology (3) Overview of video uses in educational contexts. Includes video planning, production, and simple editing procedures, as well as selection, evaluation, and integration into learning plan development.

LTEC 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 technology to enhance standards-based learning by K-12 students. Pre: upper division standing.

LTEC 448 Social Media: Links to Lifelong Learning (5) Selective topics focusing on the application to effective teaching/learning, including finding, evaluating, using, creating, and publishing information on the web; cultivating project involves designing, creating, and publishing a website. Integration with copyright law and standards. Repeatable one time. Pre: upper division standing (junior+) and consent.

LTEC 499 Directed Activity (V) Individual work, supervised by instructor. May consist of reading, research, and/or project. Repeatable two times, up to six credits. Pre: consent.


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

LTEC 512 Professional Development Education Technology II (3) Specialized topics focusing on the needs and interests of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.

LTEC 513 Professional Development Education Technology III (3) Specialized topics focusing on the needs and interests of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.

LTEC 514 Professional Development Education Technology IV (3) Specialized topics focusing on the needs and interests of faculty in current issues of technology integration. Combined lecture, lab and discussion course. Repeatable one time. Pre: consent.

LTEC 600 Theory and Practice in Educational Technology (3) The profession of educational technology and the role of instructional designers. Theoretical and philosophical foundations underlying practice that include instructional systems theory, needs assessment, change theory, and relevant learning models. Practical applications of these theories to solve instructional problems in real-life settings. A-F only. Pre: LTEC major or consent.

LTEC 602 Innovations in Educational Technology (3) Innovative technological advances and new media in the field of educational technology and their application in instruction. A-F only. Pre: LTEC major or consent.

LTEC 611 Educational Technology Research and Evaluation (3) Review of existing research in educational technology, with activities leading to the preparation of final study or project proposal. Repeatable one time. LTEC majors only or consent. A-F only.

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

LTEC 613 Instructional Design and Development (3) Basic concepts and techniques of instructional design and development, for application to solving instructional problems in real-life situations. A-F only. Pre: LTEC major or consent.

LTEC 629 Visual Design (3) Theory and practice involved in planning educational/instructional graphic and pictorial materials for print and computer-based media. LTEC majors only or consent. A-F only.

LTEC 626 E-learning Theory and Design (3) Principles of e-learning, including instructional design and development for instruction. Application to new media and web authoring. Repeatable one time. Pre: LTEC majors or consent. A-F only.

LTEC 623 Digital Video Design (3) Development and utilization of technology for the purpose of improving the teaching-learning process. A-F only. Pre: LTEC major or consent.

LTEC 632 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 content design-management environments and open courseware. Repeatable one time. LTEC majors only or consent. A-F only. Pre: 673 or consent.

LTEC 641 Emerging Technologies for K-12 Teaching (3) Introduction to emerging technologies in K-12 classroom teaching and learning and ramifications of these technologies on administrative structure of schools. A-F only. LTEC majors only or consent.

LTEC 642 Facilitating E-learning Communities (3) Exploration of tools and design considerations for effective online communication and development of learning communities. Pre: LTEC major or consent.

LTEC 643 Educational Technology in Informal Learning Environments (3) Exploring the nature, application, and use of educational technology in informal learning environments, such as museums, cultural institutions, tourist attractions, and visitor information centers. Focusing on the analysis, selection, and development of various media choices. A-F only. Pre: LTEC major or consent.

LTEC 647 (Alpha) Learning with Emerging Technologies (5) Exploration and evaluation of new tools and technologies for teaching and learning; (B) mobile learning; (C) free/open software; (D) educational games and simulations; (E) critical trends. Repeatable one time per alpha. A-F only. Pre: LTEC major or consent. Fall only for (B) and (D); Spring only for (C) and (E).

LTEC 651 Interactive Multimedia Production (3) The utilization and application of advanced authoring tools, combining video, animation, graphics, and sound to develop student-centered learning experiences primarily for advanced LTEC students. LTEC majors only or consent.

LTEC 652 (Alpha) Authoring E-learning Environments (3) Conceptualization of instructional design and its application to the development of e-learning environments: (B) assisted instruction (CAI); (C) managed instruction; (D) virtual reality; (E) animation. Repeatable two times. LTEC majors only or consent. A-F only.

LTEC 654 Programming for Games and Simulations (3) Project-based exploration of the breadth of programming in the context of educational games and simulations. A-F only. Pre: LTEC major or consent.

LTEC 662 Assessment and Evaluation in Educational Technology (3) Evaluation and assessment processes, sources, and instruments applicable to qualitative and quantitative approaches to evaluation. Repeatable one time. A-F only. Pre: LTEC major or consent.

LTEC 665 Research Design: Multiple Methods and Traditions (3) Explores research methods used in educational technology with a focus on developing a design for dissertation research. Emphasis is on the use of digital technologies in data collection and analysis. LTEC PhD majors only. A-F only. Graduate students only.

LTEC 667 Qualitative Research in Educational Technology (3) Introduction to qualitative research traditions and designs. Emphasis will be on the use of digital technologies in data collection and analysis. LTEC PhD majors only. A-F only. Graduate students only.

LTEC 668 Quantitative Research in Educational Technology (3) Application of mathematical and statistical concepts in a research framework. Formative and summative evaluation, measurements, descriptive, and inferential statistics. LTEC PhD majors only. A-F only. Graduate students only.

LTEC 673 Planning for Technology and Resources (3) Planning, needs assessment, and change theory applied to the development and evaluation of long-range plans and the communication of a vision for technology in education. LTEC majors only or consent.

LTEC 674 (Alpha) Technical Issues in Educational Technology (3) Applying theory of management in instructional technology support services and delivery systems. (B) management of (C) systems; (D) networks. A-F only. Pre: LTEC major or consent.

LTEC 676 Social and Ethical Issues in Educational Technology (3) Examination of social and ethical issues that relate to technology in instructional settings. Focus on social justice and societal impact. A-F only. Pre: LTEC major or consent.

LTEC 686 Information Literacy and Learning Resources (3) Process approach to teaching information retrieval, analysis, and use. Emphasizes concepts, practices, and ineffective instructional design, selection of resources that meets learning needs. Required for Librarian HDOE licensure. A-F only. Pre: LTEC majors or consent. (Cross-listed as EDCS 686 and LIS 686).
LITEC 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 hybrid format. Repeatable three times. LITEC majors only or consent. A-F only.

LITEC 689 LITEC 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. LITEC majors only or consent. A-F only. Pre: instructor consent.

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

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

LITEC 699 Directed Reading and/or Research (V) Individual reading and/or research. Repeatable for 3 credit hours maximum each time. Pre: LITEC major or consent.

LITEC 700 Thesis Research (V) Research for master's thesis. Repeatable nine times.

LITEC 701 Instructional Design Studio (3) Covers multiple instructional design models within the context of theory and research. Studio approach to focus on facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. LITEC PhD majors only. Graduate students only. A-F only.

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

LITEC 750 (Alpha) Seminar in Educational Technology Issues (3) Study and discussion of significant topics and problems. (B) instructional development; (C) online communities; (D) the future; (E) research. Repeatable unlimited times. LITEC PhD majors only. A-F only. Pre: consent.

LITEC 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 unlimited times. LITEC PhD majors only. A-F only. Pre: consent. (A year)

LITEC 780 Mixed Methods Research Design (3) Mixed methods research is designed for PhD and masters students in education and social sciences considering combining qualitative and quantitative research. Covers philosophical and practical implications culminating in a mixed methods dissertation/thesis proposal. Repeatable one time. (Once a year) (Cross-listed as LIS 780 and DIS 780)

LITEC 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. EDUC, LITEC PhD majors only. A-F only. Pre: 667 or graduate level qualitative research course. (Summer only)


Library and Information Science (LIS)

College of Natural Sciences
All LIS courses numbered 600 or higher (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 course is required for continuation.

LIS 500 Master’s Plan B/C Studies (1)

LIS 591 Library and Information Studies Workshop (V) Designed for in-service librarians and other information specialists needing to update their professional skills, focus on a particular topic, or learn new approaches and techniques. Repeatable five times. Credits earned in these courses cannot be applied for graduate degrees.

LIS 601 Introduction to Reference and Information Services (3) Theory and practice of reference services in libraries, information centers and information literacy. Bibliographic control, reference research, reference interview, online searching, evaluating, and using bibliographic and Webliographic material. Field component. MLISc degree required course.

LIS 605 Metadata Creation for Information Organization (3) Theory and practice of metadata creation for organization of information resources: cataloging code for resource description and access. Library of Congress and Dewey Decimal Classification schemes, use of OCLC. MLISc degree required course.

LIS 606 Advanced Cataloging and Classification (3) Continues 605 with study of authority work, and further study of non-book materials cataloging, including electronic and internet resources. Extensive use is made of OCLC. Connection cataloging client. Pre: 605.

LIS 610 Foundations of the Information Professions (3) Lecture/discussion/survey of the history and development of professional identity, professional values and ethics, historical development, current issues in the information professions. MLISc degree required course.

LIS 611 Intellectual Freedom (3) Seminar surveying the complex philosophical principles and practices of intellectual freedom with special application to librarianship and information sciences. LIS majors only. A-F only. Pre: departmental approval. (Alt. years)

LIS 612 History of Books and Libraries (3) History of written communication; the recording, preservation and transmission of knowledge. Development of libraries through the mid-twentieth century as institutional centers. LIS majors only.

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. MLISc 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 cataloging, bibliographic and government document arrangements. Current issues of government information dissemination policies and practices discussed. Pre: 601 or consent.

LIS 619 Preservation Management (3) Introduction to preservation management. Focus on management strategies for preservation of materials in libraries and archives. Covers preservation planning, condition surveys, disaster planning, grantmanship, and basic issues relating to deterioration. LIS majors only.

LIS 620 Conservation of Library and Archival Materials (3) In-depth exploration of the nature of library and archival materials and methods that cause deterioration. Hands-on approach provides practical experience testing, analyzing basic conservation treatments, understanding the role of conservation in preservation planning. Pre: 619 or consent.

LIS 630 Community Engagement (3) Explores how information professionals in libraries and other settings collaborate with community members and organizations. Provides an overview of theory and practice emphasizing the use of policies, services, and trends. Required course for CALIS. A-F only. (Alt. years)

LIS 647 Systems Analysis for Information Management (3) Overview of systems analysis; its techniques, benefits and limitations in library and information agencies, although concepts are applicable to other settings. Structured, top-down solutions stressed throughout. Major techniques and data modeling tools are reviewed. Pre: 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, outreach, and advocacy. MLISc degree required course.

LIS 652 Introduction to Archives Management (3) Study of archival principles and management theories applicable to all types of archives. Includes policy, appraisal, computer, and micrographic applications, ethical and legal issues.

LIS 653 Seminar in Archival Studies (3) Theory of archival studies from historical and contemporary perspectives. Includes public administration, legislation, and relationship to other repositories. Pre: 652 or consent.

LIS 660 Information Sources and Systems in Science (3) Bibliographical structure and sources in the basic and applied sciences, including physics, chemistry, biology, medicine, agriculture, engineering. Field component. Pre: 601 or consent.

LIS 663 Database Searching (3) Techniques and strategies for searching professional online databases and web information resources. Instruction using controlled vocabularies, free text and specialized functions to match retrieved resources with user needs. MLISc degree required course. Pre: 601.

LIS 665 Digital Instruction (3) Study and application of principles and practices that influence digital instruction related to information literacy in libraries and other information environments. Focus on application of instructional design and standards-based outcome assessment. Field research component.

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 search, result ranking and clustering for power search Web databases. Pre: 665.

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 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: 601 or 670.

LIS 672 Technology for Libraries and Information Centers (3) Survey of theories, concepts, methods and practices relating to the application of information technology to support the administration and use of information resources. Includes digital, printed and audiovisual materials. Pre: 605, 670, or consent.

LIS 674 Database Design and Creation (3) Designing and creating textual and/or directory databases from the viewpoint of information specialists and end-users. Needs analysis, file design, record content and structuring, software choice. Students implement prototype database. Pre: 670.

LIS 675 Database Content Evaluation (3) Lecture discussing and demonstrating the principles and methods of using criteria and 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 overload, 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 representation of documents, user preferences, and user-system interaction. Topics include advanced Information Retrieval (IR) models, metadata and markup languages, query operations, thesaurus based IR, automatic discovery of resources, and user/system performance evaluation. Pre: 647, 663, 670, 674, ICS 321, ICS 421, or ICS 624; or consent.

LIS 680 Seminar for Beginning School Librarians (1) Seminar and meetings on topics, issues, and concerns 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 682 Books and Media for Young Adults (3) History and criticism of literature for young adults. Contemporary books and media. Trends in media for young adults. Recognition of developmental needs and interests of adolescents. Selection and evaluation. Research studies.

LIS 683 Services in Public Libraries (3) Planning and implementing services and programming in public libraries. Development of services, issues, networking, public relations, outreach, competencies, services for the disabled and other special groups.

LIS 684 Administration of School Library Media Centers (3) Functions and management of school library media centers. Philosophy and objectives, standards, personnel, facilities, resources, budget, services, library instruction, public relations, program planning and evaluation. Required for Librarian HDOE license.

LIS 685 Traditional Literature and Oral Narration (3) Analysis of traditional literature including Asian and Pacific Island resources. Selection and evaluation of traditional literature emphasizing cultural values. Introduction to oral tradition, history and techniques of storytelling.

LIS 686 Information Literacy and Learning Resources (3) Process approach to teaching information retrieval, analysis, and use. Emphasizes concepts, practices instructive instructional design, selection of resources that meets learning needs. Required for Librarian HDOE license. A-F only. (Cross-listed as EDCS 686 and LTEC 686)

LIS 687 Hawaiian Studies Information Resources (3) Survey of reference and research materials in Hawaiian studies. Includes historical and contemporary works, books, articles, journals, and internet resources. Emphasis on Hawaiian language media, covers approaches to reference service, collection building and management. A-F only.

LIS 688 Pacific Islands Information Resources (3) Study of reference tools and bibliographic sources for Pacific Islands studies, including exch of online catalogs, databases and web sites. Focus on Melanesia, Micronesia and Polynesia (excluding Hawaii). LIS majors only. 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 record, application form, interview and possession of required competencies. Students must apply and be accepted before registration. Selection is by agency. CR/NC only. Pre: 601 and 665 or consent.

LIS 693 Special Topics in Librarianship (V) Includes issues of topical interest in the profession. Concentrates on the major topic of current interest, such as library service to the aged, repatriography, 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 three times, up to nine credits.

LIS 696 Practicum School Librarianship (V) Skill development and application of academic study through observation and practice in a fieldwork program with accompanying seminar. Required for school library certification in Hawai‘i. Repeatable one time, up to two credits. CR/NC only. Pre: 12 credits in LIS three program and consent of practicum coordinator required.

LIS 699 Directed Reading and/or Research (V) Individualized program of directed reading and/or research. Select one of the regularly titled courses. Enrollment requires approval before end of previous semester, with specification of goals, work requirements, number of credits, rationale. Repeatable unlimited times, credit earned up to six credits.


LIS 701 Seminar in International Librarianship (3) International and comparative librarianship; professional organizations; comparative methodology; research; personnel agencies; influence of literature and social, cultural, political factors.

LIS 705 Asian Research Materials and Methods (3) Literature of Asia in Western and Asian languages; bibliographic sources, published and archival repositories. Repeatable one time. (Cross-listed as ASAN 705)

Linguistics (LING)  

LING 102 Introduction to the Study of Language (3) Non-formal introduction to 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 language endangerment from around the world and throughout history. Offered through the distance-learning Unit Mastery program. A-F only. FGB

LING 120 Language as a Window to the Mind (3) From the perspective of modern cognitive science, linguistic evidence on conceptual structure, reasoning, categorization, and understanding. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100, or consent.

LING 121 Introduction to Language (3) Non-formal introduction to language, emphasizing its workings. A-F only. (Cross-listed as ANTH 121)

LING 122 Introduction to Language (3) Non-formal introduction to language, emphasizing its workings. A-F only. (Cross-listed as ANTH 122)

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; (D) only. Pre: 695.

LING 201 Language Documentation for Non-Linguists (2) Provides training in the fundamentals of language documentation and conservation for non-linguist. Repeatable two times. CR/NC only. Pre: proficiency in a lesser studied language and consent.

LING 302 General Linguistics (3) Introduction to the formal analysis of language, focusing on phonetics, morphology, syntax, semantics, historical linguistics, language acquisition, and related topics. DS

LING 331 Computer Applications (3) Background; uses for machine translation, dictionary construction; the study of language endangerment and conservation in Polynesia. Pre: 320 with a grade of B or better, or consent.

LING 344 Languages of the World (3) Survey of major language families; typological classification and language universals; writing systems, “contact” languages. Variety 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 experience with a Philippine language, or consent. DH

LING 347 Pidgin and Creole Languages (3) Non-formal introduction to the 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 speech sounds, techniques for work with unrecorded languages and for clinical work in speech pathology. DH

LING 412 Psychological Linguistics (3) The mental processes involved in producing, understanding, and acquiring language. Not open to all psycholinguistic experiment. Open to nonmajors. Pre: one of 102, 320, or PSY 100; or consent. DS

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

LING 415 Language and Gender (3) The role of language in the construction of gender and in the maintenance of the gendered social order. Field projects explore hypotheses 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 320 or consent.

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 consent. DH

LING 423 Cognitive Linguistics (3) Conceptual systems and language from a cognitive science perspective. Linguistic evidence on conceptual structure, reasoning, categorization, and understanding. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100, or consent.

LING 430 Animal Communication (3) Investigates animal communication from the perspective of modern linguistics. Dispels common misconceptions about and language learning among animals. Emphasizes 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. Focus on connectionist models, relations between language perception, and motor control. Requires no programming experience. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100; or consent. DS

LING 441 Meaning (3) Theories of how literal and figurative language encode meaning and processes of meaning encoding and decoding. Open to nonmajors. Pre: 102, 320, ICS 111, or PSY 100; or consent.

LING 445 Polynesian Language Family (3) Introduction to the language family of Hawaiian, Samoan, Tahitian, Tongan, etc.; models of migration and settlement and linguistics evidence; subgrouping and reconstruction of Polynesian linguistic characteristics of present-day languages; language endangerment and conservation in Polynesia. Pre: 320 with a grade of B or better, or consent.

LING 470 Children’s Speech (3) Individual strategies, baby talk, language socialization, language varia-
tion including multilingualism. Relation of cognitive to language development. Pre: 320. DS
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. 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 sentences in natural language depend upon the literal meaning of propositions and their logical (semantic) and conversational (pragmatic) inferences. Pre: 422 or consent.
LING 624 Discourse and Grammar (3) Usage-based examination in the context of spontaneous spoken language, including the role of discourse on synchronic and diachronic grammatical structure, discourse in interaction, and discourse in language documentation. Pre: 622 or (concurrent) or consent.
LING 630 Field Methods (3) Work with native speakers of lesser-known languages to develop techniques for data collection and analysis. Repeatable unlimited times. Pre: 421 and 422 and one of 621 or 622; or consent.
LING 631 Language Data Processing (3) Preparation of language data for computer processing; use ready-made programs; write simple language processing programs using SNOBOL. Applications to student’s research. Pre: 421 and 422, or consent.
LING 632 Laboratory and Quantitative Research Methods (3) Laboratory and quantitative methods for research on language. Introduction to hardware, software, research designs, and basic analysis techniques commonly used in quantitative language research. Combines lecture, laboratory work and discussion. Pre: graduate standing.
LING 635 Linguistics of Sign Languages (3) Universals and uniqueness in the phonological, morphological, and syntactic structures of sign languages, taught inductively with emphasis on hands-on analysis. Opportunities exist for skills development in American or Ho Chi Minh City sign languages. Graduate students only. Pre: 520 or consent.
LING 636 Hawai‘i Sign Language Linguistics: Documentation, Conservation, and Revitalization of HSL (3) Descriptive information on the phonological, morphological, and syntactic structures and lexicon of Hawai‘i Sign Language (HSL); language skills development in HSL, and guided research related to the documentation, conservation, and revitalization of HSL. Graduate students only. Pre: 520 or consent.
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; (Y) psycholinguistics. Pre: consent.
LING 645 The Comparative Method (3) Introduction to historical-comparative linguistics; attention to both Indo-European and languages with few or no written records. Pre: 421 and 422, or consent.
LING 646 The Comparative Method (3) Continuation of 645. Pre: 645.
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) Covers history, method, 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 Techniques of Language Documentation (3) Students learn to conduct best-practice digital language documentation projects from equipment purchase to data collection to data annotation and archiving and presentation. Pre: 680 or consent.
LING 720 Language Typology (3) Language typology deals with how and why the elements of language interact and function. Students acquire a broad overview of this grammatical make-up of languages in general and understanding of Functional- Typological linguistics. Graduate students only. Pre: 320 and 422 or consent. (Alt. years)
LING 730 Advanced Laboratory Research (3) Advanced laboratory methods for research in linguistics. Specialized and 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 with consent.
LING 750 (Alpha) Seminar (3) Reporting and discussion of current research in linguistics. (E) etholinguistics; (F) phonology and phonetics; (G) general; (M) semantics; (Q) language acquisition; (R) written language; (S) sociolinguistics; (X) syntax; (Y) 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)
Shidler College of Business

MGT 320 Fundamentals of Entrepreneurship (3) Covers the role of new ventures and entrepreneur ship in the world, founding, funding, marketing, structure and implementation of business ventures.
MGT 341 Behavior in Organizations (3) Contributions made by sociology, psychology, and related behavioral sciences to the understanding and prediction of human behavior in organizations. Pre: BUS 315, DS
MGT 344 Seminar in Management (3) In-depth analysis of selected current policy and problems of management. May be repeated with change in topic. Pre: consent.
MGT 345 Entrepreneurial Ventures (3) Integrative course in entrepreneurship designed around the development of an original business concept and the completion of a comprehensive business plan for a new venture. Intended as final course for students completing entrepreneurship minor. Pre: 320 or consent.
MGT 348 History of American Business (3) The evolution of business enterprise 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 HIST 378) DH
MGT 399 Directed Reading and Research (V) Reading and research in a special area within the major field under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and faculty advisor. Repeatable up to six times.
MGT 450 Family Business (3) The exploration of business, personal, and interpersonal issues associated with a family owned and managed company. Topics include: family psychology and organizational structure; life cycles in family business, strategic family business planning, succession planning, family business conflict resolution, estate planning, the role of professional managers, and others. This is not a course about how to be a successful owner, but about how to start or manage a business. It is most appropriate for those students who are part of a family that owns and manages a business. Pre: BUS 315 or graduate status, or consent.
MGT 460 Asia Pacific Business Systems (3) Business systems in Asia Pacific countries including Japan, Korea, China, Taiwan, Singapore, and Hong Kong in terms of particular management strategies and how they relate to the industrial trade policies. Pre: BBA core excluding BUS 345, or consent.
MGT 461 Corporate Entrepreneurship (3) Exploration of the nature and role of entrepreneurship behavior involving the founding of new ventures and entrepreneur ship in the world, founding, funding, marketing, structure and implementation of business ventures.
MGT 630 History of American Business (3) (E) exploration of the nature and role of entrepreneurship behavior involving the founding of new ventures and entrepreneurship in the world, founding, funding, marketing, structure and implementation of business ventures.
MGT 644 Comparative Management (3) Cross-cultural analysis of the values and environmental constraints that shape management patterns and policies. Emphasis on Pacific area nations. MBA or MAcc students only.
MGT 645 New Venture Management (3) Technical aspects of entrepreneurship, components and requirements for developing a business plan. Pre: consent.
MGT 650 Management Topics (3) In-depth analysis of selected current practices and trends in management. May be repeated four times with change in topic. Pre: consent.
MGT 651 Corporate Entrepreneurship (3) Entrepreneurship behavior involving the founding of new business units within established companies; understanding and dealing with barriers to entrepreneurship in corporations; recognizing corporate entrepreneurship opportunities; and learning various approaches organizations can take to increase entrepreneurship. A-F only. Pre: consent. (Once a year)
MGT 660 Negotiation (3) Theory and practice of negotiation. Exploration of appropriate strategies, tactics, and communication techniques. Study of dyadic multi-party, cross-cultural, and assisted negotiations.
MGT 670 (Alpha) International Management and Industrial Relations (3) Selected topics in international management and industrial relations: (B) China, (G) management systems in developing countries, (K) Japanese management systems; (D) management of multinational corporations; (F) contemporary issues in international business foreign direct investment; (G) cross-cultural communication in international; (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;
development and performance over time. Pre: 102 or HAW 202, or consent.

MAO 401 Fourth-Level Maori I (3) (Continuation of 302. Conducted in Maori. Advanced reading, writing, and conversation. Cultural contemporary and historical topics. Pre: consent. (Spring only)

MAO 402 Fourth-Level Maori II (3) (Continuation of 401. Conducted in Maori. Advanced reading, writing, and conversation. Cultural contemporary and historical topics. Pre: 401 or consent.

Marine Biology (MBIO)

College of Natural Sciences/School of Ocean and Earth Science and Technology

MBIO 601 Marine Biology-Environments and Organisms (4) (3 hr Lec, 3 hr Lab) Introduction to the diversity of marine organisms and the many specialized coastal, reef, and oceanic habitats in which they live. Lab and field research exercises will complement lecture subjects. Graduate standing in Marine Biology graduate degree program only. A-F only. Pre: consent. (Fall only) (Cross-listed as OCN 601)

MBIO 602 Marine Biology-Processes and Impacts (4) (3 hr Lec, 3 hr Lab) Investigation of biological phenomena and processes related to productivity and food webs, coral reef deterioration 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) (Cross-listed as OCN 602)

MBIO 603 Career Skills for Marine Biologists (1) Introduction to key professional skills including, but not limited to: grant writing, CV preparation, research logistics, data management, reproducible science, peer review, research ethics, publishing, career options, teaching, and professional presentations. MBIO majors only. A-F only. (Fall only)

MBIO 604 Current Research in Marine Biology (1) Discussion of current primary literature in marine biology. MBIO majors only. Graduate students only. A-F only. (Spring only)

MBIO 611 Introduction to Quantitative Methods in Fisheries Science (4) (2 Lec, 1-3 hr Lab) Fisheries and population models including growth, stock-recruitment, surplus production, age-structured and size-based, parameter estimation, uncertainty characterization, resampling methods, and scientific computing. Graduate students only. A-F only. Pre: MATH 215 or 216, or MATH 241 or 242, or consent. (Fall only)

MBIO 691 (Alpha) Seminar in Marine Biology (1) Marine biology topics, literature, and concepts of current interest within one of several active fields considered in detail: (B) general marine biology; (C) marine fisheries and natural resource management; (D) marine conservation biology; (E) marine education, outreach and policy; (F) marine physiology, behavior and organismal biology; (G) marine population biology and ecology; (H) marine community and ecosystem ecology; (I) professional development for marine biologists; (J) seminar at HIMBP. Repeatable unlimited times. Graduate students only.

MBIO 699 Directed Research (V) Directed research consisting of various aspects of marine biology. Repeatable unlimited times. Graduate students only.

MBIO 700 Thesis Research (V) Research for master’s thesis; (F) 1 credit. Repeatable unlimited times. Graduate students only. SAT/UNSAT only.

MBIO 710 Topics in Marine Fisheries and Natural Resource Management (V) Lecture, discussion, and/or projects related to marine fisheries and natural resource management. Repeatable unlimited times. Graduate students only.

MBIO 715 Topics in Marine Conservation Biology (V) Lecture, discussion, and/or projects on selected topics related to marine conservation biology. Repeatable unlimited times. Graduate students only.

Marketing (MKT)

Study 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 and Data Analysis (3) Use of marketing research and marketing management and data analysis to make decisions. Emphasis on integrated marketing communications. Topics include: the research process; survey design; sampling; measurement; primary data analysis; customer data analytics; and digital media analytics. Pre: BUS 310 and BUS 312, or consent.

MKT 331 Marketing Communications (3) In-depth coverage of the major communication tools used in marketing such as advertising, sales promotion, public relations and the Internet. Emphasis on integrated marketing communications. Pre: BUS 312 or consent.

MKT 332 Integrated Communication Campaigns (3) Management of integrated marketing communications campaigns. Includes: conducting target market and competitor research, developing creative content and media strategies, production of communication materials and completion of major real world project. Pre: 331 and BUS 312.

MKT 341 Retailing Management (3) Principles, functions, and analysis of opportunities and problems in retailing: location and layout; merchandise planning; buying; and visual presentation; customer service and management; retailing and pricing; and retail management. Pre: BUS 310 and BUS 312.

MKT 351 Professional Selling (3) Emphasis on selling technique, social-psychological principles of persuasion, and interpersonal communication. Lecture, discussion, and application of relevant principles and techniques. A-F only. Pre: BUS 312 or consent.

MKT 352 Sales and Sales Management (3) Delves into selling and the sales management process. Through a variety of activities, students experience applying selling techniques, sales training, recruiting and training salespeople, methods of motivating and compensating, territory management and sales team communications. Pre: BUS 312 or consent.

MKT 361 Seminar in Marketing (3) Study and discussion of significant topics and problems in the field of marketing. May be repeated four times with change in topic. Pre: consent and usually senior standing.

MKT 362 Digital Marketing (3) Provides comprehensive understanding of digital marketing’s growing role in new product development; marketing research; direct sales; and marketing communications. Students learn multiple digital tools for analysis of customer behavior. Real-world projects provide opportunities for application. Pre: BUS 311 and BUS 312, or consent.
MKT 363 Customer Relationship Management (3) Focuses on the evolving field of customer relationship management. Students learn how to manage marketing information and decision-making systems that build brand equity 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 and outside of ongoing businesses. Emphasis on new product development and low cost, high impact marketing activities. Pre: BUS 312 or consent.

MKT 381 International Marketing (3) Principles and topics related to international marketing, with emphasis on strategic planning and applications. Pre: BUS 312 or consent.

MKT 391 Marketing Strategies (3) Decision-making by the marketing executive; integration of all elements of the marketing program based on actual business situations. Pre: 311, 321; or consent.

MKT 399 Directed Reading and Research (V) Reading and research in a special area of major under direction of faculty member(s). Project must include statement of objectives, outline of activities planned, results expected, and how they are to be reported and evaluated. Must be approved in advance by the department chair and the faculty advisor. Repeatable unlimited times.

MKT 410 Software Tools in Marketing (3) Focuses on computer software tools designed to help manage marketing communication and marketing dec.

MKT 411B Imagination, Entrepreneurship and Business Problem-Solving (3) Application of creative process to problems encountered in venture creation/growth. Student problem-solving styles are characterized and implications drawn for generation of breakthrough ideas. Tools for facilitating creative solutions to marketing problems are investigated. Pre: junior standing and BUS 312; or consent.

MKT 651 Advanced Marketing Management (3) A case course in the application of advanced marketing methods. Pre: BUS 623 or consent.

MKT 652 Japanese Marketing Systems (3) Specialized study of Japanese marketing systems, considers both global and specific marketing activities in the context of the Japanese economy. Pre: BUS 623 or consent.

MKT 653 International Marketing Management (3) Integrated and comparative approach to international marketing management. Emphasis on the development of a competitive strategy in a global environment. Applications to both developing and industrialized markets. Pre: BUS 623 or consent.

MKT 654 Strategic Brand Management and Marketing Communications (3) The study of brands and strategic brand management with emphasis on developing integrated advertising, sales promotion, public relations, and internet communication strategies that build brand equity. Includes relevant theory and real-world applications. Pre: BUS 623 or consent.

MKT 655 Marketing Research Management (3) Examines use of search/data analytics to support marketing management. Topics include: research process; survey design; sampling; measurement; primary data analysis; customer data analytics; digital media analytics. Real world project reinfor.

MKT 656 Creativity in Marketing (3) Thought processes that relate to creativity. Through a series of exercises, students experience enriched creativity and enhanced communication skills. Pre: BUS 623 or consent.

MKT 657 Services Marketing (3) Conceptual und.

MKT 658 Digital Marketing Management (3) Examines digital marketing's role in new product development; direct sales; marketing communications via the internet, social media, and mobile devices; and digital tools such as online tracking and analysis. Real activities provide opportunities for application. A-F only. Pre: BUS 623 or consent. (Fall only)

MKT 688 Patient Centered Communication (3) Provides training on managing patient communications in general and shared decision making in particular. Increases ability to use tools available to improve patient and family decision making quality and satisfaction. A-F only. Pre: BUS 623.

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 strategy 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 re.

Mathematics (MATH)

College of Natural Sciences

The minimum required grade for prerequisites is a grade of C (not C-) or better, unless noted otherwise. Credit allowed for (at most) one of 203, 215, 241, 251A.

MATH 100 Survey of Mathematics (3) Selected topics designed to acquaint nonspecialists with examples of mathematical reasoning. May not be taken for credit after 215 or higher.

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 reasoning.

MATH 134 Precalculus: Elementary Functions (2) Algebra review, functions with special attention to polynomial, rational, exponential and logarithmic functions, composed and inverse functions, technology. Pre: one semester of calculus from mathematics department; 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. A-F only.

MATH 190 Introduction to Programming (2) (3) Introduction to numerical algorithms and structured programming using Fortran, MATLAB, or other appropriate language. Pre: one semester of calculus (203, 215, 241, 242, 243, 244, 251A, 252A, or 253A) (or concurrent), or consent.

MATH 203 Calculus for Business and Social Sciences (3) Basic concepts; differentiation and integration applications to management, finance, economics, and the social sciences. Credit allowed for only one of 203, 214, 241, 251A. Pre: 134, 135, or 161, or assessment exam. FS

MATH 215 Applied Calculus I (4) Basic concepts; differentiation, differential equations and integra.

MATH 242 Calculus II (4) Integration techniques and applications, series and approximations, di.

MATH 244 Calculus IV (3) Multiple integrals; line integrals and Green's Theorem; surface integrals, Stokes' and Gauss’s Theorems. Pre: 243 or consent.

MATH 251A Accelerated Calculus I (4) Basic con.

MATH 301 Introduction to Discrete Mathematics (3) Symbolic logic, sets and relations, algorithms, trees and other graphs. Additional topics chosen from algebraic systems, networks, automata. Pre: one semester of calculus from mathematics department; or other appropriate language. Pre: one semester of calculus from mathematics department; or consent. Recommended: one semester program.

MATH 302 Introduction to Differential Equations I (3) First order ordinary differential equations, constant coefficient linear equations, oscillations, Laplace transform, convolution, Green's function. Pre: 216 or 243 (or concurrent) or 253A (or concurrent), or consent.

MATH 303 Introduction to Differential Equations II (3) Constant coefficients, vari.

MATH 304 Mathematical Modeling: Determin.

Key to symbols & abbreviations: see the first page of this section.
experience with instrumentation. Open-ended design of thermofluid systems. Pre: 322. DP

ME 423 Mass Transfer (3) Elementary mass diffusion; diffusion in a stagnant medium; diffusion in a moving medium; low and high mass transfer theorems; simultaneous heat and mass transfer; conduction, evaporation, and boiling; transpiration cooling; species boundary layers; engineering and design of heat and mass exchangers; current refrigerants and environmental regulations. A-F only. Pre: 422 or consent. DP

ME 424 Introduction to Gas Dynamics (3) One-dimensional compressible flow involving change of area; wave transmission through normal and oblique shocks. Prandtl-Meyer flow. Application to nozzles, diffusers, airfoils. Pre: 322. DP

ME 425 Thermal Management of Electronic Systems (3) To introduce concepts in the thermal management of electronic components and to develop sound technical tools to approach modern electronic packaging and cooling applications. A-F only. Pre: 422 or consent. DP

ME 426 Scaling Methods in Engineering (3) Scaling methods and optimization under global constraints; multi-scale optimal design of mechanical, thermal, and natural systems; effectiveness of heat, fluid, and convective trees; theoretical design optimization of mechanical and natural power systems: analysis of time dependent structures. A-F only. Pre: 371 and 422, or consent.

ME 433 Failures in Materials (3) Analysis of component failures due to imperfections, fatigue, brittle fracture, wear, corrosion, binding, impact, and overload. Fracture mechanics. Case studies. Pre: 331 or consent. DP

ME 434 Materials Selection for Design (3) Methodology for the selection of materials for mechanical applications to prevent mechanical failure and environmental degradation. Design considerations associated with the use of metals, ceramics, polymers, and composites. Pre: 371 and 375 (or CEE 370). DP

ME 435 Experimental Methods in Materials Research (3) (1 Lec, 2-2 hr Lab) Common experimental techniques in materials testing and research: x-ray diffraction, optical and electron microscopy, thermal and mechanical properties, electrochemical methods—theory and hands-on experience. Pre: 341 and consent.

ME 436 Corrosion Engineering (3) Basics of corrosion processes and emphasis on corrosion control. Thermodynamics and kinetics of corrosion, metal alloys and their behavior, corrosion control techniques (cathodic protection, anodic protection, coatings, and inhibitors). Pre: 341 and consent. DP

ME 446 Advanced Materials Manufacturing (3) (2 Lec, 1-3 hr Lab) Introduction to anisotropic materials, advanced manufacturing techniques for composite and intelligent materials, joining of composites, thin film processing and stereolithography, computer aided manufacturing and rapid prototyping; manufacturing process optimization, open-ended manufacturing projects. A-F only. Pre: 341, 342, and senior standing or consent. DP

ME 447 Introduction to Nanotechnology (3) (3 Lec) Tools and techniques of micro- and nano-technology in design, modeling, simulations, analysis, synthesis, and characterization; nano-materials, nano-structures, nano-composites, nano-coating, nano-optics, nano-electronics and nanobiotechnology. A-F only. Pre: senior standing or consent. DP

ME 451 Feedback-Control Systems (3) Analysis/ design of feedback systems. Compensator design via root locus and Bode analysis. Routh/Nyquist stability. State space representation and introduction to MIMO formulations. Observability/controllability. Application to physical dynamic systems such as industrial robots. Pre: 375 or EE 315 or consent. DP

ME 452 Robotics (3) Principles and design methods for autonomous systems. Pre: senior standing. DP

ME 453 Energy Conversion Systems (3) Energy conversion and its application in the environment: Conventional, hydroelectric, nuclear fission and fusion, solar, wind, ocean, geothermal, and biomass power; energy storage, transmission and conversion. Pre: 322, 411, and 422 (or concurrent); or consent. DP

ME 455 Nuclear Power Engineering (3) Nuclear reactor principles. Reactor heat transfer, heat generation and removal. Design and analysis of reactor power systems and plants. Pre: 411 (or consent) and 422. DP

ME 471 Experimental Stress Analysis (3) (1-3 hr Lab) Techniques of experimental stress analysis: strain, strain energy, deflection, crack length, and S- N curves; strain, strain to stress conversion, principal and maximum shearing stresses, failure in biaxial stress states, stress concentrations, residual stresses, buckling, creep, electrical resistance strain gages, birel clothings, photoelastic methods, transducers. A-F only. Pre: 371 and departmental approval.

ME 473 Mechanical Vibrations (3) Response of machines and systems to transient and periodic excitations. Vibrational behavior and introduction to flight-dynamics. Modal analysis of multi-degree-of-freedom systems. Applications to design. Pre: 371, 375; or consent. DP


ME 480 Thermofluid Measurement and Design (3) Measurement techniques in thermodynamics, fluid mechanics, and heat transfer. Hands-on experience with instrumentation. Open-ended design of thermofluid systems; engineering ethics issues. Final report and presentation are required. A-F only. Pre: 422 (or concurrent).

ME 481 Design Project I (4) (2-1 hr Lec, 2-2 hr Lab) Engineering ethics, engineering design methodology, project planning, decision making, materials selection, economic analysis, quality control, finite element analysis, initiation of an open-ended design project. A-F only. Pre: 322, 341, 372, and 422 (or consent). DP

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 component systems. Computer-aided design and finite element modeling. Manufacturing specifications, shop drawings, and a final report are required. A-F only. Pre: 401.

ME 491 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, me- chanics, materials, systems, or design. Pre: consent.

ME 492 Special Topics in Mechanical Engineering (3) Specialized topics in thermosciences, me- chanics, materials, or design. Pre: consent.

ME 499 Project (V) Investigation of advanced problems in mechanical engineering design or development. Student must find faculty sponsor before registering. A-F only. Pre: senior standing.

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

ME 610 Renewable Energy Engineering and Sustainability (3) Analysis of principles of operation of renewable energy systems, and its interactions with sustainability. Fundamentals of renewable energy production, storage, and conversion. Pre: 611 Advanced Thermodynamics (3) Introduction to general principles of classical thermodynam- ics. Main topics include equilibrium conditions, thermodynamic relations, Legendre transformations, Maxwell relations, phase equilibria; thermodynamic systems, phase transitions, and critical phenomena. Graduate students only. A-F only. Pre: 311 or consent.

ME 615 Advanced Aerodynamics (3) Advanced topics in aerodynamics, two- and three-dimensional wing theory, slender-body theory, lifting surface methods, vortex and wave drag, analytical and numerical methods, potential flow theory, and aerodynamic behavior and introduction to flight-dynamics. A-F only. Pre: 322 and 626, or consent.

ME 618 Boiling and Two-Phase Flow (3) Two-phase flow pattern and flow pattern maps; two-phase flow models (homogeneous, separate, drift flux, annular); laminar and turbulent film condensations; boiling incipience; pool boiling heat transfer; flow boiling heat transfer; critical heat flux (CHF). A-F only. Pre: 422 (or equivalent) or consent.


ME 622 Convection Heat Transfer (3) Heat transfer in laminar and turbulent boundary layers. Analogy between heat, momentum, mass transfer. Pre: 422 and 626.


ME 626 Viscous Flows (3) Formulation and prop- erties of the Navier-Stokes equations; exact solutions; creeping flows; lubrication theory; laminar boundary layers; laminar stability, and transition to turbulence; turbulent boundary layers. Pre: 322.


ME 636 Fundamentals of Electrochemistry (3) Thermodynamics of cells, electrode kinetics, mass transfer by migration and diffusion, microelectrode techniques, forced convection, impedance, double-layer structure, and absorbed intermediates in electrode processes. Pre: 322.

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. Pre: 341 or consent.

ME 646 Mechanics and Design Composites (3) Introduction to composites: mechanical properties and laminate theory; hygrothermal effects; composite beams, columns, rods, plates, and shells; energy methods; failure theories; joining of composites, computer-aided design in composites. Pre: 371 or consent.

ME 647 Nanoscience and Nanotechnology (3) Science and applications of nanotechnology. Synthe- sis of nanostructures; nanoscale structure character- ization by electron microscopy and Raman spectroscopy; electrical, thermal, and mechanical properties of nanostructures; fabrication of nanodevices; energy, environmental, and biological applications of nano- materials. A-F only.

ME 650 Surface Phenomena (3) Fundamental and modern concepts of colloid and surface sci- ence. Main topics include surface thermodynamics, capillarity and wetting, interfacial forces, surfactants, and particles. Pre: 311 or consent.

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: 451, EE 351; or consent.

ME 660 Introduction to Fuel Cell Technology (3) Working principles of all major fuel cell types; fundamentals of proton exchange membrane (PEM) fuel cells, state-of-the-art theoretical models and diagnostic technologies for PEM fuel cells. A-F only. Pre: 422 (or equivalent) or consent.

ME 671 Continuum Mechanics (3) Cartesian tens- ors and tensors; material properties, analysis of stress and strain, principal values, invariants, equilibrium and compatibility equations, constitutive relations, field equations. Problems in elasticity. A-F

Key to symbols & abbreviations: see the first page of this section.
only. 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. Pre: 360, 571; or consent.

ME 678 Advanced Dynamics (3) Lecture on rigid- body dynamics. Topics include: dynamical systems; motion restraint; MD 1 health care problems; Newtonian mechanics; Lagrangian mechanics; Hamilton’s prin- ciple; stability analysis; introduction to multidbody dynamics. Pre: 375 or equivalent, or consent.

ME 680 High Growth Entrepreneurship (V) An interdisciplinary course examining legal, business, and technology issues related to building high growth companies. Student teams develop company feasibility reports and skills necessary to advise or build high growth companies. 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. Pre: graduate standing.

ME 696 Advanced Topics in Mechanical Engi- neering (V) Highly specialized topics in thermosciences, mechanics, materials, system, or design. Pre: consent.

ME 699 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. Pre: graduate standing.


ME 799 Directed Instruction (V) Student assists in undergraduate classroom and/or project instruction under the direction and close supervision of faculty member. CR/NC only. Pre: permission to PhD candidacy or consent.

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

Medical Education (MEDED)

School of Medicine

MED 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)

MED 528 Unit 2 Electives (V) Through lectures, self-assessments and independent study, second-year medical students will consolidate their knowledge of the application of the biological sciences to patient care. CR/NC only. Pre: 557.

MED 541 Clinical Skills Assessment (1) Required comprehensive interdepartment multidis- ciplinary assessment program for fourth-year medical students. CR/NC only. Pre: FMCH, MBDN, PSE, PSTY, SURG 531 or 532.

MED 545 (Alpha) Senior Interdisciplinary Electives (V) Fourth-year elective in which students study selected interdisciplinary topics. CR/NC only. (B) medical education electives (C) complementary and alternative medicine (D) leadership in under- served care. MD majors only. (D). Pre: FMCH, MBDN, PSE, PSTY, SURG 531 or 532. (Spring for (D))

MED 551 MD 1 Health and Illness (5) Intro- duction to concepts of health and disease through lectures, laboratories, and colloquia intended to broaden the learning from MD 1 health care problems. MD majors only. CR/NC only. Pre: consent. Co-requisite: 551L. (Fall only)

MED 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: 551. (Fall only)

MED 552 MD 2 CV/Pulmonary (7) Concepts focusing on cardiovascular and pulmonary systems through integrated basic science lectures, laborato- ries, 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)

MED 552L MD 2 CV/Pulmonary Tuto- rials (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)

MED 553 MD 3 Renal/ Hematology (7) Con- cepts focusing on renal and hematologic systems through integrated basic science lectures, laborato- ries, and colloquia intended to broaden the learning from MD 3 health care problems in tutorials. CR/ NC only. Pre: 552 and 552L. Co-requisite: 553L. (Spring only)

MED 553L MD 3 Renal/Hematology Tutorials (4) Advanced series of problem-based learning tutorials for first-year medical students focusing on gastroin- testinal health care problems. MD majors only. CR/NC only. Pre: 553 and 553L. Co-requisite: 554L. (Spring only)

MED 554 MD 4 GI/Endocrine (7) Concepts focusing on gastrointestinal and endocrine systems through integrated basic science lectures, laborato- ries, 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)

MED 554L MD 4 GI/Endocrine Tutorials (4) Advanced series of problem-based learning tutorials for first-year medical students focusing on gastroin- testinal health care problems. CR/NC only. Pre: 553 and 553L. Co-requisite: 554L. (Spring only)

MED 556 MD 6 Locomotor System, Nervous System and Behavioral Problems (8) Concepts focusing on the neurological systems and behavioral problems through integrated basic science lectures, laboratories, and colloquia intended to broaden the learning from MD 6 health care problems in tutorials. CR/ NC only. Pre: 554 and 554L. Co-requisite: 556L. (Fall only)


MED 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)


MED 558 MD 8 The Unit VI (3) A series of discussion lectures intended to broaden the perspec- tives of the Unit VI experiences on health-care problems. Repeatable one time. CR/NC only. Pre: 557 and 557L.

MED 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.

MED 571 Introduction to Clinical Skills (2) Introductory lectures and laboratories on history taking and physical exam skills. Repeatable one time. MD majors only. CR/NC only. Pre: consent. Co- requisite: 551. (Fall only)

MED 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)

MED 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)

MED 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.

MED 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: 575 or consent. Spring only.

MED 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)

MED 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: 581 or consent. (Fall only)

MED 583 Unit 3 Community Health (2) Field experience placing student in community settings to work with health care professionals as they provide services to patients. MD majors only. CR/NC only. Pre: 582 or consent. (Spring only)

MED 584 Unit 4 Community Health (2) Field experience placing student in community settings to work with health care professionals as they provide services to patients. MD majors only. CR/NC only. Pre: 583 or consent. (Spring only)

MED 590 (Alpha) Preclinical Electives (V) Elec- tive for first and second year medical students. (B) projects in medical education; (C) healer’s art; (D) introduction to student research; (E) health and wellness; (F) quality improvement. Repeatable one time, up to two credits. CR/NC only. Pre: 551 and 557.

MED 595 (Alpha) Topics in Medical Educa- tion (V) Summer electives 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 simula- tions; (F) learning resources; (G) cardiovascular case maps; (H) pulmonary case maps; (I) clinical skills preceptors; (J) global health perspectives. Repeatable up to four credits. MD majors only. CR/NC only. Pre: 554. (Fall only)

MED 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 Medi- cal Education. Repeatable nine times.

Medical History (MDHX)

School of Medicine

MDHX 699 Directed Research (V) Repeatable unlimited times.

Medical Technology (MEDT)

School of Medicine

MEDT 151 Introduction to Medical Technol- ogy (2) Designed to acquaint students to the field of medical technology (clinical laboratory science). Repeatable one time.

MEDT 251 Introduction to Medical Technol- ogy II (2) Basic principles and lab skills in medical technol- ogy (medical lab science only). Required for second bachelor’s degree students (not MLT credentials) wishing to major in medical technology. Second bachelor's degree students only. A-F only. Pre: 151. CHEM 161/CHM 161L, BIOL 171/BIOL 171L (or concurrent)

MEDT 301 The Clinical Laboratory (3) (2 Lec, 1 3-hr Lab) Theory and clinical application of medical laboratory methods and healthcare professional relationships. MEDT majors only. Repeatable one time. Pre: consent.

Key to symbols & abbreviations: see the first page of this section.
MEDT 302 The Clinical Laboratory II (3) Theory and clinical application of medical technology methods and healthcare professional relationships. Companion course to MEDT 301; and required, for second bachelor's degree students who were admitted to MEDT major. MEDT majors only. Second Bachelor's degree standing or higher. A-F only. Pre: 251 or consent.

MEDT 331 Clinical Lab Management (3) Student will become familiar with fundamental administration of a clinical laboratory to include technical, personnel, and financial management areas. Repeatable one time. MEDT majors only. CR/NC only. Pre: consent.

MEDT 431 Clinical Parasitology (2) (1 Lec, 1 3-hr Lab) Modern diagnostic practices in parasitology. Repeatable one time. Pre: MICR 351 or consent.

MEDT 451 Hematology (1) (1 3-hr Lab) Fundamental study of blood in normal and pathological states: formation, development, and classification of blood cells. MEDT majors only. Pre: major or consent.

MEDT 451L Hematology Lab (2) (1 Lec, 1 3-hr Lab) Laboratory to accompany MEDT 451. MEDT majors only. Pre: major or consent. Co-requisite: 451.

MEDT 463 Cellular Microbiology II (3) (1 Lec, 2 3-hr Labs) Diagnose and interpret microbiology. Repeatable one time. MEDT majors only. A-F only. Pre: 431 or consent.

MEDT 464 Immunohematology (3) (2 Lec, 1 3-hr Lab) Antigen-antibody relationships in human blood; study of erythrocytic, clinical problems in transfusion. Repeatable one time. MEDT majors only. Pre: MICR 461 or consent. (Spring only) DB

MEDT 471 Clinical Biochemistry I (4) Biochemical processes in human health and disease states. Repeatable one time. MEDT majors only. Pre: CHEM 273 or consent. (Spring only) DB

MEDT 472 Clinical Biochemistry II (4) Continuation of 471. Repeatable one time. MEDT majors only. Pre: 471 or consent. (Spring only) DB

MEDT 477 Clinical Lab Methods and Analyses I (2) (2 Lec, 1 3-hr Lab) Lab experiments illustrating fundamental principles and methods of clinical laboratory analyses. Repeatable one time. MEDT majors only. A-F only. Pre: 477.

MEDT 478 Clinical Lab Methods and Analyses II (3) (2 Lec, 1 3-hr Lab) Continuation of 477. Repeatable one time. MEDT majors only. A-F only. Pre: 478.

MEDT 481 Professional Issues in Medical Lab Science (1) Discussions about various professional issues through oral presentations and critiquing of peer presentations. Repeatable one time. MEDT majors only. Pre: 451L.

MEDT 495 Special Topics in Medical Technology (V) Acquaint 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. MEDT majors only. CR/NC only. Pre: consent.

MEDT 499 Directed Reading and Research (V) Repeatable one time.

MEDT 531 Advanced Lab Management Concepts and Concurrency Issues (1) Concepts in clinical laboratory management and discussion of contem- porary issues for graduates and practicing clinical laboratory scientists. Repeatable one time. Pre: 531 or consent. (Summer session only)

MEDT 551 Advanced Clinical Laboratory Hematology and Hemostasis (1) Advanced-level study of hematology and hemostasis through clinical laboratory cases. Repeatable one time. Pre: 451 or consent. (Summer session only)

MEDT 591 Clinical Training in Medical Technology (28) Application of theory and simulated laboratory experiences in immuno-hematology, clini- cal chemistry, microbiology, parasitology, hematol- ogy, coagulation, urinalysis, immunology, to meet stated career entry-level competencies. Repeatable one time. CR/NC only. Pre: BS in MEDT.

MEDT 690 Seminar in Medical Technology (1) Analysis of research and recent literature pertaining to various aspects of medical technology. Repeatable one time. Pre: consent.


MEDT 352 Internal Medicine Longitudinal Clerkship (8) Six-month long clerkship in ambulatory setting, and six-week hospital-based experience. Repeatable one time. Pre: third-year standing and concurrent registration in 532 courses.

MEDT 541 Advanced Medicine Clerkship (6) Requited 4 weeks duration for fourth-year medical students. Advanced experiences in ambulatory and hospital-based medical care. Proficiency in this course may be established by examination. CR/NC only. Pre: fourth-year standing and completion of 531, or consent.

MEDT 545 (Alpha) Electives in Medicine (V) Fourth-year electives in which students study selected topics within field of medicine. (B) allergy-immunol- ogy, (C) cardiology, (D) medicine elective in Asia, (E) dermatology, (F) endocrinology, (G) gastroen- terology; (H) general internal medicine: ambulatory care; (I) general internal medicine: inpatient; (K) hematology; (M) nephrology; (N) neurology; (O) nuclear medicine; (P) oncology; (R) pulmonary diseases; (S) rehabilitation medicine; (T) rheumatology; (W) internal medicine sub-internship. Requisite: 351 or 532 for (C), (E), (F), (G), (H), (K), (M), (N), (O), (Q), (R), (S), (T); 541 for (D) and (W).

MEDT 546 (Alpha) Electives in Medicine (V) Fourth-year electives in which students study selected topics within field of medicine. (B) extramural electives in medicine (miscellaneous); (C) internal medicine seminar; (D) infectious disease; (E) internal medicine sub-internship; (F) research in biotics; (G) infectious, biocatalytic, fungal; (H) medical genetics; (I) obstetrics; (J) medicine. Repeatable one time for (C)–(E); not repeatable for (F); repeatable two times for (C) and (H); repeatable three times for (G), CR/ NC only. Pre: 531 or 532 for (B), (C), and (O); 541 for (E) and (H).

MEDT 599 Directed Research (V) Pre: consent.

Microbiology (MICR)

MICR 130 General Microbiology (3) Role of microorganisms; how they affect people, property, and the environment; study of broad aspects of biochemistry, genetics, molecular biology, and physiology; host-parasite relationships, public health, biocatalysis, medical and viral diseases; epidemiology; soils and water; environmental 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 3-hr Lab) Laboratory exercises to accompany 351. Pre: CHEM 272/272L, and BIOL 171, or equiva- lent. 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, genomics, and genomics) and information technology (IT). A-F only. Pre: BIOL 275 and BIOL 275L, or consent. (Fall only)

MICR 401 Marine Microbiology (3) Evolution, ecochemistry, 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) (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; or 401 (or concurrent); or consent. DY

MICR 410 Advanced Topics in Microbiology (2) Capstone for (but not limited to) senior micro- biology 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, and properties of microorganisms. Pre: 351 or equivalent. CR/NC only. Pre: 473 or consent. (Cross-listed as MCB 431)

MICR 461 Medical Immunology (3) Structure and biologi- cal actions of antigens and antibodies; fundamentals of antibody synthesis; the relation of immunology to medical and biological 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, immunohemostasis, immunobiology to illustrate principles of 461. Co-requisite: 461 or (Cross-listed as MCB 461L) DB

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. Pre: 463L or consent. CR/NC only. Pre: MICR 361.

MICR 463L. Microbiology of Pathogens Lab (2) (2 3-hr Lab) Characterization of bacterial pathogens. Isolation, identification, and diagnosis. Co-requisite: 463 or consent. DB

MICR 470 Microbial Pathogenesis (3) Fundamen- tals of infectious diseases at the molecular level. Emphasis on the role of genetics in host-patho- gen interactions. Pre: 351/351L or consent.

MICR 475 Bacterial Genetics (3) Genetic analysis and molecular basis of bacterial replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: 351 or BIOL 275, or consent. (Cross-listed as MCB 475) DB

MICR 475L Bacterial Genetics Lab (2) (2 3-hr Lab) Techniques for study of expression and transfer of prokaryotic genes: transformation, conjugation, transposon mutagenesis, preparation and analysis of plasmid and chromosomal DNA. Pre: 475 (or concurrent). (Cross-listed as MCB 475L) DB

MICR 485 Microbes and Their Environment (3) Distribution, diversity, and roles of microorganisms in terrestrial, freshwater, and marine ecosystems. Importance of bacteria in the breakdown of organic matter by bioirradiation of oil spills, sewage treatment, biocatalysis, food fermentation. Pre: BIOL 172 and CHEM 272, or consent.

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

Key to symbols & abbreviations: see the first page of this section.
and plants and animals: role of microorganisms in element cycling; food fermentation by bacteria. Pre: 485 (or concurrent) or consent. DY

MICR 490 Virology (3) Basic principles of virus biology. Topics include methods for virus study, virus structure, replication, antigenic expression, pathogenesis and host response. Pre: 351 or BIOL 275, or consent. DB

MICR 490L Virology Lab (2) (2-3 hr Lab) General laboratory techniques 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 499 Microbiological Problems (V) Directed reading and research. Limited to senior majors with a minimum cumulative GPA of 2.7 or a minimum GPA of 3.0 in microbiology, 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 602 Molecular Biology and Genetics (3) Graduate-level basic course on molecular biology and genetics. Prepares students to understand advanced concepts in related subjects such as biochemistry, cell biology, molecular genetics, microbiology, plant genetics and genomics. Pre: 402/BIOL 402 (with a minimum grade of B or higher), or with consent from instructor. (Alt. years: fall) (Cross-listed as MBBE 602)

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 graduate. Pre: grades only. A-F only. Pre: graduate standing in MICR or related field, or consent. (Once a year)

MICR 625 Advanced Immunology (3) Detailed reports and discussions on selected advanced topics and current research literature. Pre: 461 or consent. (Alt. years: spring)

MICR 630 Microbial Genome (3) Advanced studies of Microbial genome: relation to functional genomics, metagenomics, and proteomics. A-F only. Pre: 351 and one 400-level MICR course, or consent. (Alt. years)

MICR 632 Advanced Microbial Physiology (3) Selected topics. Pre: 431 or consent. (Alt. years: spring)

MICR 646 Plant-Bacterial Interactions (3) Diagnosis, molecular biology, genetics, and infection mechanisms of bacterial plant pathogens and symbions. Pre: one of 351, 475, or BIOL 481; or consent. (Cross-listed as PAPS 646)

MICR 652 Advanced Marine Microbiology (3) Advanced studies of marine microorganisms in diverse habitats with consideration of applications of marine microorganisms with other organisms, 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 reports and discussions on selected advanced topics and current research literature. Pre: 463, 490, BIOL 441; or consent. (Alt. years: fall)

MICR 671 Bacterial Genetics (3) Directed study and discussion of literature on bacterial and viral virus mutation, genetic recombination, evolution and control mechanisms. Pre: graduate standing; undergraduates that have taken 475 may register with consent. DB

MICR 680 Advances in Microbial Ecology (3) Highlights in microbial ecology; interaction of microorganisms with abiotic and biotic components of their environments. Modern techniques for study of 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 problems 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 degree. Pre: consent.

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 for six weeks. Focus is on aerobic conditioning, muscular strength and endurance. Repeatable three times. A-F only.

MSL 101 Introduction to Military Science I (2) Introduces cadets to personal challenges and competencies critical for effective leadership: personal development of life skills such as goal setting, time management, physical fitness, and stress management related to leadership, officership, and the Army profession. Focus on building knowledge and comprehension of Army Leadership Dimensions while understanding the ROTC program, its purpose in the Army, and its advantages for the student.

MSL 101L Introduction to Military Science I Lab (2) Practical application in adventure training, one-rope bridges, rifle marksmanship, land navigation, drill and ceremonies, physical training. Co-requisite: 101L

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: 102L

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, uniforms, and responsibilities.

MSL 202 Intermediate Military Science II (3) Challenges of leading complex, contemporary operational environments. Diresses 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 course conducted at Ft. Knox, Kentucky. Students register for ROTC based on their academic level (101, 102, 201, and 202) and fulfills course requirement for admission to ROTC advanced courses. Credit will be given for 203 or basic courses, but not both. Pre: consent.

MSL 301 Leading Small Organizations I (4) (2 Lec, 2-hr Lab) Challenges cadets to study, practice, and evaluate adaptive leadership skills with demands of the ROTC Advanced Camp. Challenging scenarios related to small unit 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, and skills. Actions. Pre: only. Pre: 101, 102, 201, 202; or consent.

MSL 302 Leading Small Organizations II (4) (2 Lec, 2-hr Lab) Intense situational leadership challenges to build awareness and skills in leading small units. Decisionmaking, partnering, and interacting with team members under fire are explored, evaluated, and developed. Military operations are reviewed to prepare for the ROTC Advanced Camp. 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. A-F only. Pre: 102, 201, 202; or consent.

MSL 303 ROTC Advanced Camp (6) Six-week summer field training exercise conducted at Fort Knox, Kentucky. Arduous and intensified leadership training is conducted throughout the six-week period. Required for U.S. Army commissioning. Pre: 301, 302, and consent.

MSL 391 History of Military Warfare (3) Lecture/discussion on the art and science of warfare with concentration on U.S. military history from the Colonial Period onward. Generally restricted to Army ROTC students, with few exceptions to non-ROTC students. A-F only. Pre: consent.

MSL 399 Directed Reading and Research (V) Limited to military science students who have had at least one previous military science course for which a grade of B or higher was earned and a cumulative GPA of 2.0 or better. Pre: consent.

MSL 400 Fundamentals of Leadership (3) Introduces students to the fundamentals of leadership. Activities challenge students to practice, develop positive relationships through application of effective leadership concepts for leader development, and team-building. A-F only.

MSL 401 Leadership Challenges and Goal Setting (4) (2.5 Lec, 1.5-hr Lab) Develops proficiency to plan, execute, and assess complex operations; function as a staff member, provide leadership performance feedback to subordinates, situational opportunities to assess risk, make ethical decisions, and provide coaching to fellow ROTC cadets; challenged to analyze, evaluate, and instruct younger cadets in their accountability. Pre: 101, 102, 201, 202, 301, and 302; or consent.

MSL 402 Transition to Lieutenant (4) (2.5 Lec, 1.5-hr Lab) Explores dynamics of leading in complex situations of current military operations. Examines differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Interaction with non-gov- ernment organizations, civilians on the battlefield, and nation support are evaluated. Case studies, scenarios, and What Now, Lieutenant? exercises prepare cadets to lead as commissioned officers in the U.S. Army, A-F only. Pre: 101, 102, 201, 202, 301, and 401; or consent.

MSL 499 Advanced Military Research (V) Directs the student to conduct detailed research on a military topic and present to the department leadership plus a Military 400 series study group. Repeatable up to eight credits. Must be in Military Science and Leadership Program or Military Service
MBBE 375 Essential Biochemistry (3) Introduction to basic concepts of cellular biochemistry and metabolic pathways as applied to nutritional, medicinal, and industrial biochemistry. A-F only. Pre: CHEM 152 or CHEM 272 or BIOC 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 forensic science. 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. Metabolism of carbohydrates, lipids, proteins and nucleic acids. Pre: C (not C-) or better in BIOL 275/275L, CHEM 272 and CHEM 279 or consent. (Cross-listed as BIOL 402) DB

MBBE 402L Principles of Biochemistry Lab (2) 1-hr lab to demonstrate techniques of biochemical laboratory. A-F only. Pre: 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 structure and function. Structure, chemistry, and functions of organelles and macromolecules. Pre: C (not C-) or better in BIOL 407; or consent. (Cross-listed as BIOL 408 and MCB 408) DB

MBBE 412 Environmental Biochemistry (3) Biochemical and chemical principles of occurrence, distribution, and life cycle of cells and organisms. Analysis of synthetic and natural molecules in the environment. Important pollutants will be used as case study to illustrate biochemistry principles. A-F only. Pre: CHEM 152 or CHEM 272 and CHEM 162 or CHEM 171 or consent. DB

MBBE 461 Biotechnology for Teachers (3) Principles, methods, classical examples, recent developments, benefits and concerns of modern biotechnology. Pre: BIOL 304 or equivalent.

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 491 Special Topics in MBBE (V) Study and discussion of special topics and problems in molecular biologies and bioengineering. Pre: consent.

MBBE 499 Directed Research (V) Supervised individual instruction in laboratory research problems in biochemistry, molecular and cellular biology, bioinformatics, and genomics. Repeatable 3 times or up to 16 credits. Limited to qualified undergraduate students. A-F only.

MBBE 601 Molecular Cell Biology (3) Provide fundamental 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 MCR 601)

MBBE 602 Molecular Biology and Genetics (3) Graduate-level basic course on molecular biology and genetics. Prepares students to understand advanced concepts in related subjects such as biochemistry, cell biology, cancerology, plant genetics, and genomics. Pre: 402/BIO 402 (with a minimum grade of B or higher), or with consent from instructor. (Alt. years: fall) (Cross-listed as MICR 602)

MBBE 605 Advanced Food Science I (3) Advanced topics in chemistry 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, analytical and biological science, 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. Pre: 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 Biological Instrumentation (3) System integration and control, automation, and study of biological systems. Topics include physical, chemical, and biological sensors, actuators, digital interfacing/communication, image analysis, and reconfigurable and networkable computers. Pre: consent. (Cross-listed as BE 625)

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

MBBE 651 Signal Transduction and Regulation of Gene Transcription (3) Lecture/discussion on molecular mechanisms involved in the transmission of signals from the external surface to the nucleus. A-F only. Pre: CMB 621, and CMB 654 or equivalent; or consent. (Fall only)

MBBE 652 Molecular Plant–Fungal Interactions (3) Focuses on the actions of plant pathogens (fungi, oomycetes and their host responses at the molecular and cellular level. Current genetic and genomic approaches to study plant-fungal interactions will be discussed. Graduating standing only. Pre: consent. (Every 2 years) (Cross-listed as PEPS 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 techniques for plant research. Pre: one of BIOG 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 projects, 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 I (1) (1 Lec, 2-3-hr Lab) Advanced techniques used in life science research. A-F only. Pre: graduate standing or consent. (Cross-listed as ANSC 687 and FSHN 687)

MBBE 691 Advanced Special Topics in MBBE (V) Study and discussion of advanced special topics and problems in molecular biosciences and bioengineering. Pre: graduate standing or consent.

MBBE 699 Directed Research (V) Repeatable up to 64 credits.

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 individual and institutions involved in scientific research. Based on case studies, students will discuss 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 in majors in the natural sciences. A-F only. Pre: BIOL 172 (or concurrent), or MATH 521 (or concurrent), or PHYS 170 (or concurrent), or CHEM 275/275L (or concurrent); or consent. (Cross-listed as MICR 314) DS

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

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

MCB 408L Advanced Molecular and Cellular Biology Laboratory (2) (2-3-hr Lab) A laboratory to accompany 407 and 408. Pre: BIOL 407 (or concurrent) or BIOL 408 (or concurrent). (Cross-listed as BIOL 408L) DY

MCB 461 Immunology (3) Structure and biological actions of antigens and antibodies; fundamentals of antibody synthesis; the relation of immunology to biology and medical sciences. Pre: MCR 351 or BIOL 172; or consent. Recommended: BIOL 275/275L. (Cross-listed as MCR 461) DB

MCB 461L Immunology Lab (2) (2-3-hr Lab) Basic exercises and experiments in immunology, immunocomplexes and biochemistry. (Cross-listed as MCR 461L) DB

MCB 472 The Biology of Cancer (3) Integrative, in-depth focus on the genetics and 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 CMB majors only. Senior standing or higher. Pre: BIOL 407 (or concurrent) and BIOL 408 (or concurrent) or consent. (Cross-listed as MCR 472) DB

MCB 475 Bacterial Genetics (3) Genetic analysis and molecular basis of transmission replication, mutation, and expression of heritable characteristics in prokaryotes. Pre: MCR 351 or BIOL 275, or consent. (Cross-listed as MCR 475) DB

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 MCR 475L) DB

Music (MUS) College of Arts and Humanities

MUS 106 Introduction to Music Literature (3) Elements, styles, and forms of music, from listener’s standpoint. DH

MUS 107 Music in World Cultures (3) Folk, popular, and art music from major regions of the world, with emphasis upon Asia and the Pacific; representative styles and regional characteristics. FGC

MUS 108 Fundamentals of Music (3) Basic organization concepts in music and introduction to music theory. Learning through hands-on experience with creative activities in various media. Focused listening,
composing original melodies, utilizing technology to explore how music is created, basic notation. DA

MUS 114 University Chorus (1) Performance of choral literature from Renaissance to present. Previous choral experience not required. Repeated unlimited times. DA

MUS 121 (Alpha) Class Instruction I (1) Basic principles of performance; relevant problems in literature. (B) voice; (C) piano; (D) guitar. A-F only. Cannot be audited. DA

MUS 122 (Alpha) Class Instruction II (1) Basic principles of performance; relevant problems in literature. (B) voice; (C) piano; (D) guitar. Repeatability in different sections. Cannot be audited. A-F only. 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. Repeatability 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 of improvising, creating accompaniments, transposing, and sight-reading at keyboard. For music majors. A-F only. Prec. consent. Co-requisite: 281 or consent.

MUS 126 First-Level Secondary Piano (1) Piano as secondary performance field; application of theory to problems of improvising, harmonizing, creating accompaniments, transposing and sight-reading at keyboard. Continuation of 125. For music majors. A-F only. Prec. consent. DA

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. 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. Prec. 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. Prec. consent.

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). Repeatability unlimited times. CR/ NC only.

MUS 225 Second-Level Secondary Piano (1) Continuation of 125–126; increased emphasis on piano literature up to intermediate level. MUS majors only. A-F only. Prec. consent. DA

MUS 226 Second-Level Secondary Piano (1) Continuation of 225. A-F only. Prec. consent. DA

MUS 240 Creative Applications of Music Technology (3) Introductory laboratory experience. Teaches musicians fundamental technology concepts through creative projects. Exposes students to a variety of music and audio software. A-F only. Prec. music majors or minors or consent.

MUS 250 Introduction to Music Education (1) Survey of music education, with an emphasis on music learning, teaching and philosophy, school structure and governance, diversity and multi-cultural education, and professional ethics. Supervised clinical and field experiences required. MUS majors only. A-F only. (Alt. years)

MUS 253 Elementary Music in Action (3) (3 Lec, 1 1-hr Lab) Musical concepts, philosophy and pedagogy; use of media, singing, movement, and instru-

introduction of alternate controllers. Prec: 240 or consent. (Once a year)

MUS 353 Integrating World Music in Education (3) Application of musical concepts through an integrated approach. This includes strategies, world music, literature, materials and resources for the classroom curriculum. Prec: 253 or 282, or consent.

MUS 354 General Music Methods (3) Required for K-12 music specialists. Scope and nature of music in the lives of children and young people; planning, teaching, learning, and evaluating music in elementary, middle, and high school curriculum. A-F only. Prec: 250, 286, and 288, or consent. Co-requisite: 354. (Every 3rd semester)

MUS 355 Instrumental Music Methods (3) Objectives, materials, and procedures of instrumental music in schools. A-F only. Prec: 250, 286, and 326 (every semester) or consent.

MUS 355L Instrumental Music Methods Lab (1) Observing, analyzing, participating, and teaching in general music classrooms. Supervised 20 hours of field experiences required. MUS majors only. CR/ NC only. Prec: 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. Prec: 250, 286, and 326 (or concurrent); or consent. Co-requisite: 414.

MUS 356L Choral Music Methods Lab (1) Observing, analyzing, participating, and teaching in choral settings. Supervised 20 hours of field experiences required. MUS majors only. CR/NC only. Prec: 250, 286, and 326 (or concurrent); or consent. Co-requisite: 356. (Every 3rd semester)


MUS 359 Piano Pedagogy (2) Continuation of 358. Prec: 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. Prec: 106 or consent. (Once a year) DH

MUS 361 (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) Igbo; (J) Tahitian; (K) Oceanic; (M) other. Repeatable unlimited times. Prec: upper division standing or consent. DA

MUS 362 Hula/Chant Ensemble I (2) Ancient style. Prec: upper division standing or consent. A-F only. (Cross-listed as DNCE 312) DA

MUS 363 Diction for Singers (3) Diction and phonetics of Italian, English, Latin, German, and French for singers and conductors. Prec: 232B and 281 or consent.

MUS 365 Conducting (2) Problems in directing instrumental and choral ensembles. Score reading, rehearsal techniques, and basic interpretive problems. Prec: 286 and 288.

MUS 366 History of Western Music After 1750 (3) Development of Western music from 1750 to the present. Styles, schools, composers. Prec: 282 or consent. DH

MUS 367 History of Western Music to 1750 (3) Development of Western music from 1750 to 1750. Styles, schools, composers. Prec: 282 or consent. DH

MUS 370 Music in Medieval Times (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. Prec: 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,
MUS 661 Bibliography and Library Resources in Music (3) Basic materials and techniques; includes retrieval techniques from online computer catalog. MUS majors only. Pre: graduate standing or consent.

MUS 670 (Alpha) Regional Music (3) Musical content and history of primary music traditions; (B) Asia; (C) Oceania. Repeatable nine times. Pre: consent.

MUS 678 (Alpha) Advanced Problems in Ethnomusicology (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 680 (Alpha) Studies in Music Theory (3) (B) stylistic counterpoint to 1700; (C) stylistic counterpoint from 1700; (D) advanced analysis; (E) comparative theory of music; (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 330 (Alpha) Advanced Applied Music, Ethnic (V) Individual instruction in instrumental and dance performance at advanced level. (B) koto; (C) shamisen; (D) Hawaiian chant; (F) shakuhachi; (I) other. Repeatable for six semesters. A-F only. Pre: advancement from 230 or consent.

MUS 331 (Alpha) Applied Music, Western (V) For nonmajors or for music majors in secondary performance fields. Individual instruction in solo vocal or instrumental performance at an advanced level. (B) voice; (C) piano; (D) organ; (E) conductive; (F) recorder; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (L) flute; (M) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for six semesters. A-F only. Pre: consent.

MUS 332 (Alpha) Applied Music, Western (V) For music majors. Individual instruction in solo vocal or instrumental performance at the junior level. Representational works. Weekly repertoire laboratory required. Half recital required to complete junior level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (U) tuba; (X) euphonium; (Y) percussion; (Z) other. Repeatable for six semesters. A-F only. Pre: advancement from 231 or consent; any 231 or consent for (E).

MUS 432 (Alpha) Applied Music, Western (3) For music majors. Instruction in solo vocal or instrumental performance at graduate level. Representational works. Weekly repertoire laboratory required. Full recital required for completion of this performance level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (X) euphonium; (Y) percussion; (Z) other. Repeatable for three semesters. A-F only. Pre: four semesters of 232 and promotion by board examination.

MUS 432 (Alpha) Applied Music, Western (3) For music majors. Individual instruction in solo vocal or instrumental performance at the senior level. Representational works. Weekly repertoire laboratory required. Full recital required for completion of this performance level. (B) voice; (C) piano; (D) organ; (G) classical guitar; (H) violin; (I) viola; (J) cello; (K) double bass; (M) flute; (N) oboe; (O) clarinet; (P) bassoon; (Q) saxophone; (R) trumpet; (S) French horn; (T) trombone; (X) euphonium; (Y) percussion; (Z) other. Repeatable for three semesters. A-F only. Pre: two semesters of 332 and advancement by board examination.

MUS 635 (Alpha) Bachelor-Level Applied Music (3) 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; (G) guitar (3 cr.); (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. Repeatable two times for (G); repeatable up to six credits per alpha for all other alphas. MUS majors only. A-F only.

Native Hawaiian Health (NHH) School of Medicine

NHH 450 Applied Health Disparities Research (V) Instruction on social determinants of health, issues of health equity, and how these issues can be addressed through research. Disparities and inequities promote a greater understanding of health disparities research. Repeatable unlimited times. Pre: consent.

NHH 499 Directed Reading/Research (V) Individual reading and/or research. Repeatable unlimited times. Junior standing or higher. Pre: consent.

NHH 501 Scientific Basis of Medicine (2) Introduction to medical science stressing key historical figures and significant events to exemplify the development of scientific emphasis on writing skills, health team concept, and culture and contributions of the Pacific. Repeatable one time. CR/NC only. Pre: admission to Imi Ho`o HA Post-Baccalaureate Program.


NHH 503 Medical Biology II (11) (2 Lec, 2 Tuto, 1 3-hr Lab) Foundation in medical sciences, including anatomy, physiology, microbiology, pathology, and pharmacology (focus on respiratory, cardiovascular, and urinary systems); develop critical thinking and problem-solving skills. Includes lectures, problem-based tutorials, and histology and gross anatomy labs. CR/NC only. Pre: admission to Imi Ho`o HA Post-Baccalaureate Program.

NHH 504 Medical Biology II (11) (2 Lec, 2 Tuto, 1 3-hr Lab) Continuation of 503. CR/NC only. Pre: 503.

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`o HA Post-Baccalaureate Program.

NHH 506 Medical Biochemistry II (6) Continuation of 505. CR/NC only. Pre: 505.

NHH 513 Native Hawaiian Health and Traditional Healing (I) 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 care centers, incorporating both western and traditional Hawaiian medicine. Open to fourth year medical students interested in Native Hawaiian Health Care. CR/NC only. Pre: MDED 551 or consent.

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 student in improving social justice in the health system. Graduate standing only. CR/NC 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. Turn-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 650 Advanced Health Disparities Research (V) Instruction on social determinants of health, issues of health equity, and how these issues
can be addressed through research. Discussions and activities promote a greater understanding of health disparities research. Repeatable two times, or up to 27 credits. Pre: consent.

**NHH 699 Directed Reading/Research (V)** Individual reading and/or research. Repeatable unlimited times. Graduate standing only. Pre: consent.

**Natural Resources and Environmental Management (NREM)**

**NREM 105 Environmental Service Learning I (3)** Experiential service learning course for students participating in the Hawai‘i Youth Conservation Corps summer program as team members and leaders. Repeatable one time. Hawai‘i Youth Conservation Corps summer program students only. A-F only. (Summer only)

**NREM 200 Environmental Service Learning II (3)** Experiential service learning course for students participating in the Hawai‘i Youth Conservation Corps summer program as Hana Hou members. Hawai‘i Youth Conservation Corps summer program students only. A-F only. (Summer only)

**NREM 203 Applied Calculus for Management, Life Sciences, and Human Resources (3)** (2 Lec, 1-1-hr Lab) Applications of calculus (limits, continuity, derivatives, integration, logarithmic functions, partials) to problems in business management, social sciences, and life sciences. Applies symbolic techniques and quantitative methods in problem-solving. Concept of proof as a chain of inferences, and promotes development of reasoning skills and mathematical logic in bridging theory and practice. A-F only. 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 Economies (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 292 Internship Preparation (1)** Exploration of internship and career opportunities for NREM majors. Development of career-building skills, including self-assessment, interview, and professional networking. NREM majors only. A-F only. (Fall only)

**NREM 301 Natural Resources Management (3)** Biological and physical science aspects of natural resource management at local, national, and global scales. Topics covered include resource management of soil, water, forests, wetlands, coasts and wildlife. 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 4-hr Lab) Laboratory and field methods covering federal, Hawai‘i state and county levels. Policy principles, legal structure, governmental agencies, major statutes and programs, analytical techniques, program assessments. A-F only. Pre: 210 or [BIOG 240](#) or [GEOG 101](#) or higher; and 220 or one ECON course or two DS courses. DS

**NREM 304 Fundamentals of Soil Science (4) (3 Lec, 1-3-hr Lab) Origin, development, properties, management of tropical soils; classification of Hawai‘i 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 environmental 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 present status and discusses 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 accounting and financial statement preparation and analysis. A-F only. (Spring only)

**NREM 351 Enterprise Management (3)** Introductions to practical concepts and methods used in small business management, appropriate 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, pressures 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) DB

**NREM 399 Directed Study (V)** Limited to exceptional undergraduate students qualified to carry on advanced study. Pre: consent. A-F only. (Spring only) DS

**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 principles of 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 business management. Topics include scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution, and interpretation and presentation of results. Pr: 220 or ECON 130, 310 or ECON 321; or consent. (Once a year) (Cross-listed as ECON 429 and TPSS 429) DS

**NREM 450 Wildlife and Ecological Management (3)** Lecture-based overview of the ecology, and management of wildlife (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 460 Sustainable Nutrient Management in Agroecosystems (4) (3 Lec, 1-3-hr Lab) Biophysical, chemical, and physical processes governing the cycling of nutrients in agroecosystems, crop and livestock production, and the effects on surrounding unmanaged ecosystems. Pre: TPSS 304 and CHEM 161, or consent. (Cross-listed as TPSS 460) DB

**NREM 461 Soil and Water Conservation (3)** Past and present issues in soil and water conservation will be examined. 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, the impact of irrigation on soil and water quality. Pre: 203 (or equivalent) and NREM/TPSS 304 (or equivalent), or consent. (Alt. years) (Cross-listed as TPSS 463)

**NREM 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, physical geography, or related area; or consent. (Alt. years) DP

**NREM 475 Plant Nutrient Diagnosis in the Tropics (3)** Designed to teach 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 equivalent) and BIOL 172. (Cross-listed as TPSS 475)

**NREM 477 Geographic Information Systems for Resource Managers (4)** Combined lecture/lab on the basic concepts of geographic information systems, remote sensing, and global positioning system. Practical skills to be developed by solving real natural resources and environmental problems. Pre: either 310 and MATH 140 or MATH 573, and 301; or consent. (Once a year)

**NREM 480 Applied Forest Ecology (3)** Application of ecological theory to sustainable management of forest resources in Hawai‘i and beyond, including silviculture (production of timber and non-timber forest products), restoration (restoring damaged or degraded forests), and conservation (conserving 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 Experience (3)** Integration and application of academic knowledge and critical skills emphasizing professional development. Placement with an approved cooperating supervisor/employer. A-F only. Pre: 292.

**NREM 494 Environmental Problem Solving (3)** (2 Lec, 1-3-hr Lab) Senior-level capstone for NREM and related majors. Ecosystem management within problem-solving context. Applications of research and analytical methods, management tools to case studies. Focus on student teamwork and oral communications. NREM majors only. Pre: senior in NREM (or consent) and 310. (Once a year)

**NREM 499 Directed Study (V)** Repeatable up to four credits. Pre: senior standing and consent.

**NREM 500 Master’s Plan B/C Studies (V)** Enrollment for degree completion. Repeatable up to 10 credits. Pre: master’s Plan B or C candidate and consent.

**NREM 600 Foundations of Natural Resource and Environmental Management and Policy (4)** Critical evaluation of environmental and social components of NREM and policy. Students develop research skills and integrative knowledge important for all resource managers in, e.g., ecology, applied economics, hydrology, water resources, soils, and human dimensions. Pre: graduate standing or consent.

**NREM 601 Social-Ecological Systems Analysis of Natural Resource and Environmental Manage-
ment (4) Case study approach to building the structural and behavioral framework for complex, dynamic systems underlying sustainable NREM and policy, emphasizing the transdisciplinary interactions of the ecological and economic components. Pre: 600, and ECON 130 or NREM 220, and BIOL 171, or consent. (Spring only)

NREM 611 Resource and Environmental Policy (3) Exploration of institutional and policy dimensions of natural management, management, allocation, markets and pricing, focusing on their environmental impacts. Emphasis on policy analysis using case studies and critical findings. Original paper required. A-F only. Pre: ECON 300 or ECON 301, or consent. (Fall only)

NREM 612 Predicting and Controlling Degradation in Human-Dominated Terrestrial Ecosystems (3) History of projected changes in understanding and managing human-dominated ecosystems; predicting, measuring and mitigating degradation especially in terrestrial ecosystems with a focus on small volcanic islands in tropical settings. A-F only. Pre: 301 and 304 (or equivalent) and 600. Recommended 461, or consent. (Fall only)

NREM 620 Kaiakulu: Care and Collaborative Management of Natural Resources (3) Engagement with theory and practice of collaboration for care for natural resources. Topics include community based management, common property, Hawaiian knowledge, co-management, and access through readings, discussions and projects with Hawai’i communities. (Spring only)

NREM 627 Applied Microeconomic Analysis (3) Economic applications to the agricultural and non-agricultural industries are emphasized. Econometric techniques are used to estimate demand, supply, production and cost functions which are analyzed in terms of economic theory and market information. A-F only. Pre: AERC 626 and ECON 627, or consent.

NREM 631 Sustainable Agriculture Seminar (3) Critical evaluation of existing and alternative cropping systems from a long-term perspective. Value conflicts and related available and stable unlimited times. Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 637 Resource Economics (3) Analysis of problems of development and management of natural resources with emphasis on resources in agriculture and role in economic development. Pre: ECON 608 and ECON 629. (Cross-listed as ECON 637)

NREM 652 Information Research Skills (1) Examines the role of libraries and information technology for scholarly work in support of scientific research; provides experience utilizing and critically evaluating a variety of print and electronic sources in basic and advanced research. Pre: consent. Cross-listed as ANSC 550, FSHN 652, and TPSS 652.

NREM 658 Advanced Environmental Benefit-Cost Analysis (3) Advanced environmental benefit-cost analysis will require that proficiency be demonstrated on material details and address topics related to sustainability, including income equality, non-market goods, risk, cost of public funds, and the social discount rate.

NREM 660 Hydrologic Processes in Soils (3) (2 Lec, 1-3 hr Lab) Introduction to the hydrologic properties in soils and the processes involved in water infiltration and drainage and solute transport. Emphasis on key parameters related to sustainability, including income equality, non-market goods, risk, cost of public funds, and the social discount rate.

NREM 662 Watershed Hydrology (3) Application of basic hydrologic processes and management practices occurring on small islands watersheds. Pre: 203 or equivalent and 304 or equivalent; or consent. (Once a year)

NREM 664 Small Watershed Modeling (3) Introduction to process-based modeling of watershed with emphasis on model applications. Deals with the characterization and simulation of small watershed hydrologic and pollutant transport processes. Pre: CEE 424 (or concurrent) or GG 425 (or concurrent) or BS degree from NREM, or consent. (Spring only)

NREM 665 Coastal and Wet and Ecology and Management (3) Study of marshes, mangroves, sea grass beds, and coral reefs. Emphasis on the hydrology, biogeochemistry, productivity, and community dynamics of these systems. Response to perturbations and management strategies will also be discussed. Pre: advanced undergraduate work in hydrology, soils, and ecosystem ecology recommended. (Alt. years)

NREM 670 Interdisciplinary Methods for Agrarian Systems (3) Interdisciplinary methodologies for conducting research and impact analyses on agrarian systems, sustainable development, and resource management. Repeatable one time. Pre: consent. (Cross-listed as TPSS 670). (Alt. years: fall)

NREM 671 International Agricultural Systems (2) Analysis of trends and strategies in international agricultural research and development. International agricultural research centers (IARC), Food and Agricultural Organizations of the United Nations, and consortia, and private voluntary organizations (PVOs). Pre: graduate standing or advanced undergraduate standing, and consent.

NREM 677 Remote Sensing of the Environment (3) Fundamental, technical, and applied aspects of remote sensing for natural resource assessments and environmental monitoring. Lab consisting of field radiometric exercises, computer modeling of ecosystems remote sensing system, research and analysis of remotely sensed imagery. Pre: one physics course (e.g. PHYS 151), one calculus course (e.g. 203), and one statistics course (e.g. 310), or consent. Recommended: only for GEOG 470 or GG 460 or one introductory remote sensing course. (Alt. years)

NREM 680 Ecosystem Ecology (4) (2 Lec, 1-3 hr Lab) Principles of ecosystem ecology with emphasis on tropical forests, human impacts, and global environmental change. Integration of ecosystem structure, productivity, nutrient cycling, plant-soil-atmosphere interactions, and energy balance. Field and laboratory methods in ecosystem science. Pre: advanced undergraduate coursework in ecosystem science 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 ecology course and graduate standing, or consent. Completion of 680 recommended, but not required. (Alt. years)

NREM 685 Landscape Ecology (3) Focuses on the history, theory, and recent 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 ecology, evolution and genetics for conservation of biodiversity. Topics will include restoration ecology, management planning, laws and policies, biological invasions. Pre: BIOL 375 and either ZOOL 480 or BOT 462; and either ZOOL 410, 439, 620, 623, BOT 453, 454, 455, 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 and 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 course only. Pre: A-F only. Pre: 600 (or concurrent), 601, 605 (or concurrent), 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.

Natural Sciences (NSCI)
College of Natural Sciences

NSCI 101 Natural Sciences and Life-Pulling the Puzzles Apart (1) Journey through the Natural Sciences finding fun, excitement, and success in science, mathematics, engineering, medicine, and all that is the natural sciences. Focus on challenging worldviews of belief, invention, impact, and ethics. CR/NC only.

NSCI 501 Seminar for Science Teachers (V) Seminar and discussions of current and significant topics and problems in science where teachers can exchange new and innovative teaching ideas and strategies. Repeatable. Pre: in-service teachers or consent.

NSCI 503 Computers in Classroom (V) Computers, software, laboratory exercises and projects on the use of computers as a teaching tool in the classroom. To be taught in a hands-on manner appropriate for the science teachers. Restricted to in-service teachers or consent. Repeatable one time. A-F only.

NSCI 504 Mathematics Workshop for Teachers (V) An in-depth study of topics from intermediate and high school mathematics. Restricted to in-service teachers or consent. Repeatable one time. A-F only.

NSCI 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 PHYS 505)

NSCI 619 Seminar on Science Teaching (2) Effective teaching methods; organization of classes, 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 ZOOL 619)

See also the biology professional development course, BIOL 501, under the Biology (BIOL) course listing in this section of the Catalog.

Nursing (NURS)
School of Nursing and Dental Hygiene

The minimum required grade for undergraduate prerequisite courses is C or better, unless otherwise specified.

Demonstrating knowledge competency in graduate courses requires a passing grade of B+ or 80%. A grade of C+ or less will not count towards degree requirements, unless otherwise specified.

NURS 200 Introduction to Professional Nursing (I) This first level course focuses on nursing practice and education. Professional responsibilities in the practice of nursing are emphasized. NURS majors only. A-F only. Pre: admittance into HS-DEN program. (Fall only)

NURS 201 Introduction to Professional Nursing II (I) This second level course builds on the knowledge and skills gained in the first level and focuses on professional responsibilities in nursing practice and education. NURS majors only. A-F only. Pre: 200. (Spring only)

NURS 210 Health Promotion Across the Lifespan (3) Focuses on a health promotion model of care, assessment, and communication skills. It introduces the nurse’s roles, code of ethics, and evidence-based practice. NURS majors only. A-F only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. Co-requisite: 210L, 211, and 212.

NURS 210L Health Promotion Across the Lifespan Lab (6) Clinical course focuses on a health promotion model of care, assessment, and communication skills. Introduces nurse’s roles, code of ethics, and evidence-based practice. NURS majors only. CR/NC only. Co-requisites: 210, 211, and 212.
NURS 211 Professionalism in Nursing (2) 
Professional responsibilities of nursing practice are examined through the history of nursing, practice and education, legal and ethical issues, contemporary issues, and NURS majors only. A-F only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. Co-requisite: 210, 210L, and 212.

NURS 212 Pathophysiology (3) 
Focus on pathophysiological concepts that are basic to understanding illness and injury and the corresponding spectrum of human responses, which serve as a foundation for the study of clinical conditions and care planning. NURS majors only. A-F only. Pre: admission to the School of Nursing and Dental Hygiene, or consent. Co-requisite: 210, 210L, and 212.

NURS 213 Pharmacology for Nursing (3) 
This course will help students to gain knowledge of the mechanism of action, toxicity, adverse reactions, side effects, therapeutic uses, and nursing implications of the major categories of drugs. NURS majors only. A-F only. Pre: 210, 210L, and 212. Co-requisites: 220 and 220L. (Spring only)

NURS 220 Health and Illness I (3) 
Focuses on nursing assessment to support identification of risk factors and determination of complications from illness. NURS majors only. A-F only. Pre: 210, 210L, 211, and 212, or departmental approval. Co-requisite: 213 and 220L.

NURS 220L Health and Illness I Lab (6) 
Clinical course focuses on using nursing assessment to support identification of risk factors and detection/prevention of complications from illness. Nursing skills are integrated into clinical experiences. NURS majors only. A-F only. Pre: 210, 210L, 211, and 212. Co-requisite: 213 and 220L.

NURS 301 Introduction to Evidence Based Practice and Health Promotion (3) 
Provides an introduction to the HNSNC Competencies and spiraling 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 306 Statistics in Nursing Research (3) 
Focuses on the basic concepts and applications of statistics as applied to nursing research. NURS majors only. A-F only. Pre: admission to the Executive RN to BS in Nursing Program. (Summer only)

NURS 320 Health and Illness II: Family Health (4) 
Nursing care and health promotion for maternal-newborn and pediatric clients and families in the acute care and community settings. Utilization of family centered care tools for providing culturally sensitive, client-centered care. NURS majors only. A-F only. Pre: 220 and 220L. Co-requisite: 320L.

NURS 320L Health and Illness II Family Health Lab (6) 

NURS 340 Contemporary Ethical Issues in Health Care (3) 
Examination of contemporary ethical issues and their legal implications in health care. Focus on decision-making in professional practice and social policy formation. Pre: open to non-nursing majors with consent.

NURS 343 Gerontology: Its Nursing Implications (3) 
Explores attitudes toward the aged, biological and psychological aspects, ethnicity, sexuality, nutrition and health 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 base 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. Pre: admission to non-nursing majors only. (Fall only) (Cross-listed as DH 361)

NURS 362 Professionalism in Nursing II (1) 
Continuation of 211. Focus is on current issues in nursing and health care and nursing roles. Principles of organizational structure, leadership, decision-making, priority setting, and change will be discussed. 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. Analysis and resolution of contemporary medical ethics issues in research and general nursing focuses. Repeatable one time. NURS majors only. A-F only. Pre: college-level statistics course.

NURS 399 Directed Reading/Research I, II (V) 
Limited to junior and senior nursing majors only. A-F only. Pre: admission to non-nursing majors with consent.

NURS 402 Student Ambassador Program (2) 
Focuses on professional leadership development, mentorship, and professional skills for nurses. Students learn to be representatives between the Department of Nursing and undergraduate students, and the general public. NURS majors only. A-F only. Pre: one semester as a Nursing Student Ambassador.

NURS 411 NCLEX Review (2) 
Overview of the NCLEX-RN licensure examination and regular, systematic practice to aid test preparation and success. 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 and additional work experience in nursing at a local agency. Upper division NURS majors only. Repeatable one time. CR/NC only. Pre: 360, 360L, and faculty approval.

NURS 421 Summer Internship (3) 
Summer practicum experiences that enable student 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, 360L. (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 432 Veteran Healthcare, Education, and Cultural Needs (3) 
Provides a broad overview of the Veteran-Military population and their unique culture, educational, and health care needs. Open to non-nursing majors. A-F only.

NURS 450 Community, Public, and Global Health Nursing (2) 
Theory course focuses on community, public, and global health nursing with an emphasis on the role of nurses to improve health and decrease health inequities at the local as well as national and international levels. NURS majors only. CR/NC only. Pre: 301 and 306. Co-requisite: 363 and 462L. (Fall only)

NURS 465 Psychiatric-Mental Health Nursing (3) 
Examination of human responses to psychiatric and mental illness in relation to physiologic, psychosocial, cultural, and environmental concepts. Emphasis on self-awareness, therapeutic communication, and holistic, individualized health-related outcomes. NURS majors only. A-F only. Pre: 360, 360L, and 363. Co-requisite: 465L, 450, and 450L.

NURS 465L Psychiatric-Mental Health Nursing Lab (2) 
Application of the nursing process involving human responses to psychiatric and mental illness in relation to physiologic, psychosocial, cultural, and environmental concepts. Emphasis on self-awareness, therapeutic communication, and holistic, individualized health-related outcomes. NURS majors only. A-F only. Pre: 360, 360L, and 363. Co-requisite: 465L, 450, and 450L.

NURS 475 Community, Public, and Global Health Nursing Lab (3) 
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, 465, and 450L.

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.
NURS 509L Nursing Care of Children and Fami-
lies Clinical/Lab (2) Examines the bi/psycho/social response of
the child and family to health and illness, as well as
nursing care for acute and chronic conditions. Lab
taken concurrently. NURS majors only or
consent. Admission into GEPN only. A-F only.
Co-requisite: 509L. (Once a year)

NURS 509L Nursing Care of Children and Fami-
lies Clinical/Lab (2) Accompanies and supports
Pediatric Nursing to provide educational experi-
ences in the hospital and outpatient or community
settings. NURS majors only or consent. Admission
into GEPN only. CR/NC only. Co-requisite: 509L.
(Once a year)

NURS 511L Acute Care Nursing Lab (5) Applica-
tion of the bio/psycho/social human health response to a
wide range of conditions. Health promotion, risk reduc-
tion and disease detection and nursing care treatment in the
acute care setting. NURS majors only or consent. Admission
into GEPN only. A-F only. Co-requisite: 513L. (Once a year)

NURS 517L Clinical Immersion to Nursing Pract-
ce (3) Examination of continuity of care for clients with
complex needs. Emphasis on application of leadership,
management, and decision-making in the clinical setting.
NURS majors only or consent. Admission to GEPN only. A-F only.
Co-requisite: 517L.

NURS 517L Clinical Immersion to Nursing Pract-
ce Lab (5) Deliver comprehensive nursing care
to clients with complex needs in community
and/or acute care settings. Leadership, management,
and decision making. NURS majors only or consent.
Admission into GEPN only. CR/NC only. Co-requisite: 513L. (Once a year)

NURS 518L Introduction to Community and
Public Health Nursing (2) Introduces community
and public health nursing concepts and theories.
Focus on application to nursing practice in the
community and public health settings. NURS majors only or
consent. Admission to GEPN only. A-F only.
Co-requisite: 518L.

NURS 518L Introduction to Community and
Public Health Nursing Lab (3) Application of
health promotion, risk reduction, and disease preven-
tion and detection and nursing care treatments in the
community setting. NURS majors only or consent.
Admission to GEPN only. CR/NC only. Co-requi-
tite: 518L. (Spring only)

NURS 520L Nursing Care of Childbearing Fam-
ilies Clinical/Lab (2) Introduction to theoretical concepts
of holistic nursing care of the perinatal family. Women’s
and men’s health issues are discussed. NURS
majors only or consent. Admission into GEPN only.
A-F only. Co-requisite: 520L. ( onc a year)

NURS 520L Discharge Planning Lab (1) Provides
clinical application of discharge planning
for the nursing care of the mother and the family. The student
will apply clinical and theoretical concepts of
holistic nursing care for women experiencing customary
and complicated perinatal processes. NURS majors only or
consent. Admission into GEPN only. CR/NC only.
Co-requisite: 508L. (Once a year)

NURS 520L Nursing Care of Childbearing
Families Clinical/Lab (2) Application of the nurs-
ing care of the mother and family. The student will
apply clinical and theoretical concepts of holistic
nursing care for women experiencing customary
and complicated perinatal processes. NURS majors only or
consent. Admission into GEPN only. CR/NC only.
Co-requisite: 508L. (Once a year)

NURS 560L Nursing Care of Children and Fami-
lies Clinical/Lab (2) Examines the bio/psycho/social response of
the child and family to health and illness, as well as
nursing care for acute and chronic conditions. Lab
taken concurrently. NURS majors only or
consent. Admission into GEPN only. A-F only.
Co-requisite: 509L. (Once a year)
actively manage the environment of their specialty practice; includes 45 hours of field work experience. A-F only. 

NURS 626 Advanced Public Health Nursing (3) Introduction to the core competencies, key theoretical models and concepts that guide advanced public health nursing. Students will initiate their professional portfolio which must be completed during the last semester of the MS program. NURS majors only. 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 childhood development, social and health indicators, the role of environment, and multidisciplinary settings in the care of pediatrics. NURS majors only. A-F only. Pre: NURS major, 612/612L, and 639, and 3 credits of 675; or consent. Co-requisite: 675. (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 629 is concurrent or repeatable unlimited times. NURS majors only or consent. Pre: 613 (or concurrent) or consent. 

NURS 630 Introduction to Information Technology in Healthcare (3) Introduction to the use of EHR technology in healthcare. Selected information systems and data sets are explored with application of results to various patient populations and clinical practice settings. 

NURS 632 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 healthcare. NURS majors only or consent. Pre: Admission into the PNP and FNP programs, 612/612L, 633, and completed 3 credits of 675 and/or consent. 

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 healthcare. NURS majors only or consent. Pre: Admission into the PNP and FNP programs, 612/612L, 633, and completed 3 credits of 675 and/or consent. 


NURS 636 Cultural Competency in Nursing (3) Preparation for nursing professionals to actively manage the environment of their specialty practice; includes 45 hours of field work experience. A-F only. 

NURS 637 Theory and Research in Advanced Practice (3) Provides a theoretical basis required for specialized clinical competence in adapting recent findings on childhood development, social and health indicators, the role of environment, and multidisciplinary settings in the care of pediatrics. NURS majors only. A-F only. Pre: NURS major, 612/612L, and 639, and 3 credits of 675; or consent. Co-requisite: 675. (Once a year) 

NURS 647 Family Systems in Health and Illness (3) Family systems approach to include selected family theories, family research and family centered cultural health care 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 healthcare 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. (One a year) 

NURS 660 (Alpha) Selected Topics in Nursing (3) Advanced study, exploration of special topics in clinical nursing. (2) Developmentally disabled children and their families; (1) current issues in professional nursing. 


NURS 662 Leadership and Management for Advanced Nursing (3) Study of theoretical and conceptual models of leadership and management as applied to relevant advanced nurses’ roles, their respective populations, and changing healthcare environments. NURS majors only or consent. 

NURS 663 Analysis of Healthcare Delivery Models (3) Analysis of various clinical management concepts and health-care delivery systems influencing outcomes, process, and costs in the delivery of care. NURS majors only. 

NURS 664 Seminar and Practicum in Nursing Executive Leadership (3) Supervised practicum to build mid to senior level nursing leadership competencies and facilitate change in complex healthcare organizations. NURS majors only. Pre: 663 (or concurrent) or consent. 

NURS 665 Clinical Economics and Finance (3) Economic and financial concepts and tools for use in developing and managing patient care processes. NURS majors only. 

NURS 666 Community Based Participatory Research (CBPR) for Advanced Practice Nurses (3) Online course focuses on use of CBPR methods by Advanced Practice Nurses to address population level issues amenable to nursing interventions: 15 hours of didactic and 90 hours of field experience are included. NURS majors only. A-F only. (One a year) 

NURS 667 Clinical Biostatistics (3) Introduction to the major fields of philosophy for use in research. NURS majors only or consent. Pre: 669. 

NURS 668 Community Based Participatory Research (CBPR) for Advanced Practice Nurses (3) Online course focuses on use of CBPR methods by Advanced Practice Nurses to address population level issues amenable to nursing interventions: 15 hours of didactic and 90 hours of field experience are included. NURS majors only. A-F only. (One a year) 

NURS 669 Evaluating Research for Evidence-Based Practice (3) Introduces evidence-based practice methods for improving the quality of nursing practice. Develops skills in differentiating quantitative and qualitative research, statistical methods, and searching, critiquing, and synthesizing literature pertinent to health care issues. A-F only. Pre: permission of course faculty. (Fall only) 

NURS 670 Advanced Practice Nursing during Public Health Disasters (3) The role of the advanced practice professional in public health preparedness, planning and response. Includes 45 hours of field work where the student will practice emergency response functions. (2) A-F only. Pre: consent. (Summer only) 

NURS 671 Biostatistics: Application in the Advanced Nursing Practice Setting (3) Includes basic bio-statistical methods used in 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) 

NURS 672 Advanced Practice Community Public Health Nursing Practicum (V) Student will conduct a complex service project for a public or community based agency. May be taken for 1-6 credits. (45 hours of practicum experience awarded for each one credit of the course) Repeatable one time. NURS majors only. A-F only. Pre: 24 credits of MS in Community Public Health Nursing Program or consent. 

NURS 673 Implementation and Evaluation Strategies for Evidence-Based Practice (3) Using knowledge of translation science and tools, develop an implementation plan for a practice guideline. Determines evaluation methods and selects outcome 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: 669. (Spring only) 

NURS 675 Advanced Practice Clinical (V) Application of concepts and principles of assessment, diagnosis, management and evaluation of clients in supervised clinical practice for advanced practice nursing. Repeatable unlimited times. NURS majors only or consent. A-F only. Pre: 612/612L, 613, and 629 (or concurrent). 

NURS 680 Cultural Competency in Nursing Education (3) Includes a theoretical basis required for specialized clinical competence in adapting recent findings on childhood development, social and health indicators, the role of environment, and multidisciplinary settings in the care of pediatrics. NURS majors only or consent. Pre: Admission into the PNP and FNP programs, 612/612L, 633, and completed 3 credits of 675 and/or consent. 

NURS 682 Health and Healing Practices of Populations with Health in Hawaii and Other Places (3) Teaching and learning concepts applied to health promotion and the prevention of common conditions of disease among populations with health disparities in Hawaii and other places; includes didactic and 45 hours of field experience. NURS majors only. A-F only. (Fall only) 

NURS 690 Curriculum Evaluation in Nursing Education (3) Studies of current trends in program evaluation and application of curriculum evaluation frameworks in nursing education. NURS majors only. A-F only. Pre: 747 or consent. 

NURS 692 Methods for Nursing Research (3) Nursing research methods for qualitative and quantitative studies, institutional review board procedures and how to develop a research proposal. NURS majors only. A-F only. 

NURS 693 Advanced Practice Clinical for Clinical Nurse Specialists in Primary Care: Concepts and Principles of education, consultation, research, and management and evaluation of clients in supervised clinical practice for adult health clinical nurse specialist students. Repeatable five times. NURS majors only. A-F only. Pre: 612 (or concurrent), 612L (or concurrent), 613 (or concurrent), and 629 (or concurrent); or consent. 

NURS 695 Successful Aging: Physiologic (3) Advanced study of the functional, cultural, psychological, and socioeconomic phenomena that impact the physiology of normal and abnormal aging. Emphasis is on preparing successful aging among older residents of the Pacific Basin and applications to primary health care. NURS majors only or consent. Pre: consent. 

NURS 696 Nursing Education Capstone (3) A culminating experience in nursing education. NURS majors only. A-F only. Pre: consent. 

NURS 699 Directed Study or Research (V) Direct study of problems related to nursing theory and practice. Repeatable unlimited times. Pre: consent. 


NURS 702 Philosophical Thoughts (3) Provides a theoretical basis required for specialized clinical competence in adapting recent findings on childhood development, social and health indicators, the role of environment, and multidisciplinary settings in the care of pediatrics. NURS majors only or consent. 

NURS 703 Historical Issues in Nursing (3) Introduces the major fields of philosophy for use in research. NURS majors only or consent. 

Key to symbols & abbreviations: see the first page of this section.
NURS 760 Trends in Healthcare (3) Synthesis and analysis of interventions and variables that influence the rate of adoption of innovations. Applicability of concepts to patient populations and systems of healthcare. A-F only. (Fall only)

NURS 761 Translation Science (3) Synthesis and analysis of interventions and variables that influence the rate of adoption of innovations. Applicability of concepts to patient populations and systems of healthcare. A-F only. (Fall only)

NURS 762 Culturally Competent Research Methods (3) Analyzes theories, and methods in conducting culturally competent research in the health field. Pre: graduate methods course or consent.

NURS 768 Advanced Clinical Economics and Finance (3) Theory and practice of financial management to achieve high quality and cost effectiveness in healthcare. Hybrid course which combines face-to-face with online learning. NURS majors only. A-F only. Pre: Prior to (Alt. years) NURS 769 Dissertation Proposal Writing Seminar (3) Provides students with advanced study and critique from faculty leading to the development of a draft dissertation proposal. Peer exchange facilitates individual scholarship, research topic mastery, and ability to conduct rigorous critique. NURS majors only. A-F only. Pre: 739, 741, 751. (Spring only)

NURS 774 Best Practices in Leading Healthcare Patient Safety (3) Critically analyzes the quality of health care, the process of managing health-care outcomes and costs in the delivery of care through the interdisciplinary process. NURS majors only.

NURS 775 Capstone Field Study (V) Supervised experience in executive nursing leadership to address important health issues for high-risk or under-served populations utilizing an interdisciplinary systems-based approach. NURS majors only. Pre: 664 and 774 (or concurrent), or consent.

NURS 776 Doctor of Nursing Practice Project (V) Under the guidance of their DNP Project Team members, students will synthesize, integrate, and translate newly acquired knowledge and skills in the implementation and evaluation of their DNP Project. Repeatable unlimited times. CR/NC only.

NURS 777 Nursing Research Practicum (3) Faculty-guided research opportunity to gain mastery of research skills and techniques through participation in mentored research. Repeatable one time. NURS majors only. PH.D students only. A-F only. Pre: 741 (with a minimum grade of B-) and 742 (with a minimum grade of B-), 751 (with a minimum grade of B-) and a quantitative methods course.

NURS 796 Grant Writing and Grant Management (3) Designed to introduce students to grants, grant writing, and grant writing and grant management for health sciences. Open to NURS students only, others with approval. Repeatable one time. NURS majors only. Pre: instructor consent.


Obstetrics and Gynecology (OBGN) School of Medicine

OBGN 531 7-Week OB/GYN Clerkship (10) 7-week basic obstetric/gynecology clerkship. Repeatable one time. Pre: third year standing.

OBGN 532 Obstetrics and Gynecology Longitudinal Clerkship (5) Year-long clerkship in outpatient setting, covering assessment, diagnosis, treatment, and/or management of common gynecologic problems and normal and complicated pregnancies. Emphasis on prevention and interpersonal relationships. Repeatable two times. Pre: third-year standing, and concurrent registration in 532 courses. Co-requisite: FMCH, MED, PED, PSTY, and SURG 652.

OBGN 545 (Alpha) Elective OB/GYN (V) Optional prerequisite for any OB/GYN clerkship of selected topics. (B) labor and delivery: (C) outpatient clinic at Queen’s; (D) Sub-internship in family planning; (E) high-risk OB; (F) endocrinology; (G) oncology; (H) topics with individual preceptor; (I) extramural electives.

NURS majors only. A-F only. Pre: 774 and 752 or equivalent courses. Consent. Once a year.

NURS 760 Trends in Healthcare (3) Evaluates the historical foundations of health care systems and their relationship to current issues and trends in healthcare services. Analyses the variations in healthcare delivery systems across nations and the impact on health outcomes. A-F only. (Fall only)

NURS 761 Translation Science (3) Synthesis and analysis of interventions and variables that influence the rate of adoption of innovations. Applicability of concepts to patient populations and systems of healthcare. A-F only. (Fall only)

NURS 768 Advanced Clinical Economics and Finance (3) Theory and practice of financial management to achieve high quality and cost effectiveness in healthcare. Hybrid course which combines face-to-face with online learning. NURS majors only. A-F only. Pre: Prior to (Alt. years) NURS 769 Dissertation Proposal Writing Seminar (3) Provides students with advanced study and critique from faculty leading to the development of a draft dissertation proposal. Peer exchange facilitates individual scholarship, research topic mastery, and ability to conduct rigorous critique. NURS majors only. A-F only. Pre: 739, 741, 751. (Spring only)

NURS 774 Best Practices in Leading Healthcare Patient Safety (3) Critically analyzes the quality of health care, the process of managing health-care outcomes and costs in the delivery of care through the interdisciplinary process. NURS majors only.

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OBGN 545 (Alpha) Elective OB/GYN (V) Optional prerequisite for any OB/GYN clerkship of selected topics. (B) labor and delivery: (C) outpatient clinic at Queen’s; (D) Sub-internship in family planning; (E) high-risk OB; (F) endocrinology; (G) oncology; (H) topics with individual preceptor; (I) extramural electives.

NURS majors only. A-F only. Pre: 774 and 752 or equivalent courses. Consent. Once a year.

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NURS 761 Translation Science (3) Synthesis and analysis of interventions and variables that influence the rate of adoption of innovations. Applicability of concepts to patient populations and systems of healthcare. A-F only. (Fall only)

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NURS 776 Doctor of Nursing Practice Project (V) Under the guidance of their DNP Project Team members, students will synthesize, integrate, and translate newly acquired knowledge and skills in the implementation and evaluation of their DNP Project. Repeatable unlimited times. CR/NC only.

NURS 777 Nursing Research Practicum (3) Faculty-guided research opportunity to gain mastery of research skills and techniques through participation in mentored research. Repeatable one time. NURS majors only. PH.D students only. A-F only. Pre: 741 (with a minimum grade of B-) and 742 (with a minimum grade of B-), 751 (with a minimum grade of B-) and a quantitative methods course.

NURS 796 Grant Writing and Grant Management (3) Designed to introduce students to grants, grant writing, and grant writing and grant management for health sciences. Open to NURS students only, others with approval. Repeatable one time. NURS majors only. Pre: instructor consent.

Oceanography (OCN)
School of Ocean and Earth Science and Technology
The minimum required grade for undergraduate prerequisites is a C (2.0) or better, and graduate prerequisites is a B (3.0) or better.

OCN 100 Global Environmental Science Seminar (1) Seminar to introduce 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 101 Introduction to Environmental Science (3) Introduces the principles of environmental science and sustainability as they apply to ecosystems. Sustainability will be introduced through active learning with an emphasis on sustaining resources and mitigating human impact to ecosystems. Repeatable one time. A-F only. DB

OCN 105 Sustainability in a Changing World (3) Examines how environmentally sustainable and non-sustainable practices have affected the development and spread of human culture and societies from pre-history to the 1500s in Asia, Africa, Europe, the Americas, and Hawai‘i/Oceania. (Fall only) FGA

OCN 120 Global Environmental Challenges (3) Scientific approach to understanding human-caused environmental challenges and their potential solutions. Open to non-majors. (Spring only) DP

OCN 196 Research Experiences in Marine Science (3) Inquiry-driven and experimental marine biology summer program that allows students to capitalize on expertise of HIBM researchers whose specialties demonstrate how human impacts and global change affect coral reef ecosystems. Emphases on student team research projects. Repeatable one time. High school or UG freshman only. (Summer only)

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; and the physical principles of ocean dynamics. Spill and pollutant dispersal. Pre: 603 or consent. (Cross-listed as ATMO 310)

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. Pre: 201 (or concurrent). 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, ATMO 200, GG 101, GG 103, or GG 170; or consent. (Cross-listed as ATMO 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, PHY3 170/170L, CHEM 161/161L, and OCN 310; or consent. (Fall only) DY

OCN 312 Advanced Mathematics for Scientists and Engineers (3) Advanced mathematical methods with emphasis on application to the earth and ocean sciences and engineering. Topics include linear algebra, vector calculus, ordinary differential equations, and numerical methods. Pre: MATH 242 or consent. (Cross-listed as MATH 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 model construction and application. May be repeated one time with different perspectives. Pre: any course 200 or above in PHIL or any course 200 or above with either DB or DP designation, or consent. (Alternate years: spring) (Cross-listed as PHIL 315)

OCN 318 Introduction to Environmental Monitoring Systems and Measurements (3) Introduction to environmental monitoring systems for earth science students. Students will learn how to construct, program, and deploy simple environmental monitoring systems to collect in-situ environmental data. OCN, GG, ATMO majors only. A-F only. Pre:
The following topics will be addressed: How are cit...
natural and human-induced environmental change. Chemical history of ocean-atmosphere-sediment system and co-evolution of the biota. Repeatable one time. Pre: BS in environmentally related science or one year of chemistry, physics, and calculus. (Cross-listed as GG 638)

OCN 640 Observational Physical Oceanography (3) Application of the scientific method; physical regimes in the ocean; ocean processes and observational methods; sampling, array design and observing systems; models and data assimilation; major field programs; operational oceanography and climate models. Repeatable one time. Pre: consent. (Cross-listed as GG 641)

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 orthochemical rocks, sedimentary petrography and geochemistry. Repeatable one time. Pre: consent. (Cross-listed as GG 641)

OCN 642 Elemental Composition Changes (3) Changes in the chemical composition of meteorites, bulk Earth, Earth's mantle and crust, sedimentary rocks, hydrosphere and biosphere, and underlying principles. Pre: consent. (Cross-listed as GG 642)

OCN 643 Topics in Marine Geochemistry (3) Seminar on a broad topic; discussion and critique of research papers. Repeatable one time. Pre: 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. Pre: CHEM 171, MATH 242, PHYS 152; or consent. (Cross-listed as GG 644)

OCN 650 Math Techniques for Oceanographers (5) (3 Lec, 2 3-hr Lab) Introduction to numerical methods, data analysis, error propagation, box models, linear and nonlinear least squares, perturbation theory; chemical integration. Pre: MATH 244 or MATH 253A.

OCN 660 Ocean Waves I (3) Survey of wave types—acoustic, capillary, gravity, inertial, vorticity. Basic wave concepts emphasized: phase and group velocities, standing waves, energy conservation, dispersion, refraction, diffraction. Rotation and boundary effects are considered: reflection, basin modes, trapped waves. Pre: MATH 403 or consent.

OCN 661 Ocean Waves II (3) Baroclinic gravity waves, inertial waves, mid-latitude Rossby waves, topographic waves, equatorial waves. Pre: 660 or consent.

OCN 662 Marine Hydrodynamics (3) 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. Pre: MATH 403.

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

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

OCN 667 Advanced Geophysical Fluid Dynamics I (3) Basic equations to describe large-scale ocean circulation; numerical models; boundary layers; models of wind-driven circulation of a homogeneous ocean. Pre: 620 and 662, or consent.

OCN 668 Advanced Geophysical Fluid Dynamics II (3) Thermodynamics of stratified fluids; convective mixing; models of the thermohaline circulation; the role of eddies in the large-scale ocean circulation. Pre: 667 or consent.

OCN 674 Paleoceanography (3) Study of the paleoceanographic and paleoclimate evolution of the Earth's oceans, past and present. Repeatable one time. Pre: consent. (Alt. years) (Cross-listed as GG 674).

OCN 680 Dynamics of Marine Ecosystems: Biological-Physical Interactions in the Oceans (3) Combined lecture/discussion examining biological and physical interactions in the oceans and their impacts on the functioning of marine ecosystems. A-F only. Pre: previous course in marine science, or consent. (Alt. year)

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 of biological production. Students will learn biological-physical dynamics, basic numerical methods, and programming. Pre: 620, 621, or consent. (Alt. years)

OCN 682 Introduction to Programming and Statistics in R (3) (3 hr Lec/Lab) Introduces project management, data analysis, and mathematical and statistical modeling using R as a platform. Students will learn principles and benefits of programming languages to apply skills to their own research. (Spring only)

OCN 683 Advanced Statistics in R (3) (2 hr Lec, 1 Lab) In-depth introduction to the modern statistical tools necessary for analyzing biological/ecological data, including GLMs, GAMs, mixed models, ordination, etc. Students will learn how to perform these methods in R. (Fall only)

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

OCN 700 Thesis Research (V) Research for master's thesis. Repeatable unlimited times.

OCN 750 Topics in Biological Oceanography (V) Seminar. Literature and concepts in one of several active fields considered in detail. Repeatable three times, credits earned up to 12 credits. Pre: consent.

OCN 760 Topics in Physical Oceanography (V) Near-shore processes, advanced mathematical techniques, recent developments, etc. Typically given by visiting professors in their specialties, or in response to student interest. Repeatable unlimited times.

OCN 770 Seminar in Chemical Oceanography (1) Seminar. Literature and concepts in one of several active fields considered in detail. Repeatable unlimited times.

OCN 791 Proposal Development (2) Introduction to the organizational and funding of oceanography funding agencies, the peer-review process, and the design and development of a research proposal. Repeatable one time. OCN majors only. CR/NC only. Pre: two of OCN 667, 668, 674, or (concurrent), or 628 (or concurrent); or consent.

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

Pacific and Asian Studies (PAS) School of Pacific and Asian Studies PAS 099 Overseas Study (V) Registration allows student to maintain enrolled status at UH Mânoa while taking courses abroad. CR/NC only. Pre: consent.

Pacific Islands Studies (PACS) School of Pacific and Asian Studies PACS 108 Pacific Worlds: An Introduction to Pacific Islands Studies (3) Introduces students to the geography, societies, histories, cultures, contemporary issues, and arts of Oceania, including Hawai‘i. Includes lecture and discussion that emphasizes Pacific Islander perspectives and experiences. A-F only. CR/NC only.

PACS 201 Islands of Globalization (3) Combined lectures, service-learning. Examines the nature and impact of global processes on Pacific Islander societies, viewed from the perspective of islanders who engage with global forces and processes, and create strategies to survive. Limit 20 students. A-F only. Pre: either 108 or HWST 107, or consent. 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. Pre: either 108 or HWST 107, or consent. DS

PACS 203 Arts in Oceania–An Introduction (3) Practical and theoretical study of arts in Oceania in relevant cultural contexts. Repeatable one time. A-F only. Pre: 108, 201, 202, or consent. (Fall only) DH

PACS 301 Pacific Communities in Hawai‘i (3) Examines Pacific Islander communities’ experiences in Hawai‘i through service learning, reading, writing, lecture, and discussion. Concerns about housing, employment, education, health, language, and culture are central. A-F only. Pre: 108 or 201 or 202, or consent.

PACS 302 Contemporary Issues in Oceania (3) Combined lecture/discussion. Examination of critical political, social, and economic issues in the Pacific Islands region today. Pre: 108 or 201 or 202, or consent.

PACS 303 Thinking Through Pacific Arts, Ritual, and Performance (3) Class discussion and workshop series surveys arts, ritual, and performance practices throughout the Pacific. Engaging with Pacific traditions of thought, and creative approaches to research, students absent them the possibility for observational window and performative engagement with Pacific communities. Repeatable one time. Sophomore standing or higher. Pre: 108 or 201 or 202 or 301 or 302.

PACS 371 Literature of the Pacific (3) Basic concepts and representative texts for the study of the literature of the Pacific, including Pacific voyagers and contemporary writings in English by Pacific Islanders. Pre: one ENG DL, course or consent. (Cross-listed as ENG 371)

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. Pre: 108 and 201 and 202, and either 301 or 302.

PACS 462 Drama and Theatre of Oceania (3) Survey of the contemporary theatre and dance cultures of Oceania that combines island and Western traditions. Includes Papua New Guinea, Hawai‘i, Fiji, Samoa, Australia, New Zealand, Pre: ANTH 350 or THEA 101, or consent. CR/NC only. (Spring only) DH

PACS 474 Studies in Pacific Literature (3) Intensive study of selected questions, issues, traditions, writers, movements, or genres in the field of Pacific literature. Repeatable one time. Pre: ENG 320 and one other 300-level ENG course. (Cross-listed as ENG 474) DL

PACS 492 Topics in Pacific Islands Studies (3) Repeatable two times. Pre: 201 or 301 or 302 or 304 or consent. DS

PACS 493 Moving Images in the Pacific Islands (3) Critically examines indigenous and foreign representations of the Pacific Islands and is designed to make film a central focus of inquiry for students interested in the contemporary Pacific. Repeatable one time. Pre: 108 or 201 or 301 or 302 or 303.

PACS 494 Culture and Consumption in Oceania (3) Lecture on changing patterns of consumption in Oceania, and the historical, political, cultural, artistic, and economic forces shaping such practices. Pre: upper division standing, or consent.

PACS 495 Encountering Tourism in Asian-Pacific Societies (3) A study 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, political, and environmental concerns, case studies (including Hawai‘i). CR/NC only. (Cross-listed as ASAN 495) DS

Key to symbols & abbreviations: see the first page of this section.
PAC 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: master’s Plan B or C candidate and consent.
PAC 602 Representing Oceania: Pacific and American Perspectives (3) Graduate seminar. Critically assess the ways in which Polynesian Islands is represented in scholarly and popular media. Repeatable: 601.
PAC 603 Researching Oceanic: Creative and Conventional Methodologies (3) Graduate seminar. Literacy, theory and method in the creation of a Master’s research project. Pre: 601 and 602.
PAC 640 Women in Oceanic (3) Will look at feminist theory, ethnography, culture, activism and globalization in the context of writing, research and film on or by Women in Oceanic. Pre: consent.
PAC 690 Graduate Seminar: Change in the Pacific (3) Introduction to change in selected Pacific Islands regions, institutions, and processes. Repeatable two times. Pre: consent.
PAC 695 Master’s Portfolio Project (V) Independent study for students working on MA portfolio projects. A grade of satisfactory (S) is assigned when the project is completely completed. Repeatable once. A-F only. Pre: graduate standing in PACS.
PAC 699 Directed Reading and Research (V) Repeatable unlimited times.
PAC 700 Thesis Research (V) Repeatable unlimited times.

Pathology (PATH)

School of Medicine
PATH 470 Immunopathology Seminar (1) Autoimmune diseases and transplantation immunity. Pre: consent.
PATH 479 Directed Research (V) Pathology of aging, nutrition, alcoholism, and immunology. Open to selected undergraduate students. Repeatable unlimited times. Pre: consent.
PATH 512 Unit II Concurrent Elective (1) Elective course for first-year medical students. CR/NC only. Pre: BIOM 551 and consent.
PATH 515 Unit V Concurrent Elective (1) Elective course for second-year medical students. CR/NC only. Pre: BIOM 551 and consent.
PATH 525 Unit V Block Elective (V) Required elective for fourth-year medical students. Repeatable to be determined by contract. One option is a review of USMLE Part I. CR/NC only. Pre: BIOM 551.
PATH 541 Pathology Practicum (V) Required autobiography experience in dissection and microscopic examination of tissues and detailed evaluation of disease process. CR/NC only. Pre: third- or fourth-year standing.
PATH 545 (Alpha) Unit VII Electives in Pathology (V) Individualized instruction in laboratory medicine for the practicing physician, clinical and anatomic pathology; (B) advanced topics in clinical immunology; (C) anatomic pathology; (D) clinical pathology; (E) aspects of aging, nutrition, and/or alcoholism; (F) extramural elective in pathology. Repeatable four times. CR/NC only. Pre: BIOM 555.
PATH 549 Introduction to Pathology and Laboratory Medicine (1) Provides an introduction to the practice of pathology and laboratory medicine and the role pathologists and the laboratory play in the diagnosis and management of disease. MD students only. CR/NC only. Pre: MDED 574 or consent. (Fall only)
PATH 599 Electives in Pathology (V) Individualized instruction in clinical and/or anatomic pathology. Third-year elective. 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 Peace and 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 590) DS
PACE 399 Directed Reading (V) Directed reading in peace and conflict resolution. Repeatable three times. Pre: consent.
PACE 407 Peace Processes in Philippines and Hawaii (3) Life and thought of Gandhi, Martin Luther King, Jr. Pre: any Social Science 100 or 200-level course, or consent. DH
PACE 410 History of Peace Movements (3) Examination of two centuries of U.S., European, Australian, and Hawaiian peace, thought and action. Also surveys early Christian and secular attitudes to war. Open to nonmajors. Pre: any DS course, or consent. DH
PACE 412 Gandhi, King, and Nonviolence (3) Life and thought of Mahatma Gandhi and Martin Luther King, Jr. Pre: any Social Science 100 or 200-level course, or consent. DH
PACE 413 Terrorism (3) Multidisciplinary 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. DS
PACE 420 Introduction to Human Rights: International and Comparative Perspectives (3) Introduction to national, 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 eminent domain. 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, conflict management and conflict resolution. Pre: any Social Science 100 or 200-level course, or consent. DH
PACE 430 Leadership for Social Change (3) In-depth study of current models and emerging theories of ethical leadership in community service; development of tangible leadership skills, including communication, conflict resolution, team-building, and management skills. Sophomore standing or higher. A-F only. Pre: any 200-level DS course. DS
PACE 447 Mediation Skills: UH Basic (3) Basic mediation skills training course. Completion of course requirements qualifies student to be listed as a mediator for university disputes, as co-mediator, or on mediation panel.
PACE 468 Introduction to Facilitating Organizational Change (3) Explores the characteristics of organizations from different perspectives including structural, political, and cultural frames from organizational theory and practice. Focuses on how to design organizational change strategies and facilitate their implementation. Sophomore standing or higher. A-F only. Pre: any 200-level DS course (with a minimum grade of C). DS
PACE 477 Culture and Conflict Resolution (3) Conflict resolution techniques for major world cultures. 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 or higher. 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 only. Pre: one of 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. (Cross-listed as PLAN 629)
PACE 640 Seminar: Social Studies (3) Study in trends, research, and policy implementation in teaching field. Repeatable two times. Pre: teaching experience or consent. (Cross-listed as EDCS 640K)
PACE 647 Mediation: Theory and Practice (3) Combined lecture, discussion, and mediation simulations. Theory of ADR and controversial major different models of mediation, both in the U.S. and internationally. Application of mediation process to categories of disputes, family, workplace, and international. A-F only. Pre: graduate standing, or departmental approval. (Once a year)
PACE 650 Dispute Resolution System Design (3) Conflict prevention, management and resolution in the workplace. Design and implementation of effective systems integrating ADR and recent advances in dispute resolution methodology to government, health, nonprofit, educational, private sector and other institutions. Pre: graduate standing, or departmental approval.
PACE 652 Conflict Management for Educators (3) Conflict resolution theory and practice for administrators, faculty and staff in educational organizations. K-12, community colleges and universities. Application and theory of negotiation, mediation, facilitation and hybrid ADR processes. Pre: EDEA 601 or EDEA 650, or consent. (Cross-listed as EDEA 652)
PACE 660 Family Mediation (3) Theory and skills for practicing divorce and custody mediation. Negotiation and conflict intervention skills used by social workers, lawyers, and family conflict. Focus on Hawai‘i’s divorce and custody laws and practices. Repeatable one time. Graduate students only. A-F only. Pre: consent.
PACE 668 Facilitation: Facilitating Community and Organizational Change (3) Advanced conflict resolution course. Covers key issues in the prevention, management and resolution of multi-party conflicts. Combined lecture, discussion, and simulations. A-F only. Pre: graduate standing, or departmental approval. (Once a year)
PACE 690 Topics: Conflict Theory (V) Recent issues of policy and practice in peace and conflict management theory. Repeatable up to 12 credits. A-F only. Pre: graduate standing.
PACE 695 Conflict Resolution Practicum (V) Practice in conflict resolution skills. Open to candidates for Certificate in Conflict Resolution.

Key to symbols & abbreviations: see the first page of this section.
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 700 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.

Pediatrics (PED)
School of Medicine

PED 501 Pediatric Seminars (1) Interactive weekly lecture/seminar designed to teach topics in pediatrics and supplemented by small group 2-hour encounters with faculty clinicians in pediatric emergency medicine, inpatient pediatrics, and enonatology to gain exposure in pediatric hospital care. Repeatable one time. Medical students only. CR/NC only. Pre: MDED 551.

PED 506 Introduction to Research Methodology, Biostatistics, and Epidemiology (1) Interactive seminar series to cover the following topics: data types, descriptive statistics, inferential statistics, selecting a statistical test, data distributions, measures of data spread, statistical test assumptions, standard deviation vs. standard error, etc. Repeatable one time. Medical students only. CR/NC only. Pre: MDED 551.

PED 531 7-Week Pediatric Clerkship (10) 7-week basic pediatric clerkship. Repeatable one time. Pre: third-year standing.


PED 545 (Alpha) Electives in Pediatrics (V) Fourth-year elective in pediatric sub-specialty areas in which medical students may receive clinical experiences and an in-depth study of selected sub-specialty areas within the field of pediatrics. (B) adolescent medicine; (C) ambulatory pediatrics care; (E) clinical genetics; (F) Sub-Internship in neonatology; (G) pediatric cardiology; (H) Sub-Internship in pediatrics emergency medicine; (I) Sub-Internship in pediatric hematology/oncology; (J) Sub-Internship in infectious diseases; (K) Sub-Internship in pediatrics-general ward in a hospital; (L) Extramural elective in pediatrics; (N) pediatric rheumatology; (P) developmental behavioral pediatrics; (Q) pediatric international preceptorship (3 cr.;) (R) Sub-Internship in pediatric critical care; (S) pediatric radiology; (T) pediatric ultrasound; (U) pediatric nephrology; (V) pediatric sports medicine. CR/NC only. Repeatable two times per alpha, up to 56 credits; not repeatable for (Q). Pre: PED 531 or 532.

PED 599 Directed Reading/Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.

Pharmacy (PHRM)
School of Medicine

PHRM 202 Intermediate Modern Persian II (4) Continuation of 201. Pre: 201 or consent. HSL
PHRM 302 Third-Level Modern Persian II (3) Continuation of 301. Pre: 301 or consent.

PHRM 451 Structure of Modern Persian (3) Introduction to phonology, morphology, syntax, and semantics of Modern Persian. Pre: 202 or consent.

PHRM 501 Pediatric Seminars (1) Pediatric Seminars. Pre: 500 or consent. Grad student standing only. Pre: consent.


PHRM 506 Introduction to Research Methodology, Biostatistics, and Epidemiology (1) Interactive seminar series to cover the following topics: data types, descriptive statistics, inferential statistics, selecting a statistical test, data distributions, measures of data spread, statistical test assumptions, standard deviation vs. standard error, etc. Repeatable one time. Medical students only. CR/NC only. Pre: MDED 551.

PHRM 531 7-Week Pediatric Clerkship (10) 7-week basic pediatric clerkship. Repeatable one time. Pre: third-year standing.


PHRM 545 (Alpha) Electives in Pediatrics (V) Fourth-year elective in pediatric sub-specialty areas in which medical students may receive clinical experiences and an in-depth study of selected sub-specialty areas within the field of pediatrics. (B) adolescent medicine; (C) ambulatory pediatrics care; (E) clinical genetics; (F) Sub-Internship in neonatology; (G) pediatric cardiology; (H) Sub-Internship in pediatrics emergency medicine; (I) Sub-Internship in pediatric hematology/oncology; (J) Sub-Internship in infectious diseases; (K) Sub-Internship in pediatrics-general ward in a hospital; (L) Extramural elective in pediatrics; (N) pediatric rheumatology; (P) developmental behavioral pediatrics; (Q) pediatric international preceptorship (3 cr.;) (R) Sub-Internship in pediatric critical care; (S) pediatric radiology; (T) pediatric ultrasound; (U) pediatric nephrology; (V) pediatric sports medicine. CR/NC only. Repeatable two times per alpha, up to 56 credits; not repeatable for (Q). Pre: PED 531 or 532.

PHRM 599 Directed Reading/Research (V) Repeatable unlimited times. CR/NC only. Pre: consent.

PHIL 100 Introduction to Philosophy: Survey of Problems (3) Introduction to the kinds of problems that concern philosophers and to some of the solutions that have been attempted. DH

PHIL 101 Introduction to Philosophy: Morals and Society (3) Philosophical attempts to evaluate conduct, character, and social practices. DH

PHIL 102 Asian Traditions (3) Universal themes and problems from Asian perspective. DH

PHIL 103 Introduction to Environmental Philosophy (3) A critical examination of environmental issues; analyzing the nature of the human being, the nature of nature, and the relationship of the human being to nature. DH

PHIL 110 Introduction to Deductive Logic (3) Principles of modern deductive logic. FS

PHIL 111 Introduction to Inductive Logic (3) Introduction to the theory of arguments based on probabilities and to the theory of decision-making in the context of uncertain situations. CR/NC only.

PHIL 211 Ancient Philosophy (3) An introduction to the history of philosophy based on translations of texts originally written in classical Greek or Latin. DH

PHIL 212 Between Ancient and Modern Philosophy (3) Introduction to the history of philosophy based on translations of texts originally written in post-classical Latin or Arabic. DH

PHIL 213 Modern Philosophy (3) Introduction to the history of philosophy based on translations of texts usually written in modern European languages. DH

PHIL 218 Women Philosophers (3) Introduces students to the history of philosophy research elective for medical students. Repeatable one time. A-F only. Pre: any course 100 or above in PHIL or WS, or consent. (Alt. years) (Cross-listed as WS 219) DH

PHIL 280 The Meaning of War (3) Exploration of ethical questions related to the many facets of war, genocide, pillage, suicide tactics, battlefield immunities, and problems related to the application of war and peace to nuclear arms. CR/NC only.

PHIL 301 Ethical Theory (3) Problems and methods in theory of moral conduct and decision. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 302 Political Philosophy (3) Problems and methods in philosophical theories of political legitimacy. Pre: any course 101 or above in PHIL or above 100 in POLS or SOC, or consent. DH

PHIL 303 Social Philosophy (3) Problems and methods in examining the nature 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 rationality 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 ART or MUS or any DL course 100 or above; or consent. DH

PHIL 307 Theory of Knowledge (3) Problems and methods in epistemology. Nature of knowledge, its varieties, possibilities, and limitations. Pre: any course 100 or above in PHIL, or 200 or above with either DB or DP designation; or consent. 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

Key to symbols & abbreviations: see the first page of this section.
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. 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 approaches and methods. Pre: any 101 course or above in PHIL or above 100 in POLS or SOC; or consent. (One year)

PHIL 313 Philosophy and Evolution (3) Explores the ethical and aesthetic 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. Focuses on issues arising from the construction and use of models. Pre: any course 200 or above in PHIL or any course 200 or above with either DB or DP designation, or consent. (Alt. years will be 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 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

PHIL 318 Philosophy of Law (3) Historical and contemporary issues in law and legal theory. Law and morality, 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 DIS or ENGL 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, or 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 from ancient to modern. Pre: any course 100 or above in PHIL or JPN, or consent. DH

PHIL 399 Directed Research (V) Repeatable up to a maximum of 6 credits. Pre: consent.

PHIL 402 Introduction to Phenomenology (3) Methods of analyzing the structures of experience, as developed by Husserl, Heidegger, Merleau-Ponty, Sartre, etc. Pre: any course 200 or above in PHIL, or consent. DH

PHIL 406 Introduction to Zen (Ch’ an) Buddhist Philosophy (3) Development and philosophical significance of the meditative Zen Buddhism through translations of Chinese and Japanese sources. Pre: any course 200 or above in PHIL or CHN or JPN, or consent. DH

PHIL 414 (Alpha) Western Movements and Periods (3) (B) historical; (C) medieval; (E) Renaissance; (F) continental rationalism; (G) British empiricism; (H) German idealism; (I) 19th century; (J) 20th century. Repeatable two times in different alphabets, not in same alphabet. Pre: any course 200 or above in PHIL, or consent. DH

PHIL 417 Philosophy in Literature (3) Philosophical themes in the literary mode in world literature. Pre: any course 200 or above in PHIL or any DL course 200 or above, or consent. DL

PHIL 418 Feminist Issues in Philosophy (3) Examination of basic feminist issues in philosophy, and of responses to them. Pre: any course 200 or above in PHIL or WS, or consent. (Cross-listed as WS 419) DH

PHIL 422 Philosophical Psychology (3) Classical and modern theories of mind, cognition, and action. Pre: any course 200 or above in PHIL or PSY, or consent. DH

PHIL 436 Philosophy of Language (3) 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) Inter-disciplinary approach to women’s perspectives and roles on ecological and environmental issues; critical analysis of eco-feminism as a social and political movement; cross-cultural comparison of women’s roles in human ecology. Pre: any course 200 or above in PHIL or WS or any course 200 or above with a DB or DP designation, or consent. (Cross-listed as 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.

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.

PHIL 449 Undergraduate Capstone (3) Capstone seminar for undergraduate majors. Concentration on a topic of current philosophical concern. Repeatable one time with consent. Pre declared major in PHIL with at least six courses 200 or above in PHIL, or consent. DH

PHIL 492 Philosophy with Children (3) Examines the theory and practice of doing philosophy in elementary, middle, and high school classrooms. Pre: any course 200 or above in PHIL or EDUC, or consent.

PHIL 493 Teaching Philosophy (3) Supervised work in elementary, middle, and high school classrooms, facilitating philosophical inquiry with students. Repeatable one time. Pre: 492 or consent. Pre: Master’s Plan B/C Studies (1) Enrollment for degree completion. Pre: Master’s Plan B or C candidate at time of enrollment.

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 and Eastern 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 meaning of philosophical texts and their 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 knowledge. Pre: graduate standing or consent. Recommended: 308 or 316.

PHIL 670 Confronticism (3) Ethical, social, institutional problems in classical theory. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 370.

PHIL 671 Neo-Confronticism (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. Recommended: 370.

PHIL 725 Seminar in Philosophical Topics (3) Close study of a topic of important philosophical controversy. Repeatable two times in the MA program; an additional three times in the PhD program. Pre: graduate standing or consent.

PHIL 730 Seminar in Islamic Philosophy (3) Major philosophical problems in Islamic thought. Focus either on a specific topic or one author. Repeatable one time. Pre: graduate standing or consent. (Once a year)

PHIL 735 Seminar on Philosophical Periods (3) Close study of a period of significant and connected philosophical activity within a philosophic tradition. Repeatable two times with consent. Pre: graduate standing or consent.

PHIL 740 Seminar in Philosophical Texts (3) Reading, analysis, and critical discussion of one (or of several closely related) philosophical text in its original language (sometimes in conjunction with established translation). Repeatable two times with consent. Pre: graduate standing or consent.

PHIL 750 Seminar in Indian Philosophy (3) Major philosophical problems in the development of Indian thought during its formative period. Repeatable 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: 350.

PHIL 770 Seminar in Chinese Philosophy (3) Fundamental issues, problems, movements, and schools of Chinese philosophy, such as classical Confucianism, Daoism, Legalism, Chinese logic, Neo-Confucianism, Buddhist philosophy, etc. Repeatable one time with consent. Pre: graduate standing or consent. Recommended: 570.
PHIL 771 Seminar in Yi Jing (3) Metaphysical, epistemological, ethical, and axiological views of Yi Jing and its claim as foundational work for classical Confucianism, Daoism, and Neo-Confucianism. Pre: graduate standing or consent. PHIL 780 Seminar in Japanese Philosophy (3) Various periods, movements, and thinkers in Japanese philosophy. Topic changes each semester. Consult department for more information. Repeatable one time for credit; consent. Pre: standing or consent. Recommended: 380. 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)

A grade of C (not C-) or better is required in all prerequisite courses. Credit toward the degree is given for either 151L or 170L, and similarly for either 152/152L or 272/272L. However, the courses may come from different sequences.

PHYS 100 Survey of Physics (3) Mechanics, electricity and magnetism, waves, optics, atomic and nuclear physics. Only algebra and geometry used. For non-science majors. DP

PHYS 100L Survey of Physics Lab (1) (1 3-hr Lab) Hooker’s law, falling bodies, collisions, Boyle’s law, electric and magnetic fields, induction, waves, optics. Pre: 100 (or concurrent). DY

PHYS 109 Physics in the Arts (3) Introduction to physics of sound and light, with applications to music and visual arts: sound perception, harmony, musical scales, instruments; lenses, cameras, color perception and mixing. Uses algebra and geometry. Intended primarily for non-science majors. DP

PHYS 121 How Things Work: Physics for Everyday Life (3) Introduction to physics and science in everyday life. Concepts from our daily environment, and focuses on the principles such as motion, forces, heat, electromagnetism, optics, and modern physics. A-F only. DP

PHYS 151 College Physics I (3) Non-cumulative sequence. Mechanics, heat, Pre: MATH 140, or 215 or higher; or qualifying score on math assessment exam. DP

PHYS 151L College Physics Lab I (1) (1 3-hr Lab) Introduction to experimental analysis, physical observation and measurement. Covered in conservations of laws, fluid friction, oscillations. Pre: 151 (or concurrent). DY

PHYS 152 College Physics II (3) Electricity, magnetism, optics, modern physics, Pre: 151 or 170. 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). MATH 216 may be substituted with consent. DP

PHYS 200A General Physics I (4) Special format for topics: mechanics of particles and rigid bodies, wave motion, thermodynamics and kinetic theory. Pre: MATH 242 (or concurrent) or MATH 252A (or concurrent). MATH 216 may be substituted with consent. Co-require: 170L. DP

PHYS 272L General Physics II Lab (1) (1 3-hr Lab) Similar to 152L but at 272 level. Pre: 151L or 170L, and 272 (or concurrent) or 272A (or concurrent). DY

PHYS 274 General Physics III (3) Relativity, introduction to quantum mechanics, atomic and nuclear physics, and physical optics. Pre: 152 or 272 and MATH 242 or MATH 253A (or concurrent); or consent. DP

PHYS 274L General Physics III Lab (2) (1 4-hr Lab) Experiments illustrating selected concepts of 274, including diffraction and interference of light, wave nature of matter, photoelectric effect, atomic spectra, and semiconductors. Pre: 152L or 272L, and 274 (or concurrent). DY

PHYS 305 Computational Physics (4) (3 Lec, 1 3-hr Lab) 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 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; waves in matter; Wave equations in C 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. DP

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 307 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; 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 absorption, photoeffect, 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, interference, and diffraction (Fourier optics). Specialized applications include Gaussian beams, laser resonators, pulse propagation, and nonlinear optics. Pre: 450 (or concurrent with a minimum grade of C) or EE 372 (or concurrent with a minimum grade of C-), or consent. (Cross-listed as EE 470) DP

PHYS 475 Electronics for Physicists (4) (3 Lec, 1 3-hr Lab) Introduction to the operation of passive and active elements, and measurement techniques. Applications to physical measurements are stressed. A-F only. Pre: junior standing, and 152L or 272L. DP

PHYS 476 Modern Electronics for Physicists (3) Introduction to the operation of 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, 350, 400 (or concurrent) or either MATH 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 Mossbauer 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 Mossbauer 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, ASTR, and ASTR major and junior standing. Pre: 310 or ASTR 300 (or concurrent), or consent. DP

PHYS 490 Modern Physics (3) Introduction to nuclear and elementary-particle physics. Pre: 480 (or concurrent). DP

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

PHYS 505 Physics Workshop for Teachers (V) Major concepts of the modern physics and their application to research in physics and astronomy and closely-related fields. Historical examples will be presented and discussed by the participants. PHYS, ASTR, and ASTR major and junior standing. Pre: 310 or ASTR 300 (or concurrent), or consent. 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; additional methods for solving differential equations. Pre: 600 (or concurrent); or MATH 402. DP

PHYS 650 Electrodynamics I (3) Potential theory, Maxwell’s equations, electromagnetic waves, boundary value problems. Pre: 400 or concurrent), or MATH 402. (Alt. years)

PHYS 651 Electrodynamics II (3) Relativistic electrodynamics, radiation by charged particles. Pre: 650. (Alt. years)

PHYS 660 Advanced Optics (3) Advanced applications in optics including nonlinear optics and optical parametric oscillators, atomic lasers and laser systems, and free-electron lasers. Pre: 460. (Alt. even years)

PHYS 670 Quantum Mechanics (3) Physical basis and formulation of quantum theory. Exact solutions of Schroedinger equation and their applications. Approximation methods. Applications to atomic, nuclear, and molecular physics. Pre: 400 or 481 or 600 and MATH 402. DP


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 research 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.
oments in atomic, surface, and solid-state physics. Repeatable five times with consent.

PHYS 696 Seminar on Elementary Particle Physics (1) Reports and discussion on recent developments in elementary particle physics. Repeatable four times. Pre: consent. 

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


PHYS 711 Topics in Particles and Fields (3) Topics in current 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, statistical mechanics, 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) Non-equilibrium 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; hadron structure and partons. Techniques of particle physics. Pre: 481 and 671. (Alt. years) 

PHYS 778 Nuclear and Particle Physics II (3) Quantum chromodynamics; electroweak interactions; the standard model. 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. 

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

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. (Cross-listed as KRS 113) 

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. 

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. 

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. 

PHYL 301 Advanced 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 CHEM 161 (or higher) or any BIOL course; or consent. DB 

PHYL 301L Human Anatomy and Physiology Lab (1) Laboratory study of human anatomy and physiology by means of models, histology slides, experiments, and demonstrations. Co-requisite: 301 or consent. 

PHYL 302 Advanced Anatomy and Physiology (4) Continuation of 301. Pre: 301/301L or consent. 

PHYL 302L Human Anatomy and Physiology Lab (1) Continuation of 301L. Pre: 301/301L, or consent. Co-requisite: 302. DB 


PHYL 402 Human Physiology: Integrative Systems (4) Senior-level course in integrative systems (central nervous system and endocrinology). Complements 401. Pre: 401 and either BIOL 341 or CHEM 152, or consent. DB 

PHYL 403 Environmental Physiology (3) Animal (including human) responses to environmental challenges such as heat, cold, altitude, diving, physical work, etc. Human adaptation in a comparative context. Pre: 302, or 401, or ZOOL 430; or consent. 

PHYL 403L Environmental Physiology Lab (1) Laboratory experiences in measuring human physiological responses to environmental stress. Complements 403. 

PHYL 405 Applied Muscle Physiology (3) Science and technology of strength training. Anatomy, kinesiology, physiology, applied to development of muscular strength and mass. Repeatable one time. A-F only. Pre: 302; or consent. 

PHYL 450 Physiological Anthropology (3) Study of ecological factors in human variation. Human population and individual 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. 

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 course overview of human body physiology in humans, including (but not limited to) the cell biology, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and neurophysiology, A-F only. Pre: 301 and 302 or consent. (Spring only) 

PHYL 606 Human Physiology (2) Physiology of human nervous system with emphasis on special senses and control and coordination of movement. Repeatable one time. A-F only. Pre: 302 or 604, or consent. 

PHYL 609 Cardiovascular Diseases (3) Selected topics in cardiovascular physiology. Emphasis on dynamic aspects of the heart and circulation. Pre: 604 or consent. 

PHYL 610 Experimental Physiology (2) Biophysical approach to selected techniques of quantitative experimental physiology. Pre: 604 or consent. 

PHYL 710 Special Topics: Water and Electrolytes (1) 

Plant and Environmental Protection Sciences (PEPS) 

College of Tropical Agriculture and Human Resources 

A grade of C or better is required in prerequisite courses. 

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 ecosystems in the tropics 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 environmental manageable and amelioration of these impacts. Pre: 210 or consent. 

PEPS 350 Invasive Pest Species (3) Ecological and sociopolitical 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, diversity, and ecology of insects with emphasis on Hawaiian fauna. Classification to order level. A-F only. Pre: BOT 101 or ZOOL 101 or BIOL 171; or consent. DB 

PEPS 363L General Entomology Laboratory (1) Laboratory in the biology and classification to family level of Hawaii's insects and arthropods. A-F only. Pre: 363 (or concurrent) or consent. 

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 and applications. Repeatable one time. A-F only. (Cross-listed as TPSS 371) 

PEPS 405 Plant Pathogens and Diseases (4) (3 hrs. + 1 hr. Lab) Principles and concepts of pathology, pathology, 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. 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 on various tropical cropping systems. A-F only. Pre: 210 or TPSS 220 or consent. (Alt. years: spring) 

PEPS 418 Turfgrass Pest Management (4) Provides students with knowledge and real world experience on common turfgrass and management strategies in Hawaii's, with emphasis on integrated pest management. Common cool-season turfgrass and pest management are also discussed. Repeatable unlimited times but not more than 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 hrs. + 1 hr. Lab) Principles and concepts of insect pest management using biological, ecological, cultural, behavioral, legislative, microbial and chemical methods. A-F only. Pre: one of the following:
PEPS 660 Biology of Plant Pathogens: Fungi, Bacteria, Viruses, and Nematodes (4) (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. (Cross-listed as TIPSS 660)

PEPS 676 Invertebrate Microbiology (3) (2 Lec, 1 3-hr Lab) In-depth study of the molecular and cellular interactions between microbes and animals. Topics will cover types of symbioses, gut microbiome, parasites, and agricultural pathogens, and disease and human health. Pre: 605 with a minimum grade of B. (Spring only)

PEPS 686 Invertebrate Microbiology (3) (2 Lec, 1 3-hr Lab) In-depth study of the molecular and cellular interactions between microbes and animals. Topics will cover types of symbioses, gut microbiome, parasites, and agricultural pathogens, and disease and human health. Pre: 605 with a minimum grade of B. (Spring only)

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 will be 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 and independent study; credit will be given for work done in the laboratory. Repeatable unlimited times. CR/NC only.

PEPS 720 Problems of War and Peace (3) Introduction to the problems individuals and political communities currently face with respect to war, peace, and international conflict. Includes questions of human nature, economy, morality, nuclear deterrence, arms control and disarmament, and alternatives to war. Pre: 170 or consent. A-F only.

PEPS 721 Race and Politics (3) Racial inequality in the U.S.; mechanisms of institutional racism in employment, education, criminal justice, electoral politics. Pre: POLS 170 or consent.

PEPS 731 Native Hawaiian Politics (3) Critical study of issues in contemporary Native Hawaiian politics, with an emphasis on application and active engagement. Pre: any 100- or 200-level POLS course or consent. CR/NC only.


PEPS 800 Dissertation Research (V) Research for dissertation. Repeatable unlimited times. CR/NC only.

Political Science (POLS)

College of Social Sciences

POLS 100 Introduction to Political Science (3) Introduction to political science as a discipline. Pre: consent.

POLS 110 Introduction to Political Science (3) Introduction to political science as a discipline. Pre: consent.

POLS 120 Introduction to World Politics (3) Introduction to world politics. Pre: consent.

POLS 130 Introduction to American Politics (3) Introduction to American politics. Pre: consent.

POLS 150 Introduction to Global Politics (3) Introduction to global politics. Pre: consent.

POLS 160 Introduction to International and Global Studies (3) Introduction to international and global studies. Pre: consent.

POLS 170 Politics and Public Policy (3) Perspectives on the role of government in guiding economies and civil societies with particular emphasis on the recent U.S. experience. CR/NC only.

POLS 171 Introduction to Political Futures (3) Introduction to political futures. Using science fact and fiction, shows how past and present images of the future influence people’s actions. CR/NC only.

POLS 190 Media and Politics (3) Influences and effects of media on politics. Setting public agendas, interpreting events, manipulating the political process, political learning through popular culture. CR/NC only.

POLS 200 Reading and Writing Politics (1) Development of critical reading skills. Pre: consent.

POLS 241 Political Design and Futuristics (3) Political design and futuristics. Pre: consent.

POLS 271 Race and Politics (3) Racial inequality in the U.S.; mechanisms of institutional racism in employment, education, criminal justice, electoral politics. Pre: POLS 170 or consent.

POLS 301 Hawai‘i Politics (3) Introduction to and critical study of institutions, governments, and political processes in Hawai‘i. Pre: consent. A-F only. FGB

POLS 302 Native Hawaiian Politics (3) Critical study of issues in contemporary Native Hawaiian politics, with an emphasis on application and active engagement. Pre: any 100- or 200-level POLS course or consent. CR/NC only.

POLS 303 (Alpha) Topics in Hawai‘i Politics (3) Intensive examination of particular institutions,
processes, and issues, (B) the military in Hawai‘i; (C) political thought in Hawaiian; Taught in Hawaiian; (D) politics of food. A-F only for (D). Pre: HAW 302 (or concurrent) for (C) only, sophomore standing or higher or consent. (Cross-listed as HAW 428) DS for (B) and (D). DH for (C).

POL 304 Indigenous Politics (3) Conceptualizing politics from the perspective of indigenous epistemologies, philosophies, language, and social and political movement. Pre: sophomore standing or higher, or consent. DS

POL 305 Global Politics/Comparative (3) Introduction to global politics with emphasis on concepts and theories developed from a comparative politics perspective. Pre: sophomore standing or higher, or consent. DS

POL 306 Comparative Politics of Developing Countries (3) Political, economic, and social development in the Third World. Repeatabble one time. Pre: sophomore standing or higher, or consent. DS

POL 307 (Alpha) Topics in Comparative Politics: Country/Regional (3) Political, social, and economic processes in specific countries/regions. (B) Southeast Asia; (C) Pacific Islands; (F) Middle East; (G) Philippines; (H) Japan; (I) Europe; (J) India; (K) East Asia. Repeatable one time. Pre: sophomore standing or higher, or consent. DS

POL 308 Chinese Political Economy (3) Interdisciplinary review and analysis of the social and political issues in contemporary China, the interconnection between state and society in national policies, the relationship between traditional and technological modernization in the social transformation process. A-F only. Pre: sophomore standing or higher, or consent. (Cross-listed as ASAN 308). DS

POL 309 Politics of Indigenous Language Revitalization (3) Study of the importance and processes of language revitalization for indigenous peoples in Hawai‘i, the Pacific, Asia, and North America. Pre: any 100 level POLS course. (Alt. years) DS

POL 315 Global Politics/International Relations (3) Introduction to politics with emphasis on concepts and theories developed from an international relations perspective. Pre: sophomore standing or higher, or consent. DS

POL 316 International Relations (3) Decision-making behavior of international actors; strategies of peacemaking. Pre: sophomore standing or higher, or consent. DS

POL 317 International Law (3) Nature and function of international law and its role in world politics. Pre: sophomore standing or higher, or consent. DS

POL 318 Current Issues in International Law, Organization, and Culture (3) Principles, norms, cases, and their interaction with culture and organization in the political world. Pre: any 100 level POLS course or consent. DS

POL 319 International Organization (3) International relations of governmental and nongovernmental organizations. Pre: sophomore standing or higher, or consent. DS

POL 321 International Migration (3) Political-cultural economy of international migration: post-colonial populations, refugees, and immigrants. Pre: sophomore standing or consent. DS

POL 322 American Foreign Policy (3) Purposes, methods, strengths, obstacles, prospects; factors affecting American foreign policy; impact abroad and at home. Pre: sophomore standing or higher, or consent. DS

POL 323 Model United Nations (1) Simulation of United Nations organizations, especially General Assembly. Repeachable 4 times. Pre: 315 (or concurrent) or 319 (or concurrent), or instructor consent. DS

POL 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

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

POL 333 Advanced Topics in Global Politics (3) Studies of political development in the context of increasingly integrated and globalized political economies. Pre: any 100 level POLS course or consent. DS

POL 335 History of Political Thought (3) Theories, approaches, concepts, and issues developed or raised in history of political philosophy and thought. Pre: any 100- or 200-level POLS course, or consent. DS

POL 337 American Political Theory (3) Origins and development of American political thought. Pre: any 100-level POLS course, or consent. DS

POL 338 (Alpha) Topics in Political Theory (3) Significant works, historical continuities, themes, and issues in political theory, (B) classical political philosophy; (F) revolution and utopia; (G) contemporary political theory; (I) Marxist philosophy. Pre: any 100- or 200-level POLS course; or consent. DS

POL 339 Feminist Theory (3) Contemporary debates in feminist theory concerning gender, race, and class; subjectivity and representation; gender and colonialism; bodies, sexualities and “nature.” Pre: any 300 level POLS or WS course; or consent. (Cross-listed as WS 439) DS

POL 340 Korean Politics and Society Through Film (3) Examines politics and society through films. Through movies and documentaries, students will learn major sociopolitical issues including military dictatorship, democratization, and globalization. Korea underwent for the last several decades. Repeatable one time. Sophomore standing or higher. A-F only. DS

POL 341 The Politics of Media (3) Study of the political manipulation of aural and verbal images. Exercises to increase media literacy. Pre: any 100 level POLS course, or consent. DS

POL 342 Political Design and Futuristics (3) Alternative future social and political possibilities; design of model-possible futures. Pre: any 100 level POLS course, or consent. DS

POL 343 The Politics of Film (3) Political, philosophical, and artistic dimensions of film; cross-cultural film genres; representational practices in films. Pre: any 100 level POLS course, or consent. DS

POL 344 Nā Poliitika ma ka Nûhou Hawai‘i - Politics in Hawaiian Language Media (3) Study of Hawaiian news media with emphasis on political content. Taught in Hawaiian. Pre: HAW 302 (or concurrent) or DS 330, 170, or 171; or consent. (Cross-listed as HAW 445) DH

POL 366 Advanced Topics in Theory, Media, and Method (3) Studies in political theory, media, and method. Emphasizes the intersection of globalization and the contemporary political world. Pre: sophomore standing or higher, or consent. DS

POL 367 Disability Law and Politics (3) Introduction to the law and politics of U.S. disability law and its activism. An analysis of disability politics as the result of the interaction between disability movement activism and the development of policy and law. A-F only. Pre: sophomore standing or higher, or consent. (Fall only) DS

POL 368 Gender, Justice and Law (3) Exploration of landmark U.S. Supreme Court cases related to sex and gender. Topics may include sex discrimination, sexual orientation discrimination, privacy, and reproductive rights. Pre: any of WS 151, WS 175, WS 176, WS 202, WS 360, WS 381, or consent. (Cross-listed as AMST 436 and WS 436) DS

POL 372 Asian Women (3) History, culture, and contemporary reality of Asian women in the U.S. and the institutions through which it operates. Pre: sophomore standing or higher, or consent. DS

POL 377 American Women (3) Specific institutions and processes of the American feminist movement: gender and social reform; repeatable one time. Pre: sophomore standing or higher, or consent. DS

POL 379 Power in America (3) Analysis of sources of political, economic, and social power in the U.S. and the institutions through which it is exercised. Pre: sophomore standing or higher, or consent. DS

POL 380 Environmental Law and Politics (3) Focius on theories, law, policies, and futures of U.S. environmental politics. Sophomore standing or higher. Pre: any 100 level POLS course, or consent. (Alt. years) DS

POL 381 Administration and Society (3) Historical emergence of modern bureaucracy; mutual impact of administrative forms on social life; relations of bureaucracy to capitalism and patriotism; constitution of the administered individual. Pre: sophomore standing or higher, or consent. DS

POL 382 Political Leadership (3) Exploration of conceptual theories of political leadership, partly through biography, as preparation for public service or advanced scholarly inquiry. Pre: sophomore standing or higher, or consent. DS

POL 383 Politics and Public Policy II (3) Overview of the policy-making process in various political arenas (families, cities, nations, etc.); emphasis on conceptual and empirical analysis. Pre: any 100 level POLS course or consent. DS

POL 384 Women and Politics (3) Women’s role in political institutions and processes in the U.S. and other countries. Female and male approaches to power; feminist political goals and actions. Pre: any 100 level POLS course (or concurrent), WS 151 (or concurrent), or WS 362 (or concurrent); or consent. (Cross-listed as WS 384) DS

POL 385 American Politics (3) Institutions (parties, interest groups, legislatures, executives, local government); policies (national defense, poverty, energy, etc.); politics (symbolism, inequality, race, and gender). DS

POL 386 Public Policy-Making (3) Students develop understanding of theory, practice, and ethical issues of public policy making. Cases include lecture/discussion and fieldtrips. Students develop policy analysis and strategic plans that identify issues, interests, and methods of policy change. Repeatable one time. A-F only. Pre: HON 101 or HON 291, or departmental approval. (Cross-listed as HON 301) DS

POL 389 Health Politics (3) Examines the politics of health care. Focus on institutional models to health care, the politics of health reform, and contemporary health care issues and controversies. Repeatable one time. Sophomore standing or higher. A-F only. Pre: any 100-level POLS course or consent. DS
POLS 390 Poltical Inquiry and Analysis (3) Introductory survey and analysis of methods used in empirical research, policy analysis, and social criticism. DS

POLS 393 Advanced Topics in Law, Policy, and Society (3) Studies integrating concerns of public law, public policy, public administration, and social movements. Pre: any 100- or 200-level POLS course, or consent. DS

POLS 394 Co ops, Communities, Collectives (3) Theory and practice of democratic organizations: women's and feminist organizations; co-ops, communities, and collectives; indigenous people's organizations; violence, democracy, and social change. A-F only. Pre: any 100- or 200-level POLS course or 390 (or concurrent) or WS 151, or consent. (Cross-listed as WS 394) DS

POLS 396 Nonviolent Political Alternatives (3) Exploration of economic and cultural roots of nonviolent alternatives in politics. Pre: any 100- or 200-level POLS course, or consent. (Cross-listed as PAC 373) DS

POLS 399 Directed Reading and Research (V) Pre: consent.

POLS 401 Teaching Political Science (6) Pracitcum for majors who serve as undergraduate teaching assistants. Repeatable one time. Pre: 390 (or concurr.), consent.

POLS 402 Legislative Internship (V) Field placement at the Hawai'i Legislature integrated with academic study of political institutions and practices. A-F only. Pre: consent. Recommended: 390. (Spring only) DS

POLS 403 Community Internship (V) Field placement integrated with academic study of political institutions and community organizations. Repeatable one time. Pre: consent. Recommended: 390. DS

POLS 404 Senior Thesis (3) Independent research and the writing with supervision of senior advisor. Pre: 390 (or concurrent) and consent.

POLS 405 Executive Internship (V) Open to students awarded a Mānoa Undergraduate Political Fellowship for placement in the Governor's or Lt. Governor's Office, Prosecuting Attorney's Office, or Public Defender's Office. Field placement, integrated with academic study. A-F only. Recommended: 385, 390.

POLS 406 Senior Seminar in Political Science (3) Discussion of issues and questions of concern to graduating seniors in political science, including substantial research project. Pre: 390 (or concurrent) or senior standing and consent. DS

POLS 408 Mānoa Undergraduate Congressional Fellowship Internship Seminar (6) Hawai'i's Undergraduate Political Internship's Congressional Fellowship and intern placement experience in a Hawaii's congressional office. Students review policy processes, House and Senate procedures and produce a final paper. Restricted to fellowship awardees only. Junior and senior standing only. A-F only. Co-requisite: 386.

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

POLS 600 Scope and Methods of Political Science (3) Aiding in identifying and examining boundaries of discipline; approaches to knowledge employed by political scientists; empirical and normative theory; problems in theory-building; validity and reliability in research design; philosophy of science applied to political science. DS

POLS 601 Political Analysis and Theory Building (5) 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 (602). Pre: graduate standing or consent.

POLS 610 Political Theory and Analysis (3) Major contemporary approaches and styles in political theory, philosophy, and analysis.

POLS 611 Tradition of Political Philosophy (3) Discussion of texts and themes in the Western political tradition from Plato to Nietzsche. Repeatable one time.

POLS 612 Hawaiian Political Thought: Theory and Method/Na Mana’o Politika Hawai’i (3) Study of Hawaiian political thought in writing from ca. 1825 to the present, with emphasis on theory and research methods. Pre: 303, HAW 402 and HAW 428 or consent. (Cross-listed as HAW 612)

POLS 615 (Alpha) Topics in Political Thought (3) Specific traditions or individuals, or particular issues and problems. (C) feminist theory. Repeatable one time. Pre: graduate standing or consent. (C) Cross-listed as WS 615)

POLS 620 Introduction to Indigenous Politics (3) Historical treatment of the contact between state and indigenous peoples and a survey of contemporary indigenous political initiatives: social movements, media, indigenous studies programs, and events.

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, conflict, integration, alternative approaches to validation. Pre: graduate standing or consent.

POLS 633 International Conflict Resolution (3) Analysis of international and conflict resolution. Theory and practice of negotiation, mediation, conciliation, facilitation, and other “third-party” methods of peaceful settlement. Pre: graduate standing or consent.

POLS 635 (Alpha) Topics in International Relations (3) International relations and war; (E) international organization; (F) modeling international systems. Pre: graduate standing or consent.

POLS 640 Comparative Politics (3) Emphasis on Asia, theories of development, and comparative methods. At least one section a semester.

POLS 642 Indigenous Peoples and Western Imperialism (3) Historical examination of U.S. and European imperialisms, including national narratives, politics, and impacts upon indigenous peoples in the Americas, Pacific, and Asia. Repeatable one time.

POLS 645 (Alpha) Politics and Development: Regional (3) Politics of particular region; particular development processes. (C) China. (C-c cross-listed as ASAN 608 and PLAN 608)

POLS 646 (Alpha) Politics and Development: Topical (3) (I) political economy 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 traditions as an expansive devise will be emphasized, as will American influence and penetration abroad. A-F only. Pre: graduate standing or consent. (Once a year)

POLS 650 Public Administrative Theory (3) Focus varies among theoretical, comparative and developmental approaches to study of administration. One section each semester.

POLS 651 Political Leadership (3) Exploration of political leadership for research, teaching, and applied political science.

POLS 660 Public Law and Judicial Systems (3) Law, courts, and rights as a political resource; analyses of public law (including court decisions), other forms of dispute management, and judicial behavior and policy-making. Pre: 110.

POLS 665 (Alpha) Topics in Public Law and Judicial System (3) Recent issues and practices in public law; particular judicial systems. Pre: graduate standing or consent.

POLS 670 Introduction to Public Policy (3) Perspectives on policy analysis; basic approaches to the study of public policy, political economy, and policy evaluation. (Cross-listed as PLAN 660)

POLS 672 Political Science (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 institutions, 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 684 Contemporary Native Hawaiian Politics (3) Study of political and social movements, political status, national and cultural identities, and issues of representation of Native Hawaiians.

POLS 685 (Alpha) Topics in Asian and/or Pacific Politics (3) (C) Korean politics. Pre: graduate standing or consent.

POLS 686 Politics of Hawai‘i’s (3) Examinations from several perspectives of the political, economic, and cultural forces that historically formed Hawai‘i’s 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. Pre-F. 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 relevant to political inquiries. Repeatable unlimited times.

POLS 703 Writing Politics (3) Seminar on the politics of writing, grammar, translation, argument, genre, and style with significant content on indigenous issues of oral traditions, alternative modes of writing and argument, and language continuance.

POLS 710 Seminar: Political Thought (3) Pre-announced topics. Repeatable unlimited times. At least one section a year.

POLS 720 Seminar: Indigenous Thought (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 unlimited times. At least one section a semester.

POLS 740 Seminar: Comparative Government and Politics (3) Pre-announced topics. Repeatable unlimited times. At least one section a semester.

POLS 770 Seminar: Public Policy (3) Pre-announced topics. Repeatable unlimited times. Pre: consent of instructor. At least one section a year.

POLS 775 Indigenous Nations and the Problems of Sovereignty (3) Examinations of sovereignty and indigenous questions 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 plausible and precarious 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.

Key to symbols & abbreviations: see the first page of this section.
POLS 800 Dissertation Research (V) Repeatable unlimited times.

Portuguese (PORT)
College of Languages, Linguistics and Literature
Students choosing Portuguese for the language requirement should realize it may not be offered if demand is limited. A grade of C or better in the prerequisite courses is required for continuation.

PORT 101 Elementary Portuguese (3) Conversation, grammar and reading. Pre: 100. HSL
PORT 102 Elementary Portuguese (3) Conversation, grammar and reading. Continuation of 101. Pre: 101. HSL
PORT 201 Intermediate Portuguese (3) Reading, conversation, writing, laboratory drill. Pre: 102. HSL
PORT 202 Intermediate Portuguese (3) Continuation of 201. Pre: 201. HSL
PORT 303 Conversation (3) Intensive practice in spoken Portuguese, focusing on the preparation and completion of oral tasks and presentations. 40% or more of the grade is based on 3-4 oral communication presentations. Pre: 202.
PORT 460 Fourth-Level Portuguese Abroad (V) Intensive, formal instruction at the fourth-year level in Portuguese language, linguistics, culture, civilization, film, or literature in a Portuguese-speaking country. Repeatable one time. Pre: 360.

Psychiatry (PSTY)
School of Medicine

PSY 499 Directed Reading/Research (V) Individual 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.
PSY 531 7-Week Psychiatry Clerkship (10) 7-week basic psychiatry clerkship. Repeatable one time. Pre: third-year standing.
PSY 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 patients and in patients in inpatient and emergency room settings. Emphasis on development and application of psychosocial formulations in all areas of psychiatric and medical practice. Repeatable two times. MD majors only. Pre: third-year standing and concurrent registration in 532 courses. Co-requisites: FMCH, MED, OBGN, PEDS, SURG 532 and SURG 535.
PSY 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) community mental health; (G) PSTY aspects of OBGN, PED, MED, SURG; (H) sub-internship in adult PSTY; (I) substance abuse; (J) PSTY aspects of rehab medicine; (K) PSTY aspects of SURG; (M) PSTY consult liaison; (N) post-traumatic stress disorder; (O) extramural elective in PSTY; (Q) geriatric PSTY; (R) rural child PSTY; (S) public and rural PSTY; (T) mental health research. CR/NC only. Pre: 531 or 532, and fourth-year standing.
PSY 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)
PSY 599 Directed Reading/Research (V) Pre: consent.

Psychology (PSY)
College of Social Sciences
PSY 100 is a prerequisite for all undergraduate courses except 170. Unless otherwise noted, 700-level seminars are explorations of current issues in their respective areas.

GENERAL PSYCHOLOGY (X0X)
PSY 100 Survey of Psychology (3) An overview of the field: psychophysiology, perception, learning, cognition, stress, personality, social psychology. DS
PSY 202 Psychology of Gender (3) Survey of topics in psychology relevant to gender and its impact on the lives of women and men. Topics include 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 402 History of Psychology (3) Origin and development of contemporary points of view. Pre: 100. Recommended: 9 credit hours in psychology. DS
PSY 403 Seminar on the Psychology of Knowledge (3) Selected topics in the psychology of knowledge and mind from Western and/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 laboratory, 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. A-F only.
PSY 409 General Psychology: Advanced Topics (3) In-depth coverage of some area of theory and research. Repeatable to 6 credit hours. Pre: 100. DS
PSY 600 Methodologic Foundations of Psychology (3) Methods used in psychological research; observational, correlational, and experimental types of design.
PSY 700 Thesis Research (V) Research for master’s thesis. Maximum of 6 credit hours. Not repeatable for credit toward master’s degree.
PSY 701 Seminar in General Psychology (3) PSY 702 Seminar in History and Theory of Psychology (3)

PSYCHOMETRICS (X1X)
PSY 212 Survey of Research Methods (4) (3 Lect., 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 Regression (3) Introduction to quantitative methods in behavioral science and the general linear model with a focus on regression. Topics include correlation, bivariate and multiple regression, mediation, and moderation. Requires basic statistics. (Meets PhD common inquiry methods requirement or elective.)
PSY 611 Analysis of Variance (ANOVA) and Related Methods (3) Introduction to ANOVA and its extensions from both traditional and general linear model approaches. Topics include single and multiple factor ANOVA, one-way and two-way comparisons, analysis of covariance (ANCOVA), and repeated-measures ANOVA.
PSY 613 Factor Analysis and Structural Equation Models (SEM) (3) Topics and applications to latent variables models. Topics include path analysis, exploratory and confirmatory factor analysis, structural equation models (SEM), multi-sample SEM, mean structure, latent growth curve models, and multilevel SEM. Requires basic knowledge of regression.
PSY 614 Multivariate Analysis (3) Analysis of multiple dependent variables. Topics include multivariate normal distribution, Hotelling’s 72, multivariate analysis of variance (MANOVA), discriminant analysis, cluster analysis, canonical correlations and principal components analysis (PCA). Pre: 610, EDEP 604, or consent.
PSY 616 Measurement in Education and Social Sciences (3) Test theories and applications in education and social sciences. Topics include the true score model; reliability; generalizability theory; validity; item response theory; and applications in research. Class requires knowledge in ANOVA and regression.
PSY 617 Advanced Psychometrics (3) Theories and applications of modern psychometrics. Topics include unidimensional and multidimensional models of item response theory, detecting biased items, measurement invariance, scaling methods, and current issues in psychometrics. Pre: 616, EDEP 616, or consent.
PSY 618 Categorical Data Analysis (3) Theories and methods for data analysis with categorical and discrete variables. Topics include contingency tables; logistic regression; log-linear models; and introduction to generalized linear models. Pre: 610, EDEP 604, or consent. (Cross-listed as EDEP 618)
PSY 619 Analysis of Multilevel Models and Longitudinal Data (3) Multilevel modeling and applications of analysis of nested (clustered) data. Topics include fixed and random effects, intra-class correlation, cross-sectional multilevel models, and multilevel regression models. Topics include measurement biases and longitudinal data. Requires basic knowledge of regression.
PSY 719 Research in Psychometrics (3) Supervised reading, discussion, research projects in an area of special interest. Repeatable unlimited times. Pre: consent.

EXPERIMENTAL PSYCHOLOGY (X2X)
PSY 220 Introduction to Behavioral Psychology (3) Outline of basic learning principles. A general, unified approach to study of human personality and behavior. Based upon a learning conception; various areas of psychology and the other social sciences are treated. Pre: 100. DS
PSY 225 Statistical Techniques (3) Frequency distributions; graphic methods; central tendency; variability; correlation; reliability; tests of significance. Pre: 100. DS
PSY 322 Learning and Motivation (3) Theoretical interpretation of research in 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 current topics in the domain of emotions, and research in related topics. Pre: 100. Recommended: 220 or 322. DS
PSY 325 Cognitive Psychology (3) Mental processes of humans and other organisms. Survey of major theories and findings in cognitive psychology. Pre: 100 or consent. DS
PSY 429 Experimental Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. Pre: 100. DS
PSY 622 Principles of Learning (3) Survey of the principles of learning, including important discoveries in the development of the study of learning, major theories, and both basic and applied research in contemporary literature.
PSY 626 Cognitive Psychology (3) In-depth survey of the computational and representational structures and processes of cognition. Special attention devoted to consideration of the relationship between brain, mind, and computation. Pre: 325 or consent.
PSY 627 Thinking (3) Provides an introduction to higher cognition (thinking and reasoning) and its foundations, particularly focusing on a larger field of cognitive science. A-F only. (Alt. years)
PSY 721 Seminar in Experimental Psychology (3) Repeatable unlimited times. Pre: consent.
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.

PSYCHOLOGICAL (X3X)

PSY 230 Introduction to Psychology (3) Survey course from a natural sciences viewpoint. Evolution, etiological analysis of behavior genetics, neural mechanisms, drugs and behavior, biological development. Pre: 100. DB

PSY 331 Behavioral Neuroscience (3) Coverage of the central and peripheral nervous and mechanical bases of learning, memory and cognition, motivated and regulatory behavior and mental disorders. A-F only. Pre: 230 or BQRI 172, or consent. DB

PSY 333 Psychopharmacology (3) Coverage of the basic principles of pharmacology as they apply to the brain and specific brain disorders such as anxiety, depression, psychosis, memory, and drug abuse. A-F only. Pre: 230 or consent. (Once a year) DB

PSY 336 Sensation and Perception (3) In-depth coverage of the basic principles involved in sensing and perceiving our environment. A-F only. Pre: 100. DB

PSY 439 Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research in psychobiology, physiological psychology, or sensory processes. Repeatable to six credit hours. Pre: 100. DB

PSY 631 Comparative Cognition (3) Survey of the historical and contemporary study of cognition across species, including learning, memory, attention, navigation, reasoning, social interaction, and communication. Pre: 100. (Once a year)

PSY 634 Behavioral Neuroscience (3) Relation of central and peripheral nervous systems to behavior. Pre: 631.

PSY 731 Seminar in Physiological Psychology (3) Repeatable unlimited times.

PSY 732 Seminar in Comparative Psychology (3) Repeatable unlimited times.

PSY 739 Research in Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

DEVELOPMENTAL PSYCHOLOGY (X4X)

PSY 240 Developmental Psychology (3) Emotion, mental and social development from infancy to adulthood; interests and abilities at different age levels. Pre: 100. DS

PSY 341 Social Development of Children (3) Survey of socialization process and acquisition of social behavior. Pre: 240 or FAMR 230. DS

PSY 342 Adult Development and Aging (3) Overview from a multidisciplinary, life-span perspective. Includes research techniques, personality development, family relationships, occupational attainment, death. Pre: 100. DS

PSY 442 The Exceptional Child (3) Evaluation of physical, emotional, and intellectual deviations; effects on growth and development of children. Pre: 100. Recommended: 240. DS

PSY 449 Development Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. Pre: 240, 341, or consent. DS

PSY 640 Developmental Foundations (3) Historical, theoretical, and methodological foundations of developmental psychology.

PSY 642 Cognitive Development (3) Familiarizes students with current research and theory in cognitive development through readings of original journal articles and monographs. Pre: 640 (or current) or consent.

PSY 741 Seminar in Developmental Psychology (3) Repeatable unlimited times.

PSY 749 Research in Developmental Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

SOCIAL PSYCHOLOGY (X5X)

PSY 250 Social Psychology (3) Cognitive, behavioral, and emotional effects of people: interpersonal relations, attribution, attitudes, group behavior, stereotypes, social roles, aggression, helping, self-concept, adaptations. Pre: 100. DS

PSY 351 Cross-Cultural Psychology (3) Psychological theories and cultural systems: understanding of own and other cultures; psychological and cultural perception of social motivation; cultural similarities and differences in interpersonal relations. Pre: 100. DS

PSY 352 Psychology of Human Sexuality (3) Psychosocial aspects of human sexual relationships. Social psychology of emotional and physiological arousal, interpersonal attraction, and societal regulation of intimate relationships. Pre: 100. DS

PSY 459 Social Psychology: Advanced Topics (3) Coverage in-depth of some area of theory and research. Repeatable to six credit hours. DS

PSY 650 Social Psychology (3) Theories and research in social cognition and behavior.

PSY 653 Cross-Cultural Psychology (3) Application of psychological theories to cross-cultural phenomena; assessment of cross-cultural processes and social motivations; culture and personality; research evaluation and design.

PSY 654 Psychology and Social Issues (3) Conflict, dissent, community issues, problems; social change and its relation to mental disorder.

PSY 655 Applied Social Psychology (3) Problems in use of social psychology principles in human affairs; multidisciplinary considerations.

PSY 656 Social Psychology of Love and Sex (3) Seminar in psychosocial aspects of human sexual relationships. Social, cognitive, emotional, and physiological arousal, interpersonal attraction, mate selection, and antecedents and consequences of intimate relationships. Pre: consent. A-F only. Spring only.

PSY 751 Seminar in Social Psychology (3) Repeatable unlimited times.

PSY 759 Research in Social Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable unlimited times.

PERSONALITY/TRANSPERSONAL PSYCHOLOGY (X6X)

PSY 260 Psychology of Personality (3) Scientific study of personality, its meaning, assessment, development, relation to cultural-social determinants. Pre: 100. DS

PSY 361 Transpersonal Psychology (3) Psychological study of transpersonal human capacities, potentialities, awareness, and growth. Pre: 100. DS

PSY 469 Personality: Advanced Topics (3) Coverage in-depth of some area of theory and research in personality or transpersonal psychology. Repeatable to six credit hours. Pre: 100. DS

ADJUSTMENT/CLINICAL (X7X)

PSY 170 Personal Development (3) The application of psychological principles to personal 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 of understanding problems with wellness and illness. Theories and research on stress-related disorders; prevention of stress through lifestyle and healthy behaviors. Pre: 100 or consent. Recommended: 270. DS

PSY 477 Communication in Helping Relationships (3) Theory and application of personal and interpersonal elements affecting communication of human-service professionals. Supervised practice. Pre: one of 100 and COMG 151, COMG 251 or COMG 301. (Cross-listed as COMG 490) DS

PSY 478 Teaching Personal Development (6) Supervised experience in leading a seminar in personal development. Pre: 170 and 12 additional credits in PSY and written consent.

PSY 479 Advanced Topics in Adjustment/Treatment/Prevention (5) 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. A-F only. Co-requisite: 670 or consent.

PSY 672 Introduction to Assessment II (3) Administration and interpretation of cognitive-intellectual and personality assessment devices. A-F only. Pre: 670 and 671 or consent and enrollment in Clinical Studies Program.

PSY 673 Advanced Assessment (3) Conceptual and methodological foundations of assessment. PSY majors only. A-F only. Pre: 671 and 672 and enrollment in Clinical Studies Program, or consent. (Once a year)

PSY 675 Treatment Research (3) Idiographic and nomothetic approaches to clinical treatment research methods and findings. Pre: 670 (or concurrent) and 671, or consent.

PSY 676 Psychopathology (3) Comprehensive study of the mental disorders across the lifespan. A-F only. (Once a year)


PSY 679 Practicum in Clinical Psychology (V) Repeatable unlimited times. Pre: consent.

PSY 771 Child Treatment (3) Psychological interventions for young infants and toddlers. Repeatable. Two times. Pre: 670 or consent.

PSY 772 Adult Treatment: Cognitive-Behavioral Therapy (3) Training in cognitive-behavioral strategies for treating adults. Repeatable one time. Enrolled in Clinical Studies Program only. PSY majors only. Pre: 670 or consent.

PSY 773 Seminar in Psychopathology (3) Repeatable unlimited times.

PSY 774 Seminar in Clinical Psychology (V) Repeatable unlimited times. Pre: consent.

PSY 775 Seminar in Psychological Therapies (3) Repeatable unlimited times.

PSY 776 Health Psychology: Behavioral and Biological Bases (3) Psychological and biological bases of health psychology and behavioral medicine. Overview of cognitive, behavioral, and psychophysiological mechanisms; theories and methods of prevention in physical disease. Pre: 670 or consent.

PSY 778 Internship in Clinical Psychology (1) Pre: consent of instructor and department chair.

PSY 779 Research in Clinical Psychology (3) Supervised reading, discussion, research projects in areas of special interest. Repeatable 30 times. Pre: consent.

COMMUNITY AND CULTURAL PSYCHOLOGY (X8X)

PSY 280 Introduction to Community Psychology (3) Examination of human functioning in social and ecological contexts. 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.

Key to symbols & abbreviations: see the first page of this section.
en, with emphasis upon mass communication effects. Pre: BÜS 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, including, but not limited 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 future of cultural 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, consulting, or 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 (XX9)

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 304 Governing, Politics, and Public Policy (3) Analysis of the major processes that translate citizen preferences into public policy. A-F only. (Cross-listed as PCC 301) PUBA 360 Foundations of Nonprofit Management (3) Broad overview of nonprofit organizations, including what it means to be a nonprofit, strategies of nonprofit organizations, and the management of nonprofits. Topics include advocacy, leadership, and evaluating success. Sophomore standing or higher. A-F only.

PUBA 424 Multicultural Leadership in Public Service (3) Develops students' culturally agile leadership to allow them effectively lead in work on international, national, and local problems and projects of compelling public interest that cross cultures. Junior standing or higher. A-F only.

PUBA 499 Directed Reading and Research in Public Administration (V) Independent research and reading on topics in public administration, public service, and community development. Repeatable one time. Pre: consent.

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

PUBA 602 Introduction to Public Administration (3) Develop a comprehension of the history and foundation of public administration. Topics include economic, political, and social dynamics; decision-making and leadership theories, management challenges, human resources, budgeting, program evaluation, policy, and technology. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 603 Organizations: Theory and Change (3) Explores characteristics and structural, human resources, political, and cultural frames of organizational theory. Focus on organizational change strategies and theories. Discusses how to use these frames and theories in everyday management of public service organizations. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 604 Leadership and Ethics (3) Applies leadership and ethical theories to public and nonprofit sectors, focusing on ethical leadership; emphasizes critical thinking to address value conflicts; and teaches moral reasoning as a practical professional skill. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Fall only)

PUBA 605 Effective Communication in Public Administration (3) Knowledge and skills to effectively communicate in the public sector. Focus on communication foundations and skills, levels and contexts of public sector communication, and handling challenges such as diverse and multicultural settings. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 606 Public Administration Personnel Management (3) Understands the pivotal role that effective human resource management (also known as personnel management) plays in improving organizational effectiveness. Topics include managing diversity, employment law and discrimination, performance appraisal, and labor-management relations. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 607 Public Administration Research Methods (3) Introduction to research methods for public administrators to understand the principles and methods used to conduct and analyze valid research. Examples are oriented to the field; theory and hands-on practice utilized. PUBA and PUBA Cert. majors only. Graduate students only. A-F only. (Spring only)

PUBA 608 Public Budgeting (3) Institutions and issues related to public-sector budgeting at federal, state, and local levels. Process of developing public budgets and constraints on public policy reflected in budgets. PUBA majors only. A-F only. (Fall only)

PUBA 609 Policy Analysis and Implementation (3) Explore contemporary policy issues relating to public administration. Develop analytic techniques and models of public policy-making processes, administrative rules, and policy implementation strategies. Learn how social forces, political, and economic processes impact policy and implementation. PUBA majors only. A-F only. (Spring only)

PUBA 620 Reforming Public Organizations (3) Looks at the challenges and opportunities for changing public organizations so that they manage 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 students with tools for understanding management roles within a political context. Pre: graduate standing or consent.

PUBA 622 Strategies of Change: Leaders and Leadership (3) Explores the key elements of leadership in public settings by examining what leaders actually do, looking at popular media portrayals of leadership, and talking together with guests about the challenges of leadership, effective leadership, and positive change. A-F only.

PUBA 623 Organizational Communication (3) Communication theory/research applied to formal organizational settings 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 levels, from international policy transfer to major intercultural task interaction processes such as negotiation, planning, and relationship management. Growing standing only. A-F only.


PUBA 626 Collaborative Public Management (3) Theories, skills, and tools needed to effectively manage networks in government and nonprofit organizations. New models of collaboration, asset mapping, performance, and evaluate success in these dynamic new partnerships. Graduate students only or consent. A-F only.

PUBA 630 Nonprofit Management (3) Fundamentals of managing a nonprofit organization: overview of the nonprofit sector; mission and scope of nonprofit organizations; organizational structures and functions; resource and volunteer development; major management issues. A-F only Pre: graduate standing or consent. (Fall only)

PUBA 631 Nonprofit Management Practices and Tools (3) Skills and tools needed by nonprofit managers. Topics include but are not limited to grantwriting, strategic planning, evaluation, program evaluation, and advocacy. A-F only. Pre: PUBA 630. (Spring only)

PUBA 640 International Perspectives on Public Administration (3) Key dimensions of public administration systems on a global scale; historic and contemporary forces shaping national systems; the dimensions that distinguish them, the opportunities and constraints for comparison and the transfer of knowledge and experience. A-F only. Pre: graduate standing or departmental approval.

PUBA 641 Indigenous Governance (3) Overview of indigenous governing systems, particularly in the Americas and the Pacific. Students study the legal frameworks and principles of these systems, and how services are provided to citizens. A-F only.

PUBA 667 Special Topics (3) Topics of current interest in the field of public service and public administration, taught by regular and visiting faculty. Repeatable for different topics up to six credit hours. A-F only. Pre: consent.

PUBA 690 MPA Practicum (3) Placement in public, private, and nonprofit organizations to observe and analyze organizational functions and processes while undertaking projects of use to the host agency. Repeatable one time. PUBA majors only. A-F only. Pre: PUBA with a minimum grade of 602, 603, and 604.

PUBA 691 Certificate Practicum (3) Students in the nonprofit management track of the certificate will learn by doing and observing in a nonprofit organization selected in consultation with the student’s advisor. PUBA graduate certificate students only. A-F only.

PUBA 695 Capstone Planning Seminar (3) Develops topics, methods, objectives, and resources to guide work of capstone seminar. A-F only. Pre: 602, 603, 605, 607.

PUBA 696 Capstone Seminar (3) Culminates public administration core courses by incorporating theoretical, analytical, and practicum observations into examination of public issues of importance to Hawai‘i and the region. A-F only. Pre: PUBA 695.

PUBA 699 Directed Reading (V) Repeatable unlimited times.

PUBA 700 Thesis Research (V) Repeatable unlimited times.

Public Health Sciences (PH)

School of Social Work

The courses listed below are offered subject to student interest and faculty availability. The minimum required grade for prerequisites for undergraduate-level courses is C- or better, unless otherwise specified. All courses 600-level and above require graduate standing; individuals who are not public health students require instructor consent to enroll in graduate-level courses. The minimum required grade for prerequisites for graduate-level courses is B- or better, unless otherwise specified.

PH 201 Introduction to Public Health (3) Introduces public health concepts with an emphasis on principles and tools for understanding disease prevention, health professions and healthcare systems, and public health professions and systems. A-F only. DS

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. A-F only. Pre: PUBA 201.

PH 203 Introduction to Global Health (3) Introduction to the basic principles of global PH. Topics include the application of these principles to global PH issues, exploration of links between health, economic, and social status, health disparities and global development, and the ethical issues involved.

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 the body, and public policy issues associated with these topics.
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 and cultural differences. Junior standing or higher. Pre: 201 and 202.

PH 310 Introduction to Epidemiology (3) Lecture/discussion on the fundamentals of epidemiology, exploring patterns of disease, threats to health, and public health interventions for prevention, control, and treatment. PH majors only. A-F only. Pre: 201 and MATH 140 or MATH 161 or higher.


PH 330 The United States Health Care System (3) Overview of the U.S. health care system. Topics will include health economics, health service expenditures, comparative health systems, health policy, and issues of cost containment, access, and quality of care. A-F only. Pre: 201.

PH 340 Public, Personal, 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 and policies. A-F only. Junior standing or higher. Pre: 201, and one of the following: BIOL 101 or BIOL 171 or BIOL 172 or PHY 103 or PHY 141 or FSHN 185. DB

PH 350 Introduction to Biostatistics (3) Basic biostatistical methods for public health and biomedical research. Topics covered include data collection, data analyses, and interpretation of statistical results. Sophomore standing or higher. A-F only.

PH 410 Advanced Epidemiology (3) Students will gain a deeper understanding of 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: 350 or ECON 321 or EDEP 429 or NREM 310 or SOCS 225 or PSY 225.


PH 420 Social Behavioral Health I: Health Promotion for Individuals and Groups (3) Focus on the application of social and behavioral theory in health education, and how health promotion programs are constructed for various populations with an emphasis on cultural diversity and social determinants of health. Sophomore standing or higher. A-F only. Pre: 201 or PSY 100. (Fall only)

PH 422 Social Behavioral Health II: Health Promotion in Communities (3) Introduction to health education and health promotion programming in public health, and to social/behavioral theories used to develop health interventions that affect communities, institutions, and policies. Introduction to common program planning models. A-F only. Pre: 420.

PH 430 Health Policy and Management (3) Examines the role of health policy and management plays in population-based public health practice, including the delivery, quality, and costs of health care and the structure, process, and outcomes of health care services delivery. Sophomore standing or higher. A-F only. Pre: 201 and 202.

PH 445 Introduction to Environmental Microbiology (3) Lecture/discussion. Will define the nature and biological activities of microorganisms in different environments and evaluate the effects of these microbes on human activities and health. Junior standing or higher. Pre: MICR 130 or MICR 351 or BIOL 171.

PH 480 Application of Public Health Principles in Research and Practice (3) Introduction to a diverse range of public health projects and associated methods while working to develop an applied learning project proposal. PH majors only. Junior standing or higher. Pre: PH 310 and 350.

PH 485 Public Health Applied Learning Experience (3) Allows students to execute an independent, mentor-supervised, applied learning project as implementation of skill 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 their applied learning experience projects. Senior standing and higher. A-F only. Pre: completed public health applied learning experience and consent.

PH 492 (Alpha) Current Issues and Topics in Public Health (V) Current and emerging issues and varying perspectives on the field. (B) Biostatistics: (E) Epidemiology; (H) health policy and management; (S) social and behavioral health sciences; (T) public health. Each alpha-repeatable one time. Open to Sophomore and above. A-F only. Pre: 201.

PH 499 Directed Reading/Research (Repeatable up to six credits. PH majors only. Junior standing or higher. Pre: 201.

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

PH 600 Public Health Foundations (V) Focus will provide a broad introduction to the field of public health through learning fundamental topics and issues in the field. A-F only. (Fall only)

PH 602 U.S. Health Care Services and Policy (3) Overview of the historical, conceptual, ethical and political context for health care delivery in the U.S. Explore current trends, practices and issues in the delivery of health care services in both private and public sector.

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

PH 623 Introduction to Health Promotion Theory and Methods (3) Individual and community health; implications for public health practice, individual and social change processes.

PH 626 Health Economics (3) Integrated concepts in health economics and its application towards health policy issues; market failures in health care; factors affecting U.S. health care spending potential impact on equity/efficiency stemming from changes in health care delivery. A-F only. (Once a year)

PH 630 Cultural 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, health care, and disease in Indigenous communities to improve health and wellness. PH majors only. A-F only. (Fall only)

PH 641 Advanced Topics in Health Policy (3) Examines major federal and local policies that impact health and health care delivery in the U.S. and other nations; considers effectiveness of these policy-making institutions for improving population health; covers methods in policy analysis. A-F only. Pre: 602 or consent.

PH 646 Grant Writing in Public Health (1) Lecture/discussion on grant writing with public health focus. Includes basic components of grant proposal, assessing appropriate funding opportuni ties, data sources/resources for justifying grants, and the funder’s perspective. Student will prepare a brief foundation grant proposal. A-F only. (Once a year)

PH 647 Analytic Applications in 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 648 Program Planning, Management, Evaluation, and Leadership (3) Foundation to inform, educate, and improve health for individuals, communities, and populations. Knowledge/acquisition of skills through program planning, management, evaluation and leadership that span the social-ecological range from individual-level to population-level programs. EPID and PH majors only. A-F only.

PH 649 Needs Assessment (3) Knowledge and skills acquisition in conducting needs assessment in public health practice.

PH 650 Ecological Epidemiology (2) Applications of population biology, pathogen/host life history, and population processes to infectious disease epidemiology, including micro- and macroecologies, and implications to disease control and prevention of strategies. A-F only. Pre: consent. (Alt. years: spring) (Cross-listed as TRMI 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 GHPS 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 economic, and health human right and humanitarian assistance, social justice, global environmental changes and health. Pre: consent. (Cross-listed as GHPS 652)

PH 653 Global Health and Human Security (3) Provides the knowledge, skills, and attitudes required to successfully manage health security crises and protect human vulnerability in the global context with a special focus on problems with high likelihood and risk in the Pacific.

PH 655 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; projection and stable population theory. (Cross-listed as GPHS 659 and SOC 659)

PH 660 Application of Public Health Skills (V) Application of public health skills and competencies acquired during the public health degree. Repeatable two times, up to nine credits. 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, biological variability, screening, measurements 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 statistics role in epidemiology; and epidemiologic data analysis. A-F only. Pre: 655 and 663, or consent.

PH 665 Concepts in Immunology and Immunopathogenesis (2) Immunological concepts relating to infectious diseases and host-pathogen interaction. 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 351, or consent. (Cross-listed as TRMD 605)

PH 669 Epidemiological Study Design Critique (2) Critique of study design using published public health literature. Emphasis on exchange of ideas, alternative approaches; stresses epidemiology as science of public health. Repeatable unlimited times. A-F only. Pre: 601 or consent.

PH 671 Community and Public Health Practice (2) Community organization and development applicable to the delivery of health services. Understanding the role of community organizing, mobilizing community groups for effective health care practice and delivery. Pre: 647 or consent. (Cross-listed as SW 674)

PH 672 Leading and Managing Health Programs (3) Program management and leadership partnerships to create and communicate a shared vision for a changing future; discuss solutions to organizational and community challenges; maximize motivation 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 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.

PH 676 Hawai‘i Public Health Policies on Infectious Diseases (1) Examines quarantine/isolation of patients infected with Hansen’s disease. Focus on PH policies before 1823 and after; analysis of other infectious diseases and the world to examine differences in policies and their effect on the public. Graduate students only. Repeatable one time. A-F only.

PH 677 Managing Global Health Service Delivery (3) Provides knowledge, skills, attitudes and resources that health managers require to manage and maintain the quality of partnerships, facilities, programs, communication, people, disease, and information in limited resource settings. PH majors only. A-F only. (Cross-listed as GHPH 677)

PH 680 Health Emergencies in Large Populations (3) Health Emergencies in Large Populations is run by the Center for Excellence in Disaster Management and Humanitarian Assistance and the Red Cross. It provides knowledge, practical skills, and networking for global health practitioners. A-F only. (Cross-listed as GHPH 680)

PH 681 Environmental Determinants of Health (3) Environmental factors in personal and community health; implications for Hawa‘i and the world to examine future health. Consideration of major issues from local, U.S., and international perspectives.

PH 682 Building Well-Being: Health and the Built Environment (4) Conceptual and methodologic theories behind the relationship between health and the built environment stressing transdisciplinary understanding and collaboration through readings, discussion, and real-world-based exercises. PH majors; ARCH majors only. Graduate students only. A-F only.

PH 683 Global Nutrition (2) Examination of global food and nutrition problems, programs, issues, policies, and solutions. Pre: statistics and consent. (Alt. years: fall) (Cross-listed as FSNH 683)

PH 684 Supplemental and Nutritional Approaches in Disease Prevention and Treatment (5) 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 only. (Cross-listed as FSNH 684)

PH 686 Advanced Child and Adolescent Nutrition (3) Addresses nutrition, growth, and development in children and adolescents and nutrition-related issues associated with child and adolescent health and chronic disease risk factors, with a focus on current research in the Pacific region. Pre: FSNH 370 or consent. (Fall only) (Cross-listed as FSNH 686)

PH 688 Indigenous Peoples’ Food Systems, Environment, and Health (3) Explores Indigenous Peoples’ food systems as local food resources Indigenous People acquire through specific cultural knowledge of traditional territories. Global forces transform traditional food systems; impact on population health and nutrition are explored. PH majors or consent. Graduate students only. (Fall only) (Cross-listed as FSNH 688)

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 Applied Epidemiologic Methods (3) Addresses critical, contemporary, and transnational issues best addressed by cooperative international action. Health issues are examined in the context of intersecting effects of environmental, socioeconomic, politics, and environmental change. A-F only. (Once a year) (Cross-listed as GHPH 690)

PH 691 Fundamentals of Environmental Epidemiology (2) Examines the complex relationship between the environment 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 only. (Once a year)

PH 695 Promoting Physical Activity (3) Overview of the theoretical and applied study of physical activity epidemiology. Physical activity content includes benefits, factors that influence, and factors that impact physical activity on health. A-F only. (Cross-listed as KRS 695)

PH 699 Directed Reading/Research (V) Repeatable unlimited times. Pre: consent.

PH 700 Thesis Research (V) Repeatable unlimited times. Pre: consent.

PH 701 Health Communication (3) Skills-oriented course introduces the basic structure of health communication strategies in different settings, selected elements of community health communication, development of health communication material, and a practical training in motivational counseling skills. Pre: 623 and 673.

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. Labwork will focus on the use of SPSS to analyze data for applied research problems. A-F only. Pre: 623 and 655, or consent.

PH 704 Community-Based Participatory Research (3) (2 or 3) This course is designed to increase health disparities research methodologies and current topics in Indigenous health research. Focus special on statistical techniques for small data sets using quantitative and qualitative methods. A-F only. Pre: 655 and 663.

PH 729 Scientific Explorations in Social Justice for Indigenous People (V) Provides students with an advanced application of health disparities research methodologies to address health and social injustices faced by Indigenous people. Builds on previous courses to advance and produce scientific scholarship. PH majors only or consent. Graduate students only. A-F only. Pre: 728.

PH 742 Qualitative Research for Public Health Sciences (3) Provides a basic understanding of qualitative research approaches, methodologies, and techniques and for public health research and practice (needs assessment, program development and evaluation strategies). Graduate students only.

PH 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 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 and prevention of metabolic syndrome, diabetes, and associated complications. Covers controversies in epidemiologic studies associated with evaluating these in epidemiologic studies. A-F only. Pre: 663 or consent. (Cross-listed as FSNH 749)

PH 750 Health Behavior Change (3) Provide an understanding of the relationship between health behaviors and outcomes including psychological, physiological, and quality of life aspects. It will also focus on the major theories of behavior 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 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 752 Applied Longitudinal Data Analysis (3) Covers modern methods for longitudinal data analysis. Topics include random effects and growth curve models, generalized linear models for longitudinal data including generalized estimating equations, and generalized linear mixed models. A-F only. Pre: 656 and 658, or consent.

PH 753 Survival Analysis (3) Construction and interpretation of various types of life tables, treatment of censored data, proportional hazards, relative risk regression models, and parametric survival analysis. Pre: 655 or consent.

PH 754 Neuroepidemiology (3) Lecture/discussion providing an overview of the epidemiology of neurological and neurodegenerative diseases and their risk factors, and methodological considerations for the study of these diseases. Pre: 663 or consent. (Fall only)

PH 755 Seminar in Tropical Medicine and Public Health (V) Will explore current and recent advances in tropical medicine and public health. Repeatable unlimited times. (Cross-listed as TRMD 690)

PH 756 Special Topics in Tropical Medicine (V) Advanced topics on current advances in tropical medicine and public health. Repeatable unlimited times. Repeatable unlimited times. (Cross-listed as TRSM 705)

PH 757 Evolution, Epidemiology, and Public Health (2) Will cover several aspects of the historical evolution of infectious diseases. Repeatable unlimited times. Pre: 755 or consent. A-F only.

PH 765 Health Program Evaluation (3) Examines advanced principles and frameworks for evaluation. Students integrate utilization-focused evaluation methods to improve service delivery and quality, outcomes and impact to improve community and population health. A-F only.

PH 770 (Alpha) Doctoral Seminar in Translational Research Practicum (V) Provides students with theoretical and practical teaching and course development experiences under the guidance of a faculty mentor. Students will have a portfolio documenting their accomplishments. Repeatable unlimited times. Graduate standing in PH only. A-F only. Pre: 602 and 623 and 655 and 663 and 681 and 770 (Alpha), or departmental approval.

PH 771 Teaching Practicum (V) Provides doctoral students with theoretical and practical teaching and course development experiences under the guidance of a faculty mentor. Students will have a portfolio documenting their accomplishments. Repeatable unlimited times. Graduate standing in PH only. A-F only. Pre: 602 and 623 and 655 and 663 and 681 and 770 (Alpha), or departmental approval.

PH 773 Health Maintenance Organizations (3) Reviews theories, knowledge, and practical skills that improve the capacity for effective leadership in health organizations, organize community partnerships, communicate a shared vision, manage quality, and address organizational challenges to public health. Pre: 623. A-F 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. Covers roles of health executive leaders in planning, organizing, implementing, and evaluating along with organizational design, strategic planning, change processes, quality improvement, and minimizing risk. DelPH majors only. Graduate standing only. A-F only. Pre: 602 and 623 and 655 and 663 and 681. (Alt. years)

PH 778 Seminar in Public Health Sciences (V) Topics related to recent developments in major areas; student and faculty research activities. Sections: (1) bioinformatics; (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 specialization. A-F only. Pre: public health degree candidate and completion of 15 PH credit hours and consent.

PH 792 Critical 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) Hawaii 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 internship involving 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 unlimited times. Pre: completion of practicum and 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 Inigenous Health; (S) social and behavioral health sciences; (U) public health. Repeatable unlimited times. PH majors only.

PH 800 Dissertation Research (V) Pre: consent.

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

Real Estate (RE)

Shuler 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 theory, title conveying and escrow, mortgage instruments, fair housing, state and federal environmental policy.

RE 320 Real Estate Finance and Investment (3) Financial and investment calculations for the evaluation of 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 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 with 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 techniques.

Religion (REL)

College of Arts and Humanities

REL 149 Introduction to the World's Goddesses (3) Cross-cultural analysis of the religious narratives, beliefs, practices, iconography, and sacred sites related to female deities in the Americas, Polynesia, Asia, the Middle East, and Europe from prehistory to 1500 C.E. FGA

REL 150 Introduction to the World's Major Religions (3) Buddhism, Christianity, Confucianism, Hinduism, Islam, Judaism, Shinto, Taoism and indigenous traditions of Hawaii and/or Oceania. FGC

REL 151 Religion and the Meaning of Existence (3) Basic ideas and issues in contemporary religious thought about the meaning of existence. DH

REL 200 Understanding the Old Testament (Hebrew Bible) (3) Examines the Old Testament (Hebrew Bible) as an expression of the religious life, history, and thought of ancient Israel and as a sacred text for later Judaism. 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 major religious traditions of India. DH

REL 203 Understanding Chinese Religions (3) Historical survey of the major religious traditions of China. DH
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 modernity. Special 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, theology, law, major sectarian movements, relations with other religious traditions, and fundamentalism. (Alt. years) DH
REL 210 Understanding Christianity (3) History of ideas related to 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; religions and 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, historical and cultural 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 or 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, teachings, practices of Zen masters in China, Japan, Korea, and the West. Pre: one of 150, 203, 204, 207; or consent. DH
REL 310 Global Christianity (3) Christianity as a transcultural religion, through the study of Christian art, literature, ritual, and theology in diverse cultures; including the Near East, Africa, Latin America, and the Pacific. Pre: 150, 201, or 210; or consent. (Once a year) DH
REL 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 345 Religion and Conflict in American History (3) Analyzes historical examples of religious conflicts in America, discerning characteristic patterns of American religious discourse, and identifying the social structures, interests, and ethical principles at stake in conflicts about religion. Sophomore standing or higher. (Fall only) (Cross-listed as AMST 345) DH
REL 348 Religion, Politics, and Society (3) Exploration of the diverse approaches and perspectives that American religious groups embrace with respect to some of the more 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, monothelitism, dhikr, dhikr, union, saiihaddi, ecstatic experience, and spiritual uses of art. Pre: 209 or 583 or PHIL 350 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. Pre: consent. DH
REL 361 Love, Sex, and Religion (3) Love and sex as themes in religions of Asia and the West. Pre: 150 or consent. DH
REL 363 Religion and Art (3) The uses of art in religion are studied with historical examples. Pre: 150 or consent. DH
REL 371 Prophecies of the Last Days (3) In-depth look at ancient Judeo-Christian apocalyptic texts and the communities in which they originated, followed by a survey of the medieval and modern day heirs of apocalyptic traditions. Pre: 150 or consent. DH
REL 373 Vedic Hindu Mythology (3) Study of major Hindu myths of the Vedic Sanskrit literature within the perspective of ancient Indian civilization. Literary sources will be tapped for understanding creation, cosmosogy and celestial, atmospheric and terrestrial divinities. Pre: ASAN 202, HIST 151, LLEA 122, or PHIL 102; or consent. (Fall only) (Cross-listed as IP 373)
REL 374 Classical Hindu Mythology (3) Study of major myths of Epic Sanskrit literature, primarily with focus of the Ramayana and Mahabharata. Literary sources will be tapped for appreciating myths and epics, especially with reference to dharma, karma, ways of life. Pre: ASAN 202, HIST 151, LLEA 122, or PHIL 102; or consent. (Spring only) (Cross-listed as IP 374)
REL 383 Mysticism East and West (3) Mystic traditions of the West from desert monasticism to Renaissance mystics compared with those of South and East Asia. Pre: one of 150, 202, 203, 204; or consent. DH
REL 390 Hawaiian Gods (3) The traditions and practices related to one or more major indigenous gods, or class of gods, will be studied by the interpretation and analysis of primary texts. Repeatable one time. Pre: 205 or consent. DH
REL 394 On Death and Dying (3) Aspects of death and dying: relation to our culture and society, to understanding of life and of ourselves. Pre: 150 or 151, or consent. DH
REL 399 Directed Reading (3) Pre: one 200-level REL course and consent. DH
REL 409 Life and Teachings of Jesus (3) Critical study of Jesus and his major sayings as found in the Gospels. Pre: 201 or 210, or consent. DH
REL 422 Anthropology of Religion (3) Cults, legends, millenial movements, myths, possession, rituals, 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 ASAN 422) DH
REL 431 Major World Religions (3) Issues of health and disease in the light of religious beliefs and practices. A-F only. Pre: 150 or consent. DH
REL 443 Anthropology of Buddhism (3) Selected aspects of national, regional and local manifestations of Buddhism are studied 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 ASAN 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 ASAN 444)
REL 445 Sacred Places (3) Lectures and seminars provide a cross-cultural survey of sites which societies recognize as sacred and their cultural, ecological and conservation aspects. Pre: junior standing or consent. (Alt. years) (Cross-listed as ANTH 445) DS
REL 452 Sociology of Religion (3) Seminar on 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, 308; 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占地ization of African, indigenous, and Iberian ideological frameworks in the Americas. Topics may include syncretic religions (voodoo, candomble), African Christianity, spiritual conquest, conceptions of death, etc. Sophomore standing or higher. Minimum C- required grade for prerequisites. Pre: LAIS 360, or consent. (Fall only) (Cross-listed as ANTH 478 and LAIS 478) DH
REL 480 Field Methods in Religion (3) Introduction to 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 the Japanese history and culture, 6th–20th century. Pre: 204 or 207, or consent. DH
REL 492 Polynesian Religions (3) Introduction to field, comparison of several traditions; beliefs and practices from analysis of texts. Historical interactions with Christianity. Pre: 150, 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. A-F only. Pre: consent of instructor and department chair.
In addition to those specified for individual courses, pre-requisites for all courses 500 and above are graduate standing and consent.
REL 500 Master’s Plan B/C Studies (1) Enrollment for degree completion. Satisfactory/Unsatisfactory only. Pre: master’s Plan B candidate with consent. DH
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 research in a Polynesian or any other Polynesian religion at an appropriate academic or religious institution abroad or in Hawai‘i. Repeatable one time. A-F only. Pre: 600, 6 credits of area studies, and consent of graduate chair and instructor.
REL 650 Seminar on Western Religions (3) Historical, theoretical and methodological issues in the study of Western religious traditions. Repeatable two times. REL majors only. A-F only. Pre: 600 or consent.
REL 661 (Alpha) Seminar on East Asian Religions (3) Selected historical, thematic, and textual research topics in East Asian religions and traditions: (B) Chinese religions; (C) Japanese religions; (D) East Asian Buddhism; Pre: PHIL 144A, up to nine credits for (B) and (C). A-F only. Pre: 661B or 661C for (B).
REL 662 (Alpha) Seminar on South Asian Religions (3) Selected historical, thematic, and textual...
research topics in Indian religious traditions: (B) Indian religions; (D) Indian Buddhism. Repeatable two times, up to nine credits for (B). A-F only.

REL 663 (Alpha) Seminar in Polynesian Reli- gions (3) Selected historical, thematic, and textual research topics in Polynesian and Hawaiian religious traditions: (B) Polynesian; (C) Hawaiian religion. Each alpha repeatable up to nine credits. A-F only.

REL 664 Seminar in Global Christianities (3) Examines topics in global Christianities, the conjunctions leading to Christianity as a worldwide religion, manifestations 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 practicum. REL majors only. A-F only. Pre: 650 for (B); 660, 630, and 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 research committee. A-F only. Pre: consent of committee.

REL 695 Topics in Religious Studies (3) Topics in the study of religion with special emphasis on theoretical approaches and concerns. Specific topics to be announced. Repeatable one time. Pre: 600 or consent. (Alt. years)

REL 699 Directed Reading and Research (V) Repeatable unlimited times.


Reproductive Biology (REPR)

School of Medicine

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

REPR 499 Directed Reading/Research (V) Repeatable unlimited times.

REPR 611 Seminar in Biomedical Sciences (1) Presentation and discussion of current research topics in biomedical sciences. Repeatable nine times. Pre: consent. (Cross-listed as CMB 611)

REPR 633 Issues in Sex and Reproduction (V) Explores issues in sex and reproduction. Topics include defining male and female, nature/nurture influences on different sexual characteristics, controversies in reproduction and ethics associated with matters like pornography and age of consent. Repeatable unlimited times. CR/NC only. Pre: PHYL 604 or consent.

REPR 699 Directed Research (V) Repeatable unlimited times.

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

REPR 705 Special Topics in Reproductive Bio- logy (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: Permission of Instructor.

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 continu- ation.

RUS 101 Elementary Russian (3) Conversation, reading, writing, grammar. HSL

RUS 102 Elementary Russian (3) Continuation of 101. Pre: 101 or consent. HSL

RUS 201 Intermediate Russian (3) Reading, conversation, grammar, composition. Pre: To 2 and consent. HSL

RUS 202 Intermediate Russian (4) Continuation of 201. Pre: 201 or consent. HSL

RUS 206 Russian Language and Culture (3) Basic theory of Russian sound system; practice in pronunciation, intonation, and fluency. Pre: To 201 or (concur- rant)

RUS 260 Intensive Intermediate Russian Abroad (V) Intensive course of formal instruction on the second-year level in Russian language and culture in Russia. Pre: To 202. HSL

RUS 303 Advanced Russian (3) Systematic practice for control of spoken and written Russian, vocabu- lary building, fluent reading of various subjects, accuracy in sentence structure, phrasing stylistic appropriateness. Pre: To 202.

RUS 304 Advanced Russian (3) Continuation of 303.

RUS 306 Russian Structure (3) Advanced gram- mar; complexities of standard contemporary Russian; word formation and verb system. Pre: To 202 or consent.

RUS 311 Readings in Russian Civilization and Literature (3) And literature of Russian civilization and literature of edited and adapted texts. Pre: To 202. DL

RUS 312 Readings in Russian Civilization and Literature (3) Continuation of 311. Pre: To 311. DL

RUS 360 Intensive Russian Abroad (V) Intensive course of formal instruction on the third-year level in Russian language and culture in Russia. Pre: To 202 or 260.

RUS 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeat- able two times or up to six credits. A-F only. Pre: 202 and consent and departmental approval.

RUS 403 Advanced Conversation and Composi- tion (3) Systematic practice on selected topics; vocabulary building and development of fluency: writing short reports, narratives. Pre: To 304 or consent.

RUS 404 Advanced Conversation and Composi- tion (3) Continuation of 403. Pre: To 403.

RUS 418 Advanced Reading and Translation: Modern Prose (3) Readings in various fields, em- phasizing idiomatic usage. Pre: To 312 or consent.

RUS 419 Advanced Reading of Russian Press (3) Materials from Soviet/Russian newspapers and magazines. Pre: To 311 or consent.

RUS 431 Russian Folklore (3) Selected Russian folk narratives, bylines, songs, and proverbs. Influ- ence of folklore on major Russian authors. Pre: To 312 or consent. DL

RUS 441 Russian Short Story (3) Origin and development to 18th century; the major writers. Pre: three years of Russian or consent. DL

RUS 442 Russian Novel (3) Origin and development from 18th century to present; three years of Russian language or consent.

RUS 451 Topics in 19th- and 20th-Century Rus- sian Literature (3) Focus upon the selected writings of one major Russian writer of the 19th century (e.g., Pushkin, Gogol, Lermontov, Dostoevsky, or Tolstoy) or 20th century (e.g., Bely, Blok, Bulgakov, Chekhov, Pasternak, Sholokhov, or Solzhentsyn). Repeatable unlimited times with consent. Pre: To 312, LIEA 351; or consent. DL

RUS 452 Topics in 19th- and 20th-Century Rus- sian Literature (3) Continuation of 451. Pre: To 312, LIEA 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: To 360 or equivalent.

RUS 495 Seminar (3) Literary or linguistic topics, movements, genres, or their representatives. Repeat- able unlimited times with consent. Pre: consent of chair.

RUS 499 Directed Reading/Research (V) Indepen- dent study of approved reading with faculty supervi- sion. Repeatable up to six credits. A-F only. Pre: To 303 (or equivalent), consent or departmental approval.

Sanskrit (SNSK)

College of Languages, Linguistics and Literature

SNSK 181 Introduction to Sanskrit (4) Introduc- tion to basic Sanskrit grammar; reading and analysis of progressively difficult classical texts. HSL

SNSK 182 Introduction to Sanskrit (4) Continua- tion of 181. HSL

SNSK 281 Intermediate Sanskrit (4) Continuation of 182. Reading and analysis of classical texts with review of grammar. Pre: To 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: To 282.

SNSK 382 Third-Level Sanskrit (3) Continuation of 381. Introduction to Vedic texts. Pre: To 381.

SNSK 481 Fourth-Level Sanskrit (3) Continua- tion of 382. Reading, analysis, and interpretation of

Key to symbols & abbreviations: see the first page of this section.
Social Sciences (SOCS)

College of Social Sciences

Two kinds of courses are available directly from the College of Social Sciences: interdisciplinary courses and courses on tools, techniques, theories, and methods shared by the social science disciplines. The broader perspective and enhanced interdisciplinary interaction make these courses 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 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 global interactions. This course will aid in globalization process that has impacted Hawai‘i and the Asia-Pacific region. A-F only. (Cross-listed as POLS 160) FGB

SOCS 225 Statistical Analysis for Social Sciences (3) Statistical reasoning in the analysis of social science data, including descriptive statistics, exploratory data analysis, inference measures of association, decomposition of variance, and regression analysis. Lab required. Pre: Any 100 level social science course or consent. DS

SOCS 250 Introduction to Sustainability from Social Science Perspectives (3) Introduction to key concepts and theories in social sciences in relation to sustainability issues. (Cross-listed as TAHR 250) DS

SOCS 251 Scientific Principles of Sustainability (3) Introduction to the scientific principles of sustainability, including the ecology of managed and natural ecosystems, global change biology, ecological principles of natural resource management, renewable energy technologies, and the environmental impacts of humans. (Cross-listed as TAHR 251 and TPS 251) DS

SOCS 385 Service Learning (1) Intended for students undertaking the service learning option in another course in the College of Social Sciences. Discussions on student’s experiences, types of learning occurring, and issues encountered in service learning activities in the community. Repeatable two times. CR/NC only.

SOCS 489 Social Sciences Internship (V) Internship in public or non-profit organizations providing opportunity for practical experience and application of social sciences concepts and theories. Three to six credits per semester; repeatable two times, up to 12 credits with consent of instructor. (Cross-listed as WS 489)


SOCS 752 Ocean Policy and Management (3) Interdisciplinary approach to problems relating to humans and their interactions with the world’s oceans and coasts. Focus includes institutions for governing the world’s oceans and coasts at all scales and on the role of scientific knowledge in managing marine and coastal resources. Repeatable one time. Pre: OCN 331, GEOG 435, or consent. (Cross-listed as OEST 675)

Social Work (SW)

School of Social Work

SW 200 The Field of Social Work (3) Orientation to the profession of social work; historical development; values and philosophy, scope and aims. DS

SW 302 General Social Work Practice I (3) Orientation to practice principles, concepts, values, knowledge base, and their application. Pre: 200 (complete with C or better) and majors only.

SW 303 General Social Work Practice II (3) Introduction to practice skills with individuals, families, groups, and communities. A significant portion of class time is dedicated to writing instruction congruent with professional expectations. Pre: 302 (complete with C or better) and majors only. Co-requisite: 391.

SW 325 History of Social Welfare (3) Historical developments and implications of social welfare activities, institutions, and policies and European backgrounds; introduce social welfare developments in selected non-European countries. SW majors only. Recommended: 200.

SW 326 Social Welfare as a Social Institution (3) Study of U.S. social welfare institutions and policies as an expression of societal response to human needs; interrelationship of American value system to goals, objectives, and policies of social security programs; focus on examination of Hawai‘i’s social service programs. SW 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. SW majors only. Recommended: 200. DS

SW 361 Sociocultural Content for Social Work Practice (3) Examination of ethnicity, class, and sex statuses as these affect human development and behavior for social work practice. SW majors only. Pre: 360 with a grade of C or better. Recommended: 200. DS

SW 380 Topics in Social Welfare (V) An examination of current trends and issues in the field of social welfare. SW majors only. 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: 325, 326, (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: 325, 326, and 360 complete with C or better; and majors only. Co-requisite: 440 and 490.

SW 403 General Social Work Practice IV (3) Examination of practice methods and intervention models; identification and analysis of issues related to practice. A significant portion of class time is dedicated to writing instruction congruent with professional expectations. 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 to 12 credits in research. SW majors only. Pre: completion of required junior-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 477 Social Welfare Concepts and Issues in Gerontology (3) Aging and its effect on the individual, family groups, associations, and communities. Impact of aging on child service delivery systems, public policy and role of social work. Pre: senior standing or consent.

SW 480 Topics in Social Welfare (V) An examination of current trends and issues in social work. SW majors only.

SW 490 Senior Practicum (4) Field instruction, application, and integration of classroom knowledge with field experiences. Pre: 391 complete with C or better, and majors only. Co-requisite: 402 and 440.

SW 491 Senior Practicum (4) Field instruction, application, and integration of classroom knowledge with field experiences. Pre: 490 complete with C or better, and majors only. Co-requisite: 403.

SW 499 Directed Reading and Research (V) Planned individualized study or research in special area related to social work practice interest. Up to 3 credit hours. Pre: majors only, senior standing, and consent of program chair and faculty advisor. SW 500 Master’s Plan B/C Studies (1)

SW 606 Social Work Practice with Individuals (3) Beginning practice course introduces students to the basic processes of social work practice, 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 cultural, social classes, and oppressed populations. Interviewing and interpersonal skill development are incorporated. A-F only. Pre: admission to MSW program. (Fall only)

SW 607 Social Work Practice with Families and Groups (3) Practice course builds upon the generalist framework and foundation content presented in 606. Special emphasis is given on models for assessment, intervention, and evaluation of practice with families and groups. Relevant theories of groups and the principles of group dynamics and group work methods are examined in regard to task, therapeutic, psychosocial, and social development groups. Family content includes structural, behavioral, communication/experiential, and culturally-specific theories of intervention. A-F only. Pre: 606.

SW 630 Social Welfare Policy and Services (3) Examines in a historical framework the economic, social, political, organizational, and administrative factors influencing the development, formulation, and implementation of social welfare policies in the U.S. Pre: consent of program chair and faculty advisor. The application of various models of social policy analysis in major areas of social welfare programming and service delivery, SW majors only. A-F only. Pre: graduate standing. (Fall only)

SW 631 Social Work Practice in Communities and Organizations (3) Community conceptualization; organized roles of developer, enabler, broker, mediator, and advocate; decision making; problem-solving technology; the special characteristics of the social worker as community organizer; matrix of structural objectives; sources and use of power; how to build an organization; interorganizational negotiation. SW majors only. A-F only. Pre: 606, graduate standing, and consent. (Spring only)

SW 636 Policies, Programs and Services on Aging (3) Explores policies, programs, and services for older adults. Students learn about the aging network, assess older adults’ needs, link older adults to appropriate services in the community, and track legislative bills that address older adults’ quality of life. Pre: graduate standing or consent.

SW 639 Social and Cultural Aspects of Aging (3) Overview of aging from the biopsychosocial, socioeconomic and cultural perspectives. Explores common theories of aging. Emphasis on bridging the gap between the realm of the classroom and the world of practice in gerontology. Pre: graduate standing or consent.

SW 640 Introduction to Scientific Methods and Principles in Social Work (3) Understanding and interpreting results of nomothetic and idiographic research; design principles and statistical analyses and their relationship to practice; use of published research. SW majors only. A-F only. Pre: graduate standing. (Fall only)

SW 650 Research Designs and Data Analyses for the Evaluation of Practice Effectiveness (3) Extends the study of scientific methods introduced in 640. Covers the range of empirical research methods and data analytic procedures suitable for knowledge building and practice evaluation at all levels of intervention from case to program. A-F only. Pre: 640. (Spring only)

SW 651 Quantitative Methods I (3) Introduction to quantitative methods in behavioral sciences. Introduction to general linear model as principle of data analysis. Course requires basic statistics. (Meet as PhD community inquiry methods elective.)

SW 654 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

Key to symbols & abbreviations: see the first page of this section.
SW 672 Child Welfare as a Field of Social Work (3) Emphasizes interventions 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, and legal findings for skill development in intervening in dysfunctional parent/child interaction. SW majors only. Pre: graduate standing.

SW 674 Community and Public Health Practice (2) Community and public health: development applicable to the delivery of health services. Understanding community dynamics, mobilizing community groups for effective health care practice and delivery. SW majors only. Pre: PH 647 or consent. (Cross-listed as PH 671)

SW 680 Topics in Social Welfare (V) Current trends in the 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 topics. SW majors only. Pre: graduate standing.

SW 682 Marriage and Family Therapy (3) Introduces students to the field of marriage and family therapy, offers an overview of family systems perspective, theory and technique relevant to informing effective social work case planning, case management, advocacy, and interaction with clients. SW majors only. Graduate students only.

SW 690 Practicum (3) Field units are maintained by the school in public and voluntary welfare agencies, as well as in governmental programs. Students receive instruction related to their school experience with social problem situations and an opportunity to see the applicability and to experience the use of concepts and principles in actual practice. A-F only. Pre: admission to MSW program.

SW 691 Practicum (3) Field units are maintained by the school in public and voluntary welfare agencies, as well as in governmental programs. Students receive instruction related to their school experience with social problem situations and an opportunity to see the applicability and to experience the use of concepts and principles in actual practice. A-F only. Pre: admission to MSW program.

SW 696 Health Behavior (3) Biological and physiological changes associated with aging. Social and psychological factors associated with health maintenance. Major threats to health, changing patterns of morbidity and mortality of the aged. SW majors only. Pre: graduate standing.

SW 699 Directed Reading and Research (V) Students, on the basis of special interest, select a faculty member to work with on a problem for which planned individualized study or research is deemed advisable. 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 (3) Designed to provide students with an in-depth understanding of both theoretical formulations and therapeutic techniques for practice in the field of group work and psychotherapy. Eclectic mental health approaches to case management and environmental intervention. Emphasis placed on the use of these strategies as preventive, as well as supportive, measures for 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 with implications for cultural and gender considerations. SW majors only. Pre: completion of foundation courses.

SW 727 Seminar in Social Work with the Aged (3) Designed for social work students in the aged concentration, builds upon student skill development from courses and practicum. Students examine micro and macro interventions used for a wide range of issues and problems encountered by older adults and their families through the use of both case presentation and case consultation assignments. Meets seminar requirement. SW majors only. Pre: 726.

SW 731 Social Policy Analysis (3) Students pursue in-depth a specific topic in the areas of social planning, social policy analysis, evaluation of social programs, administration, supervision, and consultation. Selectively a comparative perspective is introduced and case studies are used to illustrate concepts, principles, and techniques, with implications for practice. Meets seminar requirement. SW majors only. Pre: 650 or consent.

SW 737 Social Work and the Law (3) 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 system. Meets seminar requirement. SW majors only. Pre: 650 or consent.

SW 743 Individual or Group Research Project—Plan B (V) Courses. Repeatable three times. A-F only. Pre: 640 or consent. Focuses on developing the student's ability to design and to complete a research project. SW majors only. Pre: 650 or consent.

SW 747 Individual or Group Research Project—Plan B (V) Same as 743. A-F only. Pre: 743.

SW 746 Individual or Group Research Project—Plan B (V) Same as 743. A-F only.

SW 750 Analysis and Development of Knowledge for Social Work (3) Designed specifically to train students in the theory and methods of analyzing and developing social work knowledge. SW majors only. Pre: 722.

SW 751 Quantitative Methods II (3) Empirical research methodology with emphasis on design principles and measurement theory; design and measurement issues and problems in cross-cultural research. A-F only. Pre: PhD candidate in social welfare or consent.

SW 752 Qualitative Research: Philosophical, Methodological and Analytic Approaches (3) Theoretical and methodological foundations of problem formulation, informant selection, study design, data collection and analysis utilizing qualitative approaches. Repeatable three times. A-F only. Pre: 650 or consent.

SW 755 Dissertation Seminar (3) Culminating experience in social welfare doctoral specialization; integration of PhD core and specialization course work. Pre: class of student in PhD in social welfare program or consent.

SW 774 Cultural Factors in Work with Hawaiians (3) Hawaiian culture, past and present. Explores and examines possible approaches to working with Hawaiians and part-Hawaiians. 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 (3) 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 774)

SW 790 Second-Year Practicum (V) Instruction in the field is continued. The practicum of the second year provides an opportunity for the student to test out concepts, principles, theories, and alternate approaches in actual practice settings. SW majors only. A-F only. Pre: 691.

SW 791 Second-Year Practicum (V) Same as 790. A-F only.

SW 797 Advanced Social Welfare Policy Analysis and CS 294 (3) Advanced and expanded study of more thorough and comprehensive examination of major policies, programs, and populations central to a concentration (Health, Mental Health, Gerontology, Child Development) that students learn to perform focused and applied analysis of the relationship between social policy, research, and social work practice. SW majors only. A-F only. Pre: 600 and 670; 630 and 631; 640 and 650; 659 and 660; 690 and 691.

SW 800 Dissertation Research (V) Repeatable one time.

Sociology (SOC) College of Social Sciences

In addition to the prerequisites specified below, all 300-level courses have 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 C- or better.

SOC 100 Introduction to Sociology (3) Basic social relationships, social structures, and processes.

SOC 214 Introduction to Race and Ethnic Relations (3) Race and ethnic relations in world perspective; social, economic, and political problems associated with race, ethnicity, and accommodation of these groups within the larger society. (Cross-listed as ES 214) DS

SOC 218 Introduction to Social Problems (3) Theoretical and substantive survey of the nature and causes of social problems; selected 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, roles, roles, and 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. A-F only. DS

SOC 301 Survey of Urban Sociology (3) Urban processes and social problems, such as poverty, crime, racial segregation, homelessness, housing policy, urbanization, and neighborhood ethnic diversity. How places shape identity and opportunity. Research methods applied to communities, places, and neighborhoods of Hawai‘i. (Cross-listed as PLAN 301) DS

SOC 305 Women and Health (3) Explores current issues in the conceptualization and delivery of health care for women. Pre: 100 or any 200-level SOC course, or WS 151 or WS 202, or POLS 110; or consent. (Cross-listed as DS 305) DS

SOC 311 Survey of Social Inequality and Stratification (3) Introduction to social stratification theory and research; definition and measurement of socioeconomic status; racial, ethnic and gender inequality; differences in lifestyles and life chances; social mobility. DS

SOC 313 Survey of Sociology of Work (3) Work from viewpoint of individuals; meaningfulness versus productivity; how work, economics, and the industrial system affect individual goals. DS

SOC 316 Survey of Social Change (3) Causes, processes, and effects of social change, using single- and multi-cause models in simple and complex industrializing 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 for women. Pre: 100 or any 200-level SOC course, or WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 318) DS

SOC 321 Survey of Sociological Theory (3) Major theorists and their influences, from Comte to today. DS

SOC 322 Survey of Sociology Law (3) Law as a political enforcement of the social order; how it is organized and operates; determinants of effectiveness; ways it adapts to and facilitates changing social conditions. DS

SOC 333 Survey of Criminal Justice (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, psychology, and social perception; norms and deviant behavior. DS

SOC 336 Deviant Behavior and Social Control (3) Interrelations of deviance, crime, delinquency, 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, and 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 amongst the elderly, including theoretical perspectives and cross-national research. DS

SOC 354 Survey of Medical Sociology (3) Social factors in disease and treatment; illness behavior, roles of patients and healers; nature of healing professions; use of medical services; alternative systems of medical organization. DS

SOC 356 Sociology of China (3) Social institutions, family, community, education, stratification, government, economy; impact of modernization and revolution on their contemporary transformation. A-F only. DS

SOC 357 Sociology of Japan (3) Persistence and change in economy, policy, religion, education, family, and other institutions of modern Japan. DS

SOC 358 Sociology of Korea (3) Social institutions, family, education, religion, cultural values, social classes, economic development, social movements, gender relations, North-South relations, and unification issues. A-F only. Pre: 100 or any 200-level SOC course, or consent. DS

SOC 362 Sociology of Gender (3) Effect of sex and gender roles (both traditional and nontraditional) on attitudes and behavior within the family and educational, economic, and governmental systems. Recommended: at least one WS course. Pre: 100 or any 200-level SOC course, WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 362) DS

SOC 374 Law, Politics and Society (3) Relationships between law, politics, and society will be explored. Emphasis is placed on several dimensions of legality; legal “indeterminacy” and some of the many things that law does for 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 when it does. A-F only. Pre: 100 or any 200-level SOC course, or a 100 or 200-level POLS course, or consent. (Cross-listed as 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) Applications of 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 GPHS 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 transform dynamics. NSF institutional sociology to postindustrial one; corporate restructuring and downsizing and their impact on employment and income distribution; gender relations in workplaces; the impact of globalization on the newly 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 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 and theory in criminology and crime. Pre: 300, or a 100 level or 200 level POLS course, or consent. (Cross-listed as WS 431) DS

SOC 432 Analysis in Corrections (3) Behavioral assumptions of various systems 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 social relationships, e.g., boss-worker, woman-man, child-adult. DS

SOC 435 Women and Crime (3) Women’s relationship with the criminal justice system. Types of women’s offenses; responses to women’s crime; women as victims; women as workers in the criminal justice system. Recommended: at least one WS course; or 300 or any 200-level WS course; or consent. ((Cross-listed as WS 435) DS

SOC 441 Social Structure and the Individual (3) Effects of social institutions on individuals. Role of socioeconomic status, cultural background, family structure, peer group, schools, and occupational roles in socialization. DS

SOC 445 Analysis in Gender Violence (3) Historical and cultural structures 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 gender violence across the life cycle. Offers gendered perspective in activities aimed at prevention and treatment of violence, and cross cultural perspectives. Pre: 300,
WS 151 or any 200- or 300-level WS course; or consent. (Cross-listed as WS 446) DS

SOC 451 Analysis in Marriage and the Family (3) Theory and methods of studying social interaction in marriage and the family; examination of marriage, 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 conflict and family life 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 sociology of religion of religions 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 ES 300 level course, or consent. (Cross-listed as ES 456) DS

SOC 457 Sociology of the Arts (3) Relation of art to society; role of artist, audience, critic, patron, museum; Western and other societies; attitudes toward new styles. DS

SOC 458 Analysis in Sports and Society (3) Critical perspectives on sports and society. Topics include power and inequality, status from and economics; youth development; globalization; gender; and violence in sports and the wider society. Pre: 300 and 321. (Spring) DS

SOC 459 Popular Culture (3) Popular culture as manifested in film, sports, TV, comics, magazines, etc.; relation to sociological theories and studies. DS

SOC 475 Analysis in Survey Research (3) Survey research design and analysis, including theory selection instrument construction, sampling techniques, data collection, computerized data analysis, and writing up research reports of the findings. DS

SOC 476 Social Statistics (3) Common statistical procedures for contemporary unbivariate 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 (1) This is a four-hour 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 multicultural 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 493 Topics in Sociology (3) Topics courses 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 candidate who has been classified. DS

SOC 605 Statistics for Regression Analysis (3) Dealing with the multiple linear regression and logistic regression models, focusing on modeling, i.e., specifying variables and equations available 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 projects for students taking 605. CR/NC only. Co-requisite: 605. DS

SOC 606 Research Methods and Design (3) Emphasis on theory selection, theory construction, and choice of research strategies.

SOC 607 Seminar in Methods of Content Analysis (3) Content analysis combines quantitative and qualitative methods to analyze text systematically. Covers sampling and case selection; manual and computer-assisted methods of coding and analyzing textual data; 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 constructions, pattern studies, logic of measurement and association, table construction, and elaboration models. Pre: consent. (Cross-listed as EDEA 608 and EDEP 602) DS

SOC 609 Seminar Qualitative Research (3) Advanced seminar on conducting fieldwork in natural social settings with emphasis on qualitative techniques, political and ethical considerations, data management and assessment, interpretation and reflexive writing. Repeatable one time.

SOC 611 Classical Sociological Theory (3) Seminar offers a critical overview of major perspectives and representative works in sociological theory from 19th century to the mid-20th century, including intellectual contexts and historical development. A-F only. Pre: graduate standing. (Fall only)

SOC 612 Contemporary Sociological Theory (3) Seminar offers a critical overview of major perspectives and representative works in sociology theory from the 1960s to the present, including intellectual contexts and historical development. A-F only. Pre: graduate standing. (Spring only)

SOC 613 Organizational Analysis (3) Theoretical approach to organizations: organizational structure and process; organizational pathologies and effectiveness; the organization and its environment. DS

SOC 615 Medical Sociology (3) Covers the major paradigms in medical sociology, including social epidemiology, the political economy of health systems, health service organizations, health and wellness behaviors illness perception and help-seeking, doctor-patient interaction, and adaptations to illness. 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 617 Sociology of Mental Health and Illness (3) Examines sociological research and theories about mental health and illness. A key question in medical sociology will be addressed: What is the relationship between society and mental health? Repeatable one time.

SOC 620 Seminar in Social Stratification (3) Classical theories of social stratification; crucial research issues, appropriate methodologies. Repeatable one time only. Pre: classified graduate standing or consent.

SOC 625 Feminist Criminology (3) Key themes in feminist criminology, including focusing on masculinities and crime, race and intersectionality, global criminology, and the ways in which the criminal justice system controls women and girls. A-F only. (Cross-listed as WS 625)

SOC 631 Seminar in Criminology (3) Major current perspectives of research, 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 prison and the rise of the prison-industrial complex. A-F only. Pre: graduate standing. (Cross-listed as AMST 638)

SOC 651 Introduction to Human Population (3) Comparative analysis of quantitative and qualitative aspects of population; factors in population growth, distribution, and composition; impact of population size and composition on society. (Cross-listed as GPHS 651 and PH 651)

SOC 659 Methods of Demographic Analysis (3) Statistical analysis and analysis of population data; data sources; population growth; composition; standardization of rates; mortality and the life table; fertility and mortality; distribution, migration, urban issues in cultural sociology, stabilizing key theoretical issues. (Cross-listed as GPHS 659 and PH 659)

SOC 660 Teaching Seminar (3) Examines research on teaching, learning, and ethics, as well as practical skills for teaching at the university level, including teaching philosophies are developed, which are useful for the academic job market. Graduate standing only.

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


SOC 701 Seminar in Evaluation Research (3) Research design, data collection, field problems and analysis in the evaluation of social programs. Examples from criminal justice, corrections, drug treatment, mental health, 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 only.

SOC 706 Cultural Analysis (3) Contemporary issues in cultural sociology, covering key theoretical perspectives, analytic methods and substantive areas for empirical research. A-F only.

SOC 711 Seminar in Sociology of Knowledge (3) Theory of knowledge in everyday life, professional communities, and the sciences. Research and theory-building activities of sociologists: ethnomethodology; construction of social structure, culture, and consciousness. Repeatable one time only.

SOC 715 Seminar in Current Issues in Sociology (3) Substantive areas that are of current interest and the focus of research, but not addressed in other courses. Repeatable two times.

SOC 716 Advanced Medical Sociology (3) Application of theoretical paradigms and methodologies to the examination of selected research topics in the field of medical sociology. Repeatable one time. Pre: 615 or consent.

SOC 718 Seminar in Aging, Culture, and Health (3) Overview of the major theories, perspectives, and empirical findings relating to aging in various cultural contexts. SOC, PSY, NURS, SW, PH majors only. Pre: 606 (with a minimum grade of B) or consent.

SOC 719 Comparative Family and Gender (3) Discusses the major perspectives on family and gender relations and empirical research in sociology. Emphasis is on the cross-cultural comparisons across the U.S. and Asia in the context of globalizing economies and cultures. A-F only. (Alt. years) (Cross-listed as GPHS 719)

SOC 720 Comparative Study of East Asia (3) Comparative 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. Repeatable one time. 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 722 Modern Japanese Society (3) Social and behavioral studies of Japanese values, social organization, and personality development. Problems of value conflict, political protest, world role, tradition, and social change. Repeatable one time only.

SOC 723 Seminar in Modern Chinese Society (3) Developmental policies, social change, and impact on modern Chinese social institutions. Includes China, Hong Kong, and Taiwan. May include social and demographic change, population, social stratification, gender, and family problems. Repeatable one time.

SOC 725 (Alpha) Seminar in Race and Ethnicity (3) An examination of how ideas of “race” and “ethnicity” are constructed, and how this reflects and shapes social structures and relationships: (B) anti-racism studies; (C) ethnic identity and nationalism: cooperation and conflict; (D) race, place, and inequality. Repeatable up to two times in different alphas. Graduate students only. (Alt. years)

SOC 730 Conflict Analysis/Resolution (3) Seminar on the analysis of conflict resolution. Faculty from law, planning, political science and guest practitioners will present conflict management strategies and intervention strategies on contemporary conflicts. A-F only. Pre: graduate standing or consent.

SOC 741 Seminar in Social Structure and the Individual (3) Study of social processes and individual research projects in a selected topic. Theoretical and methodological issues in relating social and individual levels of analysis. Recommended: 612.

SOC 750 Seminar in Social Movements (3) Study of sociology of social movements, plus independent student research. Repeatable one time.

SOC 751 Development in Asia (3) Theories and available research methods examined for applicability to developing areas; specific examples from Asia. A-F only. Repeatable one time. Pre: graduate standing or consent.

SOC 753 Urban Sociology (3) Demographic trends in urban growth; nature and dimensions of urbanization and urbanism; ancient, American, and Third World cities; ecological theories of urban growth; lifestyles.

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

Spanish (SPAN)

College of Languages, Linguistics and Literature All courses are conducted in Spanish. A grade of C or better in the prerequisite courses is required for continuation.

SPAN 101 Elementary Spanish (3) Conversation, grammar, reading. Pre: 101, HSL.

SPAN 102 Elementary Spanish (3) Conversation, grammar, reading. Pre: 101, HSL.

SPAN 103 Intensive Elementary Spanish (6) Course content of SPAN 101 and 102 covered in one semester. Three two-hour sessions per week. HSL.

SPAN 201 Intermediate Spanish (3) Continuation of oral practice and grammar study; increasing emphasis on written and oral composition. Pre: 102 or 103, HSL.

SPAN 202 Intermediate Spanish (3) Continuation of 201. Pre: 201, HSL.

SPAN 203 Intensive Spanish for Business (6) SPAN 201 and 202 content combined, oriented to business Spanish. Thirty-five 50-minute sessions per week plus one laboratory per week. Pre: 202 or 103. HSL.

SPAN 258 Intermediate Spanish Abroad (3) Intensive course of full-time formal instruction on the second-year level in Spanish language and culture in a Spanish-speaking country. Pre: 102 or 103. HSL.

SPAN 259 Intermediate Spanish Abroad (3) Continuation of 258. HSL.

SPAN 300 Legends, Stories, and Current Events (3) Development of language skills through reading of literary and cultural texts. Pre: 202 or 203 or 259.

SPAN 301 Language and Writing I (3) Improvement of Spanish vocabulary, language accuracy, and expression of ideas in Spanish through writing. Pre: 202 or 203 or 259, or consent.

SPAN 302 Language and Writing II (3) Improvement of Spanish vocabulary, language accuracy, and expression of ideas in Spanish through writing. Pre: 301 or 310, or consent.

SPAN 303 Conversation I (3) Intensive practice in spoken Spanish. Pre: 301 (or concurrent), or consent.

SPAN 304 Conversation II (3) Continuation of 303. Pre: 303 or consent.

SPAN 305 Introduction to Spanish-English Translation (3) Translation of significant material from Spanish to English and the reverse. Pre: 301 or 310 or consent.

SPAN 306 (Alpha) Spanish for Professionals (3) Language as used in specific professions. (B) commercial Spanish; (C) medical Spanish. Sophomore standing or higher. Pre: 301 or 310, or consent.

SPAN 308 Introduction to Spanish-English Interpreting (3) Interpreting begins to develop the listening and memory skills for direct and inverse interpretation. Sophomore standing or higher. Pre: 301, or 310, or consent.

SPAN 310 Spanish for Heritage Speakers (3) Focuses on standards and academic varieties of Spanish for English-dominant heritage speakers in order to improve their literacy skills. Pre: placement exam. (Fall only)

SPAN 320 Gateway to Hispanic Literature (3) Introduction and development of Spanish skills for critical reading and writing, rhetoric, and vocabulary. Choices with particular emphasis on literary analysis and academic writing. Online course. Pre: 301 or 310, or consent. DL.

SPAN 330 Phonetics and Pronunciation Practice (3) Analysis of the Spanish phonological system, in contrast with English. Practice in pronunciation. Pre: 301 or 310, or consent. DL.

SPAN 351 Spanish Cultural Perspectives (3) Survey of the history and cultures of Spain. Pre: 301 or 310, or consent. DH.

SPAN 352 (Alpha) Latin American Cultural Perspectives (3) Survey of the history and cultures of Latin America and Iberian and Colonial periods; (C) Independence, nationhood and current issues. Repeatable one time for other topics, but not for the same topic. Pre: 310, or consent. HSL.

SPAN 358 Third-Level Spanish Abroad (3) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 202 or 259 or 301, or consent.

SPAN 359 Third-Level Spanish Abroad (3) Continuation of 358.

SPAN 360 Intensive Third-Level Spanish Abroad (V) Intensive formal instruction at the third-year level in Spanish language skills: reading, writing, grammar, or conversation in a Spanish-speaking country. Pre: 202 or equivalent.

SPAN 361 Spanish Literature I (3) Reading and discussion of representative works of Spanish literature: origins to 18th century. Pre: 301 or 310, or consent. DL.

SPAN 362 Spanish Literature II (3) Reading and discussion of representative works of Spanish literature: 18th century to present. Pre: 301 or 310, or consent. DL.

SPAN 371 Spanish-American Literature (3) Reading and discussion of representative works of Spanish-American literature: 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 396 Introduction to Hispanic Film (3) Introduction to the study and analysis of genres, techniques, and cinematic styles as used in Hispanic film. Pre: 301 or 310 or consent. DH.

SPAN 399 Directed Reading (V) Independent study of approved reading with faculty supervision. Repeatable two times. A-F only. Pre: 301 (or concurrent), consent and departmental approval.

SPAN 400 Spanish Language in Society (3) Explores issues in Spanish language in society (media, communication, advertising, government, technology, education, and entertainment current sociolinguistic and sociopragmatic issues. Pre: 330 or consent.

SPAN 403 Advanced Composition and Conversation (3) Advanced practice; emphasis on building active vocabulary. Pre: 302 or consent.

SPAN 405 Spanish-English Translation (3) Factors in the act of translation and material from Spanish to English and the reverse. Pre: 305 or consent. (Cross-listed as TI 404)

SPAN 451 Historical Spanish Linguistics (3) Evolution of Spanish from Latin; modern 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) In intensive course of full-time formal instruction on the fourth-year level in Spanish linguistics, civilization, culture, and literature in a Spanish-speaking country. Pre: any two of 301, 302, 303, 358, 359, or 360.

SPAN 459 Fourth-Level Spanish Abroad (3) Continuation of 458.

SPAN 460 Intensive Fourth-Level Spanish Abroad (V) Intensive course of formal instruction on the fourth-year level in Spanish language and culture in a Spanish-speaking country. For semester programs only. Pre: 360 or equivalent.

SPAN 461 Spanish Neoclassicism/Romanticism (3) Representative works from Spanish Neoclassicism (18th century) and Romanticism (19th century). Centre: theatre, essay, novel. Pre: 361 or 362, or consent. DL.

SPAN 477 U.S. Latino Literature (3) Study of the literature of U.S. Hispanics written in Spanish or bilingually. Pre: 371 or 376 or consent. DL.

SPAN 478 Hispanic Women’s Literature (3) The feminine experience in Western literary and cultural traditions as seen by women in Spain and Latin America. Pre: one of 361, 362, 371, or 372; or consent. DL.

SPAN 480 Hispanic Theater (3) Study of representative authors and plays from Spain and Latin America. Repeatable one time. Pre: one of 361, 362, 371, or 372; or consent. DL.

SPAN 495 (Alpha) Topics in Hispanic Scholarship (3) Hispanic authors, periods, or themes. (B) literature and society; (C) Hispanic poetry; DL: (D) literature and film. DH. Repeatable for other topics, but not for the same topic. Pre: one of 361, 362, 371, or 372; or consent.

SPAN 496 Studies in Latin American and Iberian Film (3) Intensive study of selected topics in Latin American and/or Iberian cinemas; e.g. national or regional cinemas, periods, movements or issues, major filmmakers, film theory and criticism. Repeatable two times. Pre: one of 361, 362, 371, 372, or 396; or consent. DH.

SPAN 499 Directed Reading and Research (V) Independent study of approved readings and research with faculty supervision. A-F only. Repeatable two times. Pre: consent of instructor and departmental approval.

SPAN 505 Spanish Translation Studies (3) Study of social, cultural, and pragmatic issues in Spanish Translation Studies. Graduate students only. Pre: consent. (Alt. years)

SPAN 653 Spanish Dialectology (3) Study of the dialects of Spanish spoken around the world. Lectures and discussions cover the variation and change of Spanish phonology, lexicon, morphology, and syntax. Graduate students only. Pre: consent. (Alt. years)

SPAN 658 Seminar in Spanish Applied Linguistics (3) Repeatable unlimited times with consent. Pre: graduate standing or consent.
Key to symbols & abbreviations: see the first page of this section.

SPAN 659 Topics in Spanish Applied Linguistics (3) Supervised participation in online course at UNED University (Spain) relevant to student’s specialization for Second Language Studies or Spanish Applied Linguistics. Students also complete projects and meet with advisor to check progress. Repeatable two times for different topics. Graduate students only. Pre: Spanish Proficiency assessment: B- (CEREL) or (ACTFL).

SPAN 660 Medieval Spanish Literature (3) Representative readings in prose and poetry, from origins through 15th century. Pre: graduate standing or consent.

SPAN 660 (Alpha) Golden Age Literature (3) Spanish literature from the 16th and 17th centuries. (B) theater; (C) prose; (D) poetry; (E) Cervantes. Pre: graduate standing.

SPAN 669 19th-Century Spanish Realism (3) Nineteenth-century realism in novel. Authors include Galdós, Clarín, Arándiz, Pardo Bazán, Blanco-Ibáñez, Valera. Pre: graduate standing or consent.

SPAN 670 (Alpha) 20th-Century Spanish Literature (3) Representative works from 20th-century literature. Genres: poetry, theater, essay, novel. (B) generation of 1898; (C) pre-Civil War; (D) post-Civil War. Pre: graduate standing or consent.

SPAN 680 Neonovel in Spanish (3) Critical analysis of major Spanish-American novels. Pre: graduate standing or consent.

SPAN 681 Colonial Spanish-American Literature (3) Spanish-American literature from period of discovery to independence. Representative authors such as Sor Juana, Bernal Díaz del Castillo. Pre: graduate standing or consent.

SPAN 682 Spanish-American Poetry (3) Study of representative poets from all periods: Martí, Dátori, Mustral, Guílen, Nenada, Paz, etc. Pre: graduate standing or consent.

SPAN 683 Spanish-American Short Story and Essay (3) Study of representative writers from various periods. Sor Juana, Pacheco, Reyes, Borges, etc. Pre: graduate standing or consent.

SPAN 695 Seminar in Hispanic Literature (3) A period, author, genre, or region. Repeatable unlimited times with consent. Pre: graduate standing or consent.

SPAN 699 Directed Research (V) Repeatable unlimited times. Pre: consent of department chair.

Special Education (SPED)

College of Education

SPED 304 is a prerequisite course to the Post-Baccalaureate Special Education (SPED) in mild/moderate disabilities program; SPED 412 is a prerequisite course to the PB-SPED in severe/primary program. A minimum grade of B- is required for all prerequisite courses prior to beginning core course. All field coursework requires candidates to obtain current TB clearance, background check, and liability insurance.

SPED 201 Disability and Diversity in the Media (3) Explores the changing disability experience as described in film, literature, advertising, news, sports and dialogue with persons with disabilities in the Pacific region and around the world. A-F only. DS

SPED 304 Foundations of Inclusive Schooling (3) Foundations of “special education” exploring philosophies, divergent perspectives, views, values, and service delivery. Students reflect upon texts, films and interviews with persons with disabilities, their families and professionals to understand the culture of disability. A-F only. DS

SPED 315 Field Training – Blended ECE (4) Students spend 15 hours per week in settings appropriate to 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) Development of infants and young children, ages birth 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/elementary; (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 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 education and social issues, career development for B-, elementary/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.” Approval of review committee and consent.

SPED 400 Field Training in Special Education (V) Students must complete 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 consent) or concurrent. 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. Pre: graduate standing or consent.

SPED 414 Education of Gifted Students (3) Characteristics and educational provisions for gifted children and youth with particular attention to psychological aspects of creativity.

SPED 415 Education Program for the Gifted/ Talented (3) Utilization and evaluation of teaching/learning models for gifted/talented students, including consideration of roles, expectations for learning, and organizational procedures. Pre: 414 or consent.

SPED 421 (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, recognition, 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 (3) 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 Lec., 1 hr. lab.) Participants will explore issues of socio-cultural, sexual orientation, religion, and individuals with exceptionalities, and how these affect access and behavior in the physical education setting. Required field experience. Repeatable one time. A-F only. Pre: KRS 440 and SPED 425.

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, peer interaction, collaboration between special and regular educators. Includes an emphasis on instruction in writing.

SPED 445 Educating Exceptional Students in Regular Classrooms–Secondary (3) Teaching secondary students with disabilities and those who are gifted/talented. Meeting academic/social needs, classroom management, peer interaction, collaboration. Collaboration between special and regular educators. Includes an emphasis on instruction in writing.

SPED 446 Seminar in Special Education (3) Study of issues relating to supervision, design and development of curriculum and models in programs for infants and toddlers including criteria for evaluation and planning. A-F only. Pre: FAMR 230 (or concurrent) and FAMR 331 (or consent) with a minimum grade of B-.

SPED 452 Preschool Children–Special Needs (3) Examination of application of current research and practices for serving preschool children with special needs. Pre: FAMR 230 (or concurrent), or consent.

SPED 461 (Alpha) Assessment, Planning, and Instruction for Students with Severe Disabilities/ Autism (V) Techniques in the assessment, planning, and instructional process appropriate for students with severe disabilities. Focus on program development to facilitate the inclusion of students with disabilities into general education environments. (B) elementary/special education, V credits; (C) early childhood education/special education, (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 462 (Alpha) Assessment, Planning, and Instruction for Students with Severe Disabilities/ Autism (V) Techniques in the assessment, planning, and instructional process appropriate for students with severe disabilities. Focus on program development to facilitate the inclusion of students with disabilities into general education environments. (B) elementary/special education, V credits; (C) early childhood education/special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 480 (Alpha) Instructional and Assistive Technology (V) Addresses instructional and assistive technologies for special education and general education settings; technology-based instructional strategies that support inclusion and address academic and behavioral objectives; and application of Universal Design for Learning to support access to the general curriculum for diverse students in the Pre-K-12 classroom setting. (B) elementary/special education; (C) early childhood education/special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 485 (Alpha) Classroom Organization and Management (3) Knowledge and skills for basic organizational management of an inclusive classroom, including scheduling, grouping, and stress and time management; techniques of applied behavior management, emphasis on change and practical implementation of learning principles. (B) elementary/special education, V credits; (C) early childhood education/special education; (D) unclassified. Repeatable up to six credits for (B). A-F only. Pre: 304 (with a minimum grade of B).

SPED 486 Theoretical Basis for Teaching Special-Needs Students (3) Survey of biophysical, behavioral, social/ecological, counter-theoretical, and psychodynamic/educational, cognitive/developmental, counter-theoretical approaches to teaching exceptional students. Opportunity for the development and/or strengthening of one’s own theoretical framework. Pre: consent.

SPED 487 Characteristics/Strategies for Teaching At-Risk Students (3) Survey of educational, behavioral, and emotional characteristics of students who are at-risk for school failure and strategies to work with such students. A-F only. Pre: SPED 485.

SPED 499 Directed Reading/Research (V) Individual reading, research, and/or projects under direct supervision of instructors. Repeatable nine times. Pre: consent of instructor or department chair.

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

SPED 501 Post-Baccalaureate in Special Education Program Seminar (1) Mandatory program seminar for Post-Baccalaureate Special Education (PB-SPED) teacher candidates; access to tools and
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 practicing 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 emphasis (mild/moderate/severe/autism); minimum 280 hours of supervised teaching. Supervised by master teacher and university supervisor. Repeatable one time. A-F only.

SPED 528 Internship in Special Education Post-Baccalaureate Programs (V) Supervised teaching experience in PreK-12 educational settings appropriate to SPED-Pcert program emphasis (mild/moderate or severe/autism); supervision provided by master teacher/university mentor, and university supervisor. Must enroll for four consecutive semesters. Repeatable two times, up to 14 credits. A-F only.

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 individual students. (B–E) general SPED; (F–G) secondary programming/SPED; (H–I) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood; (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 (2) For in-service school/community personnel to present new ideas, approaches, instructional methods, materials for teaching exceptional individual students. (B–E) general SPED; (F–G) secondary programming/SPED; (H–I) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood; (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 583 (Alpha) Practicum in Special Education (3) For in-service school/community personnel to present new ideas, approaches, instructional methods, materials for teaching exceptional individual students. (B–E) general SPED; (F–G) secondary programming/SPED; (H–I) bilingual/multicultural/special needs; (J–K) severe disabilities; (M–N) early childhood; (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 eight times. CR/NC only. Pre: teaching or related work experience.

SPED 590 Internship, Special Education (6) Supervised field activities involving the programming and instruction of special-needs students within training programs in Hawai‘i and the Pacific Basin. Pre: consent.

SPED 600 Foundations of Exceptionality (3) Theoretical, legal and multicultural foundations for assessing, teaching and developing individual service plans and the lifestyle for persons with disabilities. A-F only. Pre: consent.

SPED 601 Technology for Diverse Learners: Access, Accommodations, and Universal Design (3) Strategies for using assistive technologies, multimedia technology, and telecommunications to design engaging learning environments that promote inclusion and give voice to diverse learners. Emerging technologies for access, accommodations, and universal design are explored. Pre: one of 480, LTEC 414, or LTEC 442.

SPED 602 Special Education Law and Compliance (5) Examination of the federal, state, and local government roles in special education with special emphasis on case 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/general education teachers, administrators, or related service providers. Pre: consent.

SPED 603 Principles of Behavior (3) Principles and laws governing behavior and methods that can be used to achieve educationally relevant changes in student performance. Emphasis on the conceptual basis for changing behavior and use of technologies for changing behavior in school and community settings. A-F only. Pre: consent.

SPED 605 Collaboration in School and Community Settings (3) Collaboration skills necessary to function as team members and to ensure the success of students with disabilities in inclusive school and community settings. A-F only. Pre: consent.

SPED 606 Language Development for Deaf Children (3) General theories of first and second language development applied to 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) Functions of language and theories 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. Pre: 608. Taught in ASL and English. Repeatable one time. A-F only. Pre: admission into Deaf Education program or consent. (Alt. years)

SPED 608 Literacy Development for Deaf Students (6) Basic concepts related to language, language development and recognition of language-related learning problems of students with mild/moderate disabilities; strategies for teaching language (listening, reading, writing) to students of all ages with learning problems. A-F only. Pre: 304 or consent. (Alt. years)

SPED 611 Children’s Literature for Deaf Students (3) Introduction to English literature translated into American Sign Language (ASL) with discussion of ASL literature genres, the importance of translation, selection of literature, story reading, book reading, and retelling. Taught in ASL. Repeatable one time. A-F only. Pre: 607 or consent. (Alt. years)

SPED 625 Teaching Skills for Social Competence (3) Issues in social development, self-determination, and social skills training and 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 662 Field Experiences in Special Education (3) Students spend a minimum of nine hours per week in settings appropriate to concurrently enrolled courses; supervision provided by participating teacher and college supervisor. Repeatable three times. A-F only. Pre: consent.

SPED 667 Transition Strategies for Deaf Students (1) Collaborative model for facilitating the transition of deaf and hard-of-hearing students to develop appropriate postsecondary 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/Severe Disabilities/Autism (5) 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. SPED majors only. A-F only. Pre: consent.

SPED 620 Strategies Across Content Area (3) Strategies for teaching math, science, and social sciences to students of all ages with mild/moderate disabilities; selection of appropriate teaching strategies, test-taking techniques, curriculum development. Pre: 611 or consent.

SPED 621 Language Arts Strategies with Students with Mild and Moderate Disabilities (3) Articulation of concepts related to language, language development, and recognition of language-related learning problems of students with mild/moderate disabilities; strategies for teaching language (listening, reading, writing) to students of all ages with learning problems. A-F only. Pre: 304 or consent.

SPED 622 Children’s Literature for Deaf Students (3) Introduction to English literature translated into American Sign Language (ASL) with discussion of ASL literature genres, the importance of translation, selection of literature, story reading, book reading, and retelling. Taught in ASL. Repeatable one time. A-F only. Pre: 607 or consent. (Alt. years)

SPED 623 Introduction to English Literature Translated into American Sign Language (ASL) with discussion of ASL literature genres, the importance of translation, selection of literature, story reading, book reading, and retelling. Taught in ASL. Repeatable one time. A-F only. Pre: 607 or consent. (Alt. years)

SPED 624 Children’s Literature for Deaf Students (3) Introduction to English literature translated into American Sign Language (ASL) with discussion of ASL literature genres, the importance of translation, selection of literature, story reading, book reading, and retelling. Taught in ASL. Repeatable one time. A-F only. Pre: 607 or consent. (Alt. years)

SPED 625 Teaching Skills for Social Competence (3) Issues in social development, self-determination, and social skills training and competence training for children and youth with disabilities; experience in group social skills training and development of individualized programs. Pre: either 485 or 630, and either 611 or 614; or consent.

SPED 626 Field Experiences in Special Education (3) Students spend a minimum of nine hours per week in settings appropriate to concurrently enrolled courses; supervision provided by participating teacher and college supervisor. Repeatable three times. A-F only. Pre: consent.

SPED 627 Advanced Practicum (6) Supervised education/community experiences; minimum of 20 hours weekly with special-needs population (MR, LD, SED, SMH); pre-school through postsecondary settings. Completion of SPED core required. Repeatable one time. Pre: consent.

SPED 628 Internship (3) Supervised education/community experiences for special education 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 or 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 630 Positive Behavioral Support-Severe Disabilities and Autism (3) Emphasis on the functions of behavior, experimental techniques for documenting behavior change, and the

Key to symbols & abbreviations: see the first page of this section.
use of technologies for improving behavior in school and community settings. A-F only. Pre: consent.

SPED 631 Early Intervention for Special Populations (3) Issues important to early childhood special education. Early screening and assessment, working with families, current exceptions/models, program evaluation. Pre: consent.


SPED 633 Motor Development/Intervention for Students with Severe Disabilities (3) Normal/abnormal motor development; description/etiology of physically disordered students; influences motivating 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 across the lifespan. A-F only. Pre: consent. (Cross-listed as KRS 634)


SPED 637 Topics and Issues in Reading Difficulties (3) Foundation of foundational knowledge of language and literacy development. Current topics and issues related to literacy development in students with Dyslexia and related reading difficulties. Repeatable one time. A-F only.

SPED 638 Fundamentals of Language and Literacy (3) Introduction of foundational knowledge of language and literacy development. Current topics and issues related to literacy development in students with Dyslexia and related reading difficulties. Repeatable one time. A-F only.

SPED 639 Advanced Fundamentals of Language and Literacy (3) Advanced linguistic structures of written English related to reading, spelling, and writing for beginning or struggling readers. Covers evidence-based practices for teaching literacy to students with Dyslexia and related reading difficulties. Repeatable one time. A-F only.

SPED 640 Seminar on Mild/Moderate Disabilities (3) Study of issues, research, program development in the area of mild/moderate disabilities. Repeatable two times.

SPED 641 (Alpha) Seminar in Issues in Special Education (3) Seminar on issues, trends, research, and program development in the field of special education. (B) current issues and trends; (C) technology; (D) foundations; (E) developmental disabilities; (F) cultural and linguistic diversity; (G) evidence-based practices. Repeatable one time per alpha. A-F only.

SPED 642 Seminar on Applied Research/Special Education (3) Literature development of applied research topics in special education. Repeatable two times. Pre: consent.

SPED 650 Seminar on Universal Design for Learning (5) Seminar on issues of research and practice on the use of universal design for learning in K-12 and higher education settings. Focus on culturally and linguistically diverse students diversity, non-traditional students and students with disabilities. Repeatable. A-F only.

SPED 652 Transition/Supported Employment (3) Transition planning for youth with disabilities in preparation for employment as adults in private and public sector businesses. A-F only. Pre: consent.

SPED 671 advertised electives in Applied Behavior Analysis (ABA) (3) Focuses on the definitions and characteristics of applied behavior analysis and the concepts, principles, and processes. Concepts related to ethics and behavior change procedures will also be introduced. A-F only. Pre: 603.

SPED 673 Ethics and Professional Conduct (3) Focuses on content on the Behavior Analysis Certification Board’s code for ethical conduct as well as advanced concepts, principles, and processes of applied behavior analysis. A-F only.

SPED 688 Research Practicum in Special Education (3) Directed research experience to demonstrate mastery of research processes through designing, developing and writing research proposals. Repeatable one time. A-F only. Pre: 642 or consent, or departmental approval. (Once a year)

SPED 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. Repeatable one time. A-F only. Pre: graduate standing in Special Education.


SPED 705 Seminar in Exceptionalities (3) Current and historical topics, issues, and trends in the field of exceptionalities. Repeatable with different content. Pre: consent.

SPED 706 Doctoral Internship (6) Supervised internship (minimum 18 hours per week) in program development and administration or research in the student’s area of emphasis. EDUC majors only. A-F only. Pre: consent.

SPED 710 Professional Seminar in Exceptionalities (1) Professional norms, duties, and expectations of leaders in exceptionalities transitioning from practitioner to researcher and leadership roles; familiarity with current research and trends in the field of exceptionalities. Repeatable five times. PhD in EDUC majors only. Repeatable one time. Pre: consent.

SPED 745 Special Topics in Exceptionalities (3) Critical examination and discussion of historical or current topic in early intervention, special education, and/or developmental disabilities. Repeatable two times. A-F only. (Once a year)

SPED 760 Grant Development/Procurement (3) Overview of grant development and procurement processes related to special education personnel preparation and research and demonstration programs. Students develop a grant proposal related to a particular problem or need within their employment settings. Pre: consent.

SPED 770 Credit in Variable Topics (0-15) Credit in variable topics. Repeatable two times. A-F only. Pre: graduate standing and departmental approval. (Once a year)

SPED 795 Seminar B Master’s Project (3) Independent study for students working on a Plan B master’s project. Repeatable one time. A-F only. Pre: graduate standing in Special Education.

THAI 101 First-Year Thai I (4) Conversational Thai. Focus on conversational Thai in a condensed format. Meets three 50-minute sessions weekly. HL.

THAI 102 Second-Year Thai I (4) Intermediate Thai. Focus on conversational Thai in a condensed format. Meets three 50-minute sessions weekly. HL.

THAI 104 First-Year Thai II (4) Basic core skills of listening, speaking and grammar of spoken Thai in a condensed format. Meets three 50-minute sessions weekly. HL.

THAI 201 Second-Year Thai I (3) Conversational Thai. Focus on conversational Thai in a condensed format. Meets three 50-minute sessions weekly. Pre: 101 or consent.

THAI 202 Second-Year Thai II (3) Intermediate Thai. Focus on conversational Thai in a condensed format. Meets three 50-minute sessions weekly. Pre: 102 or consent.

THAI 301 Third-Level Thai (3) Continuation of 202. Conversation, advanced reading, composition. Pre: 202 or consent.

THAI 302 Third-Level Thai (3) Continuation of 301. Pre: 301 or consent.

THAI 358 Third-Level Thai Abroad (3) Full-time formal instruction at the University of French Polynesia in Tahiti. Third-year level in Tahitian language and culture. A-F only. Pre: 204 and consent.

THAI 359 Third-Level Thai Abroad (3) Continuation of 358. A-F only. Pre: 301 or 358; and consent.

THAI 401 Fourth-Level Thai (3) Continuation of 302. Advanced conversational Thai and writing with focus on modern formal and colloquial Thai styles. The language in the realms of storytelling, radio, folklore, traditional and modern writing. Survey of modern and classical language. Pre: 302 or consent.

THAI 402 Fourth-Level Thai (3) Continuation of 401. Pre: 401 or consent.

THAI 458 Fourth-Level Thai Abroad (3) Full-time formal instruction at the University of French Polynesia in Tahiti. Fourth-year level in Tahitian language and culture. A-F only. Pre: 302 and consent.

THAI 459 Fourth-Level Thai Abroad (3) Continuation of 458. A-F only. Pre: 401 or 458, and consent.
THAI 106 Beginning Reading and Writing Thai II (2) Continuation of 105. Development of literacy skills in Thai for those who cannot read or write in the language. Focus on Thai script reading and writing. Pre: for students who have taken 102. Prec: 105 or 101. HSL

THAI 107 Reading and Writing Thai Script (3) Focus on Thai script reading and writing. Skills for students with some aural and spoken skills in Standard Thai. Pre: completion THAI 102 or higher, but cannot read or write in Thai script. Lab work. Prec: consent. HSL

THAI 112 Intensive Elementary Thai (10) HSL

THAI 201 Second-Level Thai I (4) Continuation of 104 and 106, or 102. Integrated development of skills in listening, speaking, reading, and writing in Thai script. Meets 5 hours/week, regular online lab work and review of on-line audio visual materials. Prec: 104 and 106, or 102. HSL

THAI 202 Second-Level Thai II (4) Continuation of 201. Prec: 201 or consent. HSL

THAI 212 Intensive Intermediate Thai (10) HSL

THAI 301 Third-Level Thai I (3) Continuation of 202. Advanced conversation and reading, emphasis on modern written texts. Regular on-line lab work. Prec: 202 or equivalent or consent.

THAI 302 Third-Level Thai II (3) Continuation of 301. Prec: 301 or equivalent.


THAI 401 Fourth-Level Thai I (3) Continuation of 302/303. Advanced conversation and reading of specialized, scholarly texts. Prec: 302 or 303 or equivalent.

THAI 402 Fourth-Level Thai II (3) Continuation of 401. Prec: 401.


THAI 415 Thai Language in the Media (3) Development of reading and aural comprehension of authentic Thai language used in print and broadcast media through reading Thai newspapers, viewing and listening to Thai television and radio programs. Oral and written reports. Repeatable one time. Prec: 402, 404, or completed THAI 303.

THAI 451 Structure of Thai II (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. Prec: 402 or completion of THAI 303.

THAI 452 Structure of Thai (3) Continuation of 451. Prec: 451 or consent. DH

THAI 461 (Alpha) Readings in Thai Contemporary Prose Literature: The Short Story (3) Selected readings to instill and extend each performance. Performances may include theatre, dance, musical theatre, opera, and performance art. Repeatable one time. (Spring only) (Cross-listed as DNCE 152) DH

THEA 200 (Alpha) Beginning Theatre Practicum (1) Beginning workshop experience in the practical application of theatre skills. (B) acting; (C) stagecraft; (D) costume; (E) theatre management. Repeatable up to four credits in each alpha. Prec: for 200B, audition and performance of role in a Department of Theatre and Dance production; for 200E theatre majors satisfied once. Repeatable one time. Prec: consent. DH

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 theatrical skills. DH

THEA 205 Introduction to Long-Form Improvisation (1) Introduction to long-form improvisation as developed by companies such as Second City and iO Chicago. Focus will be on games, situations, creating characters, and forming narratives from those elements. Repeatable two times. DA

THEA 214 Development of the Sound Film (3) Growth and changes in aesthetics of the sound film from 1929 to present: films by Renoir, Welles, Eisenstein, etc. Prec: 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. Prec: consent. DH

THEA 221 Acting I: Introduction to Performance (3) Concentration on voice, relaxation, body awareness, and freedom from self-consciousness through theatre games, improvisations, monologues, and exercises. Emphasis on collaborative work. Repeatable one time with consent. DA

THEA 222 Acting II: Basic Scene Study (3) Basic character study and understanding of creation of roles through working on scenes from major modern and contemporary plays. Repeatable one time with consent. Prec: 221. DA

THEA 224 Pidgin/HCE Drama (3) Introduction to Hawaiian Creole English (HCE) multicultural theatre. Focus on Pidgin acting, exercises, local dialects, and the performance of Pidgin/HCE plays. Repeatable one time with consent. (Alt. years) DA

THEA 240 Introduction to Theatre Production (3) (3 Lec, 1 1/3 hr Lab) Survey class introducing basic tools, materials and skills of Technical Theatre: production, rigging, lighting, costume, makeup, 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 241 Film/TV Production Process (3) En-try-level course details three phases of the production process for films and video projects: pre-production, production, and post-production. A-F only. Prec: consent.

THEA 245 Design Principles for Performance (3) Introduction to general design principles as applied to theatre. Will introduce the language and tools of visual literacy and visual communications via individual projects and collaboration. Repeatable two times. (Cross-listed as DNCE 245) DA

THEA 311 World Theatre I: Script Analysis (3) Script analysis and production. Repeat of all majors. Prec: 101 or 221 or 240 or consent. DA

THEA 312 World Theatre II: Myth to Drama (3) Myth and ritual into drama, 1000 BCE-1700 CE. Development of secular drama from sacred and ritual beginnings. Repeat of all majors. Prec: 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. Prec: 201 and grade of B or better in composition (3). 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. Prec: 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 film and television production. Repeatable one time with consent. Prec: 222 and consent. DA

THEA 323 Film/TV Acting (3) Acting techniques for film and TV production. Students appear in scenes from film and TV. Repeatable one time. Prec: 101 or 221 or COM 201 or consent. DA


THEA 325 Introduction to Asian Acting Styles (3) Principles of acting based on traditional Asian models. Voice, movement exercises. Prec: 222. DA

THEA 334 Taiji (Tai Chi) for Actors (1) Basic Taiji (Tai Chi Ch’uan) movement training. Repeatable two times. Prec: sophomore standing or higher, or consent. (Cross-listed as DNCE 334) DA

THEA 335 Taiji Round Form for Actors (3) Introduction to basic Asian movement skills through learning the Wu-style taijiquan round form, a faster and more fluid version of the full 108 taiji sequence of forms. Open to non-majors. Repeatable two times. Prec: 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, craftwork, and related areas. Repeatable one time for different alphas, each alpha can be taken one time. Prec: any course in THEA or DNCE, or production experience or consent. (Alt. years) DA

THEA 345 Lighting for Film and Television Design (3) Basic principles of lighting design and associated technologies. Includes functions and properties of light, lighting and control equipment, working procedures, and drafting and paperwork techniques. Prec: 240 or DNCE 250, or consent. (Once a year) DA

THEA 353 Scenic 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. A-F only. Open to non-majors. Repeat of all courses in THEA or DNCE, production experience, or consent. (Consent required for production experience option) (Cross-listed as DNCE 353) DA

THEA 354 Introduction to Costume Construction (3) Workshop on basic principles of costume construction for theatre and dance. Professional practices, materials, and methods. (Cross-listed as DNCE 354) DA

THEA 356 Costumes I: Beginning Costume Design (3) Basic principles and approaches to costume design for theatre and dance. Visual communication methods, creative process, historical research, and organizational practices. Repeatable one time. Prec: 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. Prec: 240 or consent. DA

THEA 380 Beginning Directing (3) Basic practical course in how to direct a play. Students will direct scenes. Emphasis on writing instruction. THEA and DNCE majors only. Prec: upper-level theatre majors or consent. DA

THEA 400 (Alpha) Advanced Theatre Practicum (1) Advanced workshop experience in the practical application of theatre skills. (B) acting; (C) stagecraft; (D) costume; (E) theatre management. Repeatable up to four credits per alpha. Prec: audition and performance of role in a Department of Theatre and Dance production for (B), (C) and (D) and theatre majors only or consent for (E).

THEA 411 World Theatre III: Elite and Popular (3) Ethical issues in drama and production, interplay
Focus on Bartenieff fundamentals and movement analysis as it applies to the physical interpretation of theatrical roles. Pre: one of 435, DNCE 435, or consent. (Alt. years) (Cross-listed as DNCE 436) DA
THEA 437 Period Movement Styles, 1450–1650 (3) Movement styles and concepts of European societies in the Renaissance and early Baroque periods. Pre: one of 435 or DNCE 435, or one semester of a 100-level dance technique class. (Alt. years) (Cross-listed as DNCE 437) DA
THEA 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. DI
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, fabric modification, millinery and crafts, within the context of current industry practice. Repeatable two times. A-F only. Pre: 354, 356, or consent. (Cross-listed as DNCE 446) DA
THEA 447 Stage Management (3) Business, organization and management for theatre and dance productions. Pre: junior standing or consent.
THEA 448 Introduction to Computer-Aided Design for the Theatre (3) Basic concepts and techniques of 2D computer-aided design. Lecture/workshop with emphasis on use of 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 II: Intermediate 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 design theatre for design for theatre and dance. Introduction to collaborative process in costume. Intensive work on rendering skills, applied to character and costume. Pre: 356 or consent. (Cross-listed as DNCE 456) DA
THEA 462 Drama and Theatre of Oceania (3) Survey of the contemporary drama and theatre of Oceania that combines island and Western traditions. Includes Papua New Guinea, Hawai‘i, Fiji, Samoa, Australia, New Zealand. Pre: 101 or ANTH 350, or consent. (Cross-listed as PACS 462) DH
THEA 464 Drama and Theatre of Southeast Asia and India (3) Court, folk, popular traditions, and the manner of their production. Pre: consent. DH
THEA 465 Drama and Theatre of China (3) Yuan, southern, spoken drama; Beijing opera and the manner of their production. Pre: consent. DH
THEA 466 Drama and Theatre of Japan (3) No, Kyōgen, Bunraku, Kabuki, modern drama, and the manner of their production. Pre: junior standing. DH
THEA 468 Drama and Theatre of Hawai‘i (3) Survey of indigenous forms of Hawai‘i’s Native Hawaiian, and other ethnic playwrights, and contemporary multicultural landscape of drama and theatre in Hawai‘i. Junior standing or higher. Pre: 101; (minimum grade of B), or consent. (Alt. years) (Cross-listed as DNCE 468) DA
THEA 470 Creative Drama (3) Dramatic activities for young people. For teachers, group workers, recreation majors, and others dealing with children. Supervised field activities. Pre: junior standing or consent. DA
THEA 473 Storytelling (3) Storytelling development through focused activities on personal artistic practice, story content, and public performance techniques. Repeatable one time. Junior standing or higher. Pre: 221 or consent.
THEA 474 Theatre for Young Audiences (3) Theories and principles of formal theatre for young audiences. Study of and practice in the selection, direction, and production of plays. Pre: junior standing or higher. DA
THEA 475 Puppetry for Young Children (3) Methods of constructing puppets and stages and 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 teachers, recreation directors, and others working with students aged 10 to 18 and adults. Pre: junior standing or above, or consent. DA
THEA 478 Hula Kīkī: Hawaiian Puppetry and Image Dancing (3) History, techniques, construction, and performance of Hawaiian puppetry and traditional image dancing. Repeatable one time. Junior standing or higher. DA
THEA 480 Intermediate Directing (3) Workshop: students direct one-act plays. Repeatable one time with consent. Pre: 380 and consent. (Alt. years) DA
THEA 490 Experimental Theatre Studio (3) Working collectively, students research, write, design, develop, and perform a full-length production. Repeatable two times. Pre: 6 credits above the 200 level in acting, directing, playwriting; or consent. DA
THEA 492 (Alpha) Topics in Drama and Theatre (3) (B) Qiqong (Ch‘i Kung) for actors; (C) Shakespeare in performance. Skills and techniques for performance in Shakespearean plays; an introduction to most Greek theatre. Pre: 434 or consent. (Once a year).
THEA 611 Seminar in Major Dramatic Theory (3) Major theories of Western theatre from Aristotle to Roland Barthes. Repeatable one time with consent. Pre: 412 or consent. (Alt. years) DA
THEA 612 History of Western Theatre I (3) Theatre as a cultural and social institution in the West, from ancient Greece to Restoration England. Pre: one of 311, 312, 411, 412, or consent. (Alt. years) DA
THEA 613 History of Western Theatre II (3) Theatre as a cultural and social institution in the West, from the 18th century to the present. Pre: one of 311, 312, 411, 412, or consent. (Alt. years) DA
THEA 614 (Alpha) Topics in Dramaturgy (3) (B) role of the dramaturg; covers history, theory, and practice; (C) dramaturgy workshop; accompanies specific Kennedy Theatre productions. Repeatable one time per alpha. Pre: consent. (Alt. years) DA
THEA 615 Performance Theory (3) Introduction to key texts and concepts of performance studies. Pre: consent.
THEA 616 Script Analysis (3) Study of dramatic texts in a 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 one time when topics change. Pre: 615 or consent. (Cross-listed as DNCE 617)

THEA 619 Advanced Topics: Playwriting and Dramatic Theory (3) Readings, research, writing, and seminar discussions. Pr: 418, 611, and consent. (Alt. years)

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. Pr: 420 or consent. (Alt. years)

THEA 621 Acting VII: Great Roles (3) Great roles from the Western theatre repertory; focus on the individual actor and performance styles. Repeatable one time. Pr: 422 and consent. (Alt. years)

THEA 625 Experimental Asian Acting (3) Integration of movement, vocal technique, and concepts of traditional Asian genres into the actor’s repertory. Exploration of application to contemporary Asian and non-Asian texts. Workshop format. Repeatable one time. THEA and DNCE majors only. Pr: consent.

THEA 626 Advanced Topics in Theatre Acting (1) Repetition of acting, performance and scene work. Repeatable. THEA majors only. Pr: consent.

THEA 634 Taiji Weapons for Actors (3) Advanced level Taijiquan (Tai Chi Ch’uan) weapons training. Workshop format. Repeatable two times. Pr: 434 or 431. Pr: consent. (Alt. years)

THEA 640 Problems in Design and Production (3) Workshop dealing with special topics in lighting design, sound design, technical design, production stage management, and special effects. Repeatable three times with consent. Pr: 433 or 454 or consent.

THEA 645 Lighting III: Advanced Lighting Design (3) Workshop dealing with special topics in theatrical lighting and related skills. Repeatable two times. THEA majors only. Pr: 445.

THEA 650 Professional Advancement in Entertainment Design (1) Directed study designed to help MFA candidates in Design acquire the tools helpful in obtaining future employment. Portfolios, resumes, and related application tools will be developed along with other necessary skills. Must be current MFA candidate in theatre. Repeatable six times. THEA majors only. Graduate students only.

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. Pr: 453 or consent. (Alt. years)

THEA 656 Design Experiments III: Advanced Costume Design (3) Workshop dealing with special topics in costume design and related skills, and portfolio preparation. Repeatable one time with consent. A-F only. Pr: 456 or consent. (Alt. years)

THEA 657 Seminar in Design (3) Research, design, and development of collaborative design problems and solutions. Repeatable two times. A-F only. Pr: 445, 453, 456; or consent.

THEA 660 Asian Theatre Field Research (3) Goals and methods. Interview, questionnaire, observation, and performance study as research techniques. Practical application by designing a research project. Pr: 600.

THEA 663 (Alpha) Topics in Asian Theatre (3) Comparative and cultural examination. (B) origins; (C) theories and systems; (D) modern Asian drama. Repeatable one time. Pr: consent. (Alt. years)

THEA 670 Seminar in Advanced Creative Dramatics (3) Advanced seminar in applied methods and theories of creative dramatics. Repeatable one time. THEA or DNCE majors only.

THEA 678 (Alpha) Topics in Theatre for Young Audiences (3) Creative movement/drama, puppetry, and theatre/dance; (B) production concepts. Repeatable one time with consent. Pr: 470, 474, 475, 476, 477, DNCE 490; or consent.

THEA 680 Directing Asian Theatre (3) Directing traditional Asian theatre pieces and Western plays performed with Asian actors; development of new performance styles based on Asian examples; directing of scenes and one-act plays. Repeatable one time with consent. Pr: graduate theatre major and one Asian theatre course, or consent.

THEA 681 Advanced Topics in Theatre Directing (1) Readings, discussion, research, and/or performance and scene work. Repeatable eight times. THEA majors only. Pr: consent.

THEA 682 Graduate Workshop in Directing (3) Direction of scenes and major one-act plays. Pr: consent. Repeatable one time with consent. Pr: 600 or consent.

THEA 683 Workshop in Directing Process (3) Methods class in theatre production for the director. Covers organization and techniques such as rehearsal planning, scheduling, and execution. Repeatable one time.

THEA 685 Directing Western Styles (3) Students direct scenes in classical and major one-act plays. Pr: 682. Repeatable one time with consent. THEA majors only. A-F only. Pr: graduate student in theatre program, or consent. (Alt. years)

THEA 690 Graduate Theatre Workshop (V) Practical and supervisory theatre work pertinent to professional degree objectives on productions being done in Kennedy Theatre or in other venues, by approval. Repeatable eight times, up to 9 credits. THEA majors only. Pr: consent.

THEA 691 Seminar in Teaching Dance/Theatre (3) Pedagogy and classroom experience in teaching technique and theory. (Alt. years) (Cross-listed as DNCE 691)

THEA 692 Practicum in Teaching (V) Supervised teaching experience at the introductory or under-graduate level. Students will teach an appropriate level course in their field of expertise under faculty supervision. Repeatable up to 12 credits. THEA or DNCE majors only. (Cross-listed as DNCE 692)

THEA 693 Internship: Youth Theatre/Dance (V) Supervised leadership experiences in theatre/dance program with children. Students spend nine hours a week supervised setting and three hours in weekly class meeting. Pr: one of 470, 476, or DNCE 490; or consent. (Cross-listed as DNCE 693)

THEA 695 Creative Projects (V) MFA play or dance production, design, original full-length plays. Repeatable unlimited times.

THEA 699 Directed Research (V) Reading or research in theatre technique or theory; reading and practice in particular areas of dramatic production. Repeatable unlimited times. Pr: consent.

THEA 700 Thesis Research (V) Repeatable unlimited times.

THEA 705 Seminar in Western Drama and Theatre (3) Special topics. Repeatable when topics change. Pr: 600.

THEA 763 (Alpha) Seminar in Asian Theatre (3) (B) Southeast Asia and India; (C) China; (D) Japan. Repeatable two times. Pr: one of 464, 465, 466, or consent.

THEA 779 Seminar in Theatre for Young Audiences (3) Theories and methods applied in theatrical experiences with and for young audiences: creative movement/drama, puppetry, and theatre/dance. Pr: one of 470, 474, 475, 476, 477, or DNCE 490.

THEA 800 Dissertation Research (V) Repeatable unlimited times.

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

TONG 101 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. Pr: 101 or consent. HSL.

TONG 201 Intermediate Tongan (4) Listening, speaking, reading, and writing skills. History and culture. Meets four (4) hours weekly. Pr: 102 or consent. HSL.

TONG 202 Intermediate Tongan (4) Continuation of 201. Pr: 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 cts.bu.edu for current course offered and further details.

TI 401 Principles of Translation (3) Student awareness of the translation process and the criteria for evaluating translations. Includes readings and discussions of the translation process, terminology research as well as intensive practice in precise writing, paraphrasing, and rewriting. Pr: at least 300-level proficiency in a second language.

TI 403 Introduction to Interpretation (3) Develop an awareness of the principles and the basic skills involved in the three modes of bilingual interpreting; simultaneous and consecutive interpreting and sight translation. Repeatable one time. Pr: at least 300-level proficiency in a second language.

TI 404 Spanish-English Translation (3) Factors in the art of translation. Practice in translating material from Spanish to English and the reverse. Pr: SPAN 305 or consent. (Cross-listed as SPAN 405)

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, in medical and social service settings; practical information about the community interpreter’s role and profession: practice of various community interpreting situations and techniques. Repeatable one time.

TI 407 Court Interpreting II (3) Combined lecture/discussion/practice. Continuation of 405 Court Interpretation, diving deeper into the practical side of oral interpreting for various proceedings, including arraignments, trials, witness testimonies, etc.Must be bilingual. Real courtroom observations required. Repeatable one time. Pr: 405 or consent.

TI 408 Medical Interpreting (3) Healthcare interpreting requires students to understand basic biosystems, common illnesses and treatments, as well as interpreting skills. Students must have 402 or above equivalency of second language skills (or instructor approval). Repeatable one time. Pr: 406 or consent.

TI 409 Professional Orientation and Internship (3) A three-part course consisting of business models for interpreters, a language-specific practicum lab, and an internship. Repeatable one time. Pr: 403 or 406. (Spring only)

TI 412 (Alpha) Technical Translation (3) Translation of nonfiction texts into English. Emphasis on editing target version and producing camera-ready copy. (J) Japanese; (K) Korean; (O) other; (S) Spanish. Repeatable one time. Pr: 411, senior or graduate standing, and pass CITS screening exam. Co-requisite: 414 and 452.

TI 414 (Alpha) Translation Skills (into Second Language) (3) Translation into a Second Language. Processes, methodology, and techniques. Web-based. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. Pr: a previous translation course, or consent.

TI 420 (Alpha) Chinese Translation (3) Training in techniques; theory of translation. (B) Chinese–English; (C) English–Chinese. Pr: consent. (Cross-listed as CHN 421) (Alpha)


TI 424 English to Japanese Translation (3) Training in techniques of translating English into Japanese. Pr: JPN 407D or JPN 407E, or consent. (Cross-listed as JPN 424)

TI 425 Japanese to English Translation (3) Training in techniques of translating Japanese into...
English, Pre: JPN 407D or JPN 407E, or consent. (Cross-listed as JPN 425)

TI 432 (Alpha) Consecutive Interpretation (3) Extensive note-taking and note-reading in a bilingual context. Focuses on the translation of numbers, acronyms, institutional and financial information. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 442 (Alpha) Simultaneous Interpretation (3) Simultaneous interpretation of speeches. Focus on the study of formulaic and frozen language characteristically used in international meetings. (I) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 452 (Alpha) Sight Translation (3) Focus on the ability to translate orally information from a written text. Emphasis on written and oral linguistic (discourse analysis) and communicative (public speaking) skills. (J) Japanese; (K) Korean; (M) Mandarin; (O) other; (S) Spanish. Repeatable one time. A-F only. Pre: CITS screening exam.

TI 499 Directed Reading/Studies (V) Independent study of approved readings and research with faculty supervision. Repeatable two times, up to nine credits. A-F only.

Travel Industry Management (TIM) School of Travel Industry Management Students should check with the department for grade requirements for prerequisites.

TIM 099 International Exchange Programs (V) UH Mānoa School of Travel Industry Management majors participating 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, foodservice, 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 customs of food traditions including habitat, social status, religious beliefs, gender, and other environmental considerations. A-F only. KGR only.

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 depending upon major: Pre: 101 or consent.

TIM 300 Internship III (2) A minimum of four hundred hours of travel industry experience. Position must be different from TIM 200 position and of a more responsible nature or in a different organization. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM major and 200.

TIM 301 Legal Environment of the Travel Industry (3) Origin, development, and principles of common, statutory, constitutional, international, and maritime law relating to hospitality industry. TIM majors only. Pre: 101. Recommended: BLAW 200.

TIM 302 Information Systems Technology (3) Computer applications in the travel industry; operation and evaluation of specific travel industry systems and applied business systems. TIM majors only. Pre: 101 and ICS 101.

TIM 303 Management of Service Enterprises (3) Principles and principles of management with special emphasis on those principles and theories that are most relevant to management in service-based industries. Students may not earn credit for 303 and BUS 315. TIM majors only. Pre: 101 or consent.

TIM 304 Principles of Travel Industry Marketing (3) Concepts, problems, processes of marketing within the travel industry; development of marketing strategies including product, place, promotion, and price for travel institutions. Students may not earn credit for 304 and BUS 312. TIM majors only. Pre: 101.

TIM 305 Financial Management for the Travel Industry (3) Cash flow determination and management, investment, and financial management strategies. Determining the financial viability of proposed and existing operations through traditional and state-of-the-art techniques. Pre: 101 and ACC 200 and EREM 203, MATH 205, MATH 215, MATH 241, or BUS 250.

TIM 306 Human Resource Management: Travel Industry (3) Principles of human resource management applied to recruitment, training, and evaluation in the travel industry; employee productivity, recruitment, and retention. TIM majors only. Pre: 101 and (COMG 151 or COMG 251).

TIM 310 Institutional Purchasing (3) Procurement, inventory management, purchasing procedures, inventory control, procurement, transportation, legislation. Comprehensive report by student and performance evaluation from employer required. CR/NC only. Pre: TIM 311 Club Management (3) Introduction to club and institutional management, including operations, services, and facilities. TIM majors only. A-F only. Pre: TIM 101.

TIM 315 Foodservice Management (3) Critical and essential aspects of managing foodservice operations including principles of food safety and sanitation, procedural knowledge in front and back of the house and production lines. TIM majors only. A-F only. Pre: TIM 310 and 303.

TIM 316 Events Planning and Marketing (3) Planning and developing events and their marketing, development and execution in the foodservice industry. Emphasis on developing and enhancing event marketing and sales. TIM majors only. Pre: TIM 315 and departmental approval.

TIM 317 Events and Meeting Planning (3) Introduction to special event planning process and techniques. Emphasis on design, planning, marketing, management, staging events, legal compliance, risk management, financial control, and successful event management. TIM majors only. A-F only. Pre: TIM 315, 301, and 302 (with a minimum grade of C- in 302 and 303).

TIM 318 Quality Food Management (3) Explore various aspects of the quality in foodservice operations and development lines to measure and improve the quality. A-F only. Pre: 101 and departmental approval.

TIM 319 Quantity Foods and Institutional Purchasing (4) (S Lec, 1 3-hr Lab) Quantity food and beverage operations, menu development and control, purchasing, foodservice sanitation, inventory control, procurement, transportation, legislation. Institutional foodservice sanitation, Hazard Analysis Critical Control Point and National Restaurant Association Certification. TIM majors only. Pre: FSHN 181 and FSHN 181L, 315 or consent.

TIM 320 Introduction to Tourism Economics (3) Examines tourism from an economic perspective. Topics include: the determinants of consumer demand for leisure travel, structure of competition among suppliers of tourism services, 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. TIM majors only. Pre: ECON 120 or 130 and 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, tourism strategy and social planning. TIM majors only. Pre: TIM 310. DS

TIM 324 Geography of Global Tourism (3) Touristic 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. TIM majors only. 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. Evolution of the distribution of travel products through destination databases and electronic commerce. TIM majors only. Pre: 302.

TIM 330 Hotel/Resort Facilities and Design (3) Comprehensive understanding of facilities management and design including maintenance systems, sustainable development options and design and environmental management. TIM majors only. 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 accessed by tourists into or within a tourist destination. Passenger behavior; transport infrastructure; transport networks; regulation; sustainable transport. TIM majors only. Pre: TIM 101.


TIM 353 Air Transportation Management (3) Marketing, management and strategies used by airlines, airports, catering, and aircraft manufacturers. TIM majors only. Pre: 101.

TIM 354 Surface Transportation Management (3) Management of surface transportation such as cars, buses, and intercity rail, etc. Includes marketing, ownership and financing, supply chain, operations, regulation and promotion, human resources. TIM majors only. Pre: 101.

TIM 365 Economics in Travel Industry (3) Microeconomic theory of consumer behavior and demand production cost analysis, market structure and pricing in travel companies. Economic impact of tourism. Students may not earn credit for 365 and BUS 313. TIM majors only. Pre: either ECON 120 or ECON 130.

TIM 368 TIM Study Abroad (V) Study abroad instructional experience emphasizing international travel, tourism and hospitality-related topics at equivalent, accredited programs. Content varies depending on location of instructor and course/program. Course qualifies as either a TIM or general elective with pre-approval or department. Repeatable unlimited times. TIM majors only. 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; (J) restaurant entrepreneurship; (K) tourism management; (L) recreation management; (M) leisure management; (N) transportation management; (O) travel industry management; (P) travel industry education; (Q) travel industry management; (R) recreation management; (S) sustainable development options and design and environmental management; (T) tourism management; (U) travel industry management; (V) travel industry management; (W) travel industry management. TIM majors only. Pre: either ECON 120 or ECON 130.

TIM 399 Directed Reading and Research (V) Reading and research into problems in hotel, restaurant, transportation or tourism sectors of the travel industry. Pre: and or permission of professor. Maximum 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 majors only.

TIM 400 (Alpha) Internship IV (2) Requires a minimum of 150 hours of internship, a business
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIM 410</td>
<td>Resort Development and Management (3)</td>
<td>Principles of resort development and management. Essential aspects of developing, financing, marketing, and managing resorts. A-F only. Recommended: 313 and 314. Recommended: 333 and 401. (Fall only)</td>
</tr>
<tr>
<td>TIM 403</td>
<td>Revenue Management in Travel Industry (3)</td>
<td>Application of revenue management theory, principles, concepts, techniques, practices, and analysis to travel industry management. Focus will be on cost controls, pricing, inventory control, forecasting, financial analysis, and economic analysis. TIM majors only. (Pre-requisite: TIM 312, and ECON 150.)</td>
</tr>
<tr>
<td>TIM 415</td>
<td>Nature-Based Tourism Management (3)</td>
<td>Principles of nature-based tourism, including a survey of impacts, objectives, planning, and management strategies. Emphasis on destination planning and on the role of stakeholders. Junior standing or higher. Pre: 101 or 324/GEOG 324. (Cross-listed as GEOG 415) DS</td>
</tr>
<tr>
<td>TIM 431</td>
<td>Strategic Management for the Travel/Hospitality Industry (3)</td>
<td>Strategic management in the travel/hospitality industry. Case study analysis, discussion, and written reports, covering strategic management problems and industry issues. Emphasis on writing instruction. A-F only. Pre: 301, 302, 305, 306, 308, and 309. (Spring only)</td>
</tr>
<tr>
<td>TIM 442</td>
<td>Advanced Topics in Transportation (3)</td>
<td>Advanced level of discussion in terms of transportation planning, including management, economics, strategy, regulation, operating performance, fleet management, and network management. Pre: 101. Recommended: 350 and/or 353.</td>
</tr>
<tr>
<td>TIM 443</td>
<td>Principles of Environmental Management Systems (3)</td>
<td>Introduction to the process of developing Environmental Management Systems that address the principles outlined in ISO 14001:2015. Repeatable one time. Junior standing or higher. A-F only. (Spring only) (Cross-listed as OEST 442 and PLAN 443)</td>
</tr>
<tr>
<td>TIM 469</td>
<td>Alpha Advanced Topics in Travel Industry Management (3)</td>
<td>Tourism planning; (C) advanced travel industry management; (D) advanced hospitality management; (E) advanced hotel management; (F) advanced restaurant management; (G) advanced leisure management; (H) advanced recreation management; (I) advanced leisure management; (J) advanced transportation management; (K) advanced travel management education; (L) advanced travel industry management technology; (M) advanced travel and marketing management; (N) advanced meetings, incentives, conventions, and exhibition management; (O) advanced food and beverage management; (P) leadership and advanced human resources; (Q) advanced assets management. Repeatable five times with consent for (B), (C), (D), (E), (F), (G), (H), (I), (J), (K), (M), (N); repeatable six times for (O), (P), and (Q). TIM majors only. A-F only for (O), (P), and (Q).</td>
</tr>
<tr>
<td>TIM 500</td>
<td>Master’s Plan B/C Studies (1)</td>
<td>Enrollment for degree completion. Pre: master’s Plan B or C candidate with consent.</td>
</tr>
<tr>
<td>TIM 601</td>
<td>Research Applications in Travel Industry Management (3)</td>
<td>Analysis of methodologies appropriate for travel industry management. Survey of the literature of advanced techniques and approaches including exploratory approaches. Familiarization with research design and implementation of research proposals. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 602</td>
<td>Strategic Travel Marketing (3)</td>
<td>In-depth study of marketing principles and problems related to travel industry marketing. Emphasis on strategic marketing. Research applications, international and domestic marketing of travel industry services. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 603</td>
<td>Information Technology, E-Commerce, and Travel Industry (3)</td>
<td>Planning, implementation, management, evaluation, and impact of information and electronic communication technologies, including e-commerce applications in the travel industry. Analysis of new information technology use as an area of research and strategic application. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 604</td>
<td>Managerial Accounting for Travel Industry (3)</td>
<td>Advanced study of management accounting within travel industry, including issues specific to the travel industry. Emphasis on pricing decisions, concepts and application of central systems, financial planning, price level impacts, performance evaluation. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 605</td>
<td>Hospitality Management (3)</td>
<td>Advanced human relations and operating issues; use of accounting, behavioral, financial, marketing, and information systems in managing hospitality organizations. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 606</td>
<td>Transportation Economics and Management (3)</td>
<td>Advanced study of economics and management of passenger transportation systems serving the travel industry. Emphasis on topics such as government policy, transport economics, marketing, and management, and the relationships between transportation systems and tourism development. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 607</td>
<td>Global Tourism Analysis (3)</td>
<td>International trade theory and regional analysis methodologies applied to tourism and the service industry, including travel balance account, inter-regional transactions, economic impacts, environmental economics, demand theory and forecasting. A-F only. Pre: graduate standing or consent.</td>
</tr>
<tr>
<td>TIM 640</td>
<td>Financial Management for the Travel Industry (3)</td>
<td>Seminar examining the social, environmental, economic factors of sustainable tourism development, including departmental planning, product development, integrated marketing, stakeholder relations, and the role of destination marketing/marketing organizations. Emphasis on written communication. Pre: 101.</td>
</tr>
<tr>
<td>TIM 645</td>
<td>Tourism Field Studies (3)</td>
<td>Integration of concepts and application of knowledge and skills from other courses to a selected field study project. Pre: any two 600-level TIM courses completed and a third concurrent or consent.</td>
</tr>
<tr>
<td>TIM 694</td>
<td>Professional Paper (5)</td>
<td>Independent project or paper under faculty supervision in lieu of plan A. TIM 700 thesis. Requires proposal approved by supervisor and graduate chair prior to registration. A-F only. Includes three 600-level TIM courses completed or consent.</td>
</tr>
<tr>
<td>TIM 695</td>
<td>Seminar: Travel Industry Management Policy (3)</td>
<td>Integration of learning through analysis of policy issues, trends, and problems in the travel industry. Pre: 305. (Fall only)</td>
</tr>
<tr>
<td>TIM 699</td>
<td>Directed Reading (V)</td>
<td>Independent study of approved, advanced reading with faculty supervision. Requires proposal prepared by student and approved by supervisor and graduate chair prior to registration. Repeatable one time.</td>
</tr>
<tr>
<td>TIM 700</td>
<td>Thesis Research (V)</td>
<td>Independent supervised research. Formal and oral written presentation of research findings. Repeatable up to six credits.</td>
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</tbody>
</table>
TRMD 602 Laboratory Methods in Tropical Medicine (2) Microbiologic methods and techniques for identification of pathogenic 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 diseases of host-pathogen interactions; public health aspects of parasitic infections. Repeatable one time. A-F only. Pre: MICR 351 or equivalent. (Cross-listed as PH 667)

TRMD 604 Concepts in Immunology and Immuno-pathogenesis (2) Immunological concepts relating to infectious diseases and host pathogen interactions. Repeatable one time. A-F only. Pre: MICR 461L, or equivalent) or consent. (Cross-listed as PH 665)

TRMD 605 Infectious Disease Micro II (2) 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 use of equipment and procedures in infectious disease and immunology research; introduction to research in tropical medicine. Repeatable unlimited times. Pre: 604 or (concurrent).

TRMD 607 Neurovirology (2) Seminar on neuro-invasive viruses giving viruses causing nervous system diseases and discussing recent advances in the research field. 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 detection, innate immune disease pathogenesis, pathogen immune evasion, and neuroimmunology. Repeatable two times. A-F only. Pre: 604, MICR 461, or consent. (Alt. years: fall)

TRMD 650 Ecological Epidemiology (2) Applications of population biology, pathogen/host life history, and population genetics to infectious disease epidemiology, including 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 651 Vaccinology (2) History/evolution of vaccines, current and next generation vaccines, vaccine immunology, adjuvants, vaccine strategies, vaccines for viral, bacterial, and parasitic diseases, vaccine-proof-of-concept and downstream developmental studies; vaccine safety production processes. Repeatable one time. Graduate students only. A-F only. Pre: (604 and 650) with a minimum grade of B. (Spring only)

TRMD 652 Advanced Genetics and Evolution of Infectious Diseases (2) An evolutionary perspective to examine the evolution of interactions responses between infectious agents and the immune system. Topics will include natural selection, life history evolution, population genetics of pathogens and hosts, and anti-microbial resistance. Pre: 604 (or concurrent) and 650 (or concurrent), or consent. (Alt. years: spring)

TRMD 653 Bioinformatics and Molecular Evolution (3) Combined lecture/computer lab on bioinformatic tools used in genomics, including sequence assembly, search algorithms, alignment, phylogenetic

TRMD 654 Advanced in HIV/AIDS (2) History of HIV, basic biology and virology, epidemiology, HIV pathogenesis and immunology, clinical features, and co-morbidities. Treatment and prevention of HIV/AIDS including research methods, statistics, cultural competence, genetics, pathophysiology, drug and vaccine development. Repeatable unlimited times. A-F only. Pre: consent. (Fall only)

TRMD 655 Principles of Biostatistics (5) 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/factorial designs, logistic regression, survival analysis, and non-parametrics. A-F only. Pre: algebra and one semester of calculus or consent. (Fall semester)

TRMD 671 Advanced Medical Parasitology (2) Consideration of ultrastructure, physiology, biochemistry, in-vitro cultivation and host-parasite relationships of parasites of medical importance. A-F only. Pre: consent. (Alt. years: fall)

TRMD 672 Advanced Medical Virology (2) In-depth study of basic and emerging virological infections pathogenic for human; virus replication, host range, pathogenesis, immunology, and epidemiology. Pre: 605 or equivalent, or consent. (Alt. years: fall)

TRMD 673 Advanced Medical Mycology (2) Role of bacteria in infectious diseases, with emphasis on clinical aspects and identification of etiological agents. Pre: 605 or equivalent, or consent.

TRMD 675 Epidemiology of Tropical Infectious Diseases (3) Epidemiology of infectious diseases as it relates to tropical medicine. Lecture/seminar format. A-F only. Pre: TRMD graduate standing or consent. (Spring only)

TRMD 690 Seminar in Tropical Medicine and Public Health (1) Weekly discussion and reports on current advances in tropical medicine and public health. Repeatable unlimited times. (Cross-listed as PH 755)

TRMD 695 Plan B Master’s Project (3) Independent study for students working on a Plan B master’s project. A grade of Satisfactory (S) is assigned when the project is satisfactorily completed. A-F only. Pre: graduate standing or consent.


TRMD 700 Thesis Research (V) Research for master’s thesis. Approval of department faculty required. Repeatable unlimited times.

TRMD 705 Special Topics in Tropical Medicine (V) Advanced instruction in fronts of tropical medicine and public health. Repeatable unlimited times. A-F only. (Cross-listed as PH 756)

TRMD 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) Introduction to plants, landscapes, and horticulture. Does not count towards TPSS major. Pre: consent. DB

TPSS 156 Natural History and Conservation of Hawai’i Island (3) The formation of the Hawaiian Islands, establishment of their native terrestrial and marine flora and fauna, and human impacts and conservation. A-F only. Co-requisite: 156L. (Summer only) DB

TPSS 158 Natural History Field Trips on Hawai’i Island (1) Field trips for Natural history and Conservation of the Hawaiian Islands. A-F only. Co-requisite: 156. (Summer only) DY

TPSS 200 Agriculture, Environment, and Society (3) Relationship of plants, soils, and the environment, and how they relate to cultural practices and society in agroecosystems with an emphasis on Hawai’i as a model system. DB

TPSS 220 Organic Food Crop Production (2) Combined lecture/lab on principles of certified organic food production. Field visits to organic farms/markets included. Open to nonmajors. (Fall only) DY

TPSS 251 Scientific Principles of Sustainability (3) Introduction to the key concepts of sustainability, including the ecology of managed and natural ecosystems, global change biology, ecological principles of natural resource management, renewable energy technologies, and the environmental impacts of humans. (Cross-listed as SOCS 251 and TAHR 251)

TPSS 300 Tropical Production Systems (4) (1 Lec, 3-hr Lab) Origin, development and management of tropical crops. Pre: 200 or consent. DB

TPSS 304 Fundamentals of Soil Science (4) (3 Lec, 1-hr Lab) Origin, development and management of tropical soils; classification of Hawaiian soils. A-F only. Minimum prerequisite grade of C or consent. Pre: CHEM 161 and 161L, or consent. (Fall only) (Cross-listed as NREM 304) DP

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 applied plant sciences. Oral focus designation. Pre: 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 improvements. Pre: ECON 130, NREM 220, or consent. (Alt. years) DS

TPSS 336 Renewable Energy and Society (3) Combined lecture/discussion on the ability of renewable energy technologies to meet local, national, and global energy demands and their potential impacts on the environment and society. Pre: consent.

TPSS 341 Accounting and Financial Analysis (3) Principles and methods of agricultural accounting, Preparing and interpreting financial statements. Sources and costs of credit, capital budgeting, tax management, estate planning. Repeatable one time. A-F only. Pre: ECON 130 or NREM 220, or consent. (Alt. years) DS

TPSS 350 Tropical Landscape Practices (2) (1 Lec, 1-hr Lab) Concepts and techniques of landscape installation and management in the tropics. Pre: 200 and 369; or consent. DB

TPSS 351 Enterprise Management (3) Introduction of practical concepts and methods used in business management. Understanding critical role each strategy plays. Facilitate student’s practice of analytical and critical thinking through case studies. (Cross-listed as NREM 351) DS

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

TPSS 353 Landscape Graphics Studio (4) Basic skills of landscape graphic communication through a creative process model. Learning free hand and technical drafting techniques to creative effective

Key to symbols & abbreviations: see the first page of this section.
TPSS 340 Ornamental Plant Materials (3) (2 Lec, 1 3-hr Lab) Identification, origin, use, and cultural requirements of ornamental plants and groundcovers used in Hawaiian landscapes. Pre: 200 or consent. DB

TPSS 401 Vegetable Crop Production (3) (2 Lec, 1 3-hr Lab) Crop biology, requirements, and production techniques for commercial vegetable production in Hawaii will be stressed. Pre: 300 or consent. DB

TPSS 402 Flower and Foliage Crop Production (4) (2 Lec, 1 3-hr Lab) Biology and culture of cut flowers, blooming potted plants, foliage plants under field and protected cultivation in Hawaii and globally. Pre: 300 or consent. DB

TPSS 403 Tropical Fruit Production (3) (2 Lec, 1 3-hr Lab) Biological and horticultural management practices of selected tropical and subtropical fruit crops, with emphasis on small scale commercial production in Hawaii. Pre: 300 or consent. DB

TPSS 405 Turfgrass Management (4) (5 Lec, 1 3-hr Lab) Adaptability and selection, establishment, and cultural practices of grasses for various types of turf. Pre: 200 or consent. DB

TPSS 409 Cultural Biogeography (3) Co-evolution of human societies and plants over the last 10,000 years. Foraging, farming and urban societies economies; spread and modification of selected plants; issues of preservation of genetic resources and traditional plant knowledge. The form and function of gardens. Pre: junior standing or higher, or consent. (Cross-listed as GEOG 409) DS

TPSS 416 Introduction to Social, Ethical and Political Issues Associated with Biotechnology (3) Introduction to the concept of biotechnology, fundamental issues associated with use of this technology, with special emphasis on agricultural biotechnology. A-F only. Pre: 200 or BIOL 171 or NREM 210, or consent. Alt. years (Cross-listed as EPS 416) DB

TPSS 418 Turfgrass Pest Management (4) Provides students with knowledge and real world experience on common turfgrass pests and management strategies. Emphasis will be placed 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: PEPS 210 or consent. (Fall only) (Cross-listed as EPS 418) DS

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. Pre: 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. Hawaii’s seed industry and biotechnology. A-F only. Pre: 200 or consent. DB

TPSS 429 Spreadsheet Modeling for Business and Economic Analysis (3) Introduction to quantitative decision-making techniques for effective agribusiness management in resource allocation, scheduling, logistics, risk analysis, inventory, and forecasting. Emphasis on problem identification, model formulation and solution and interpretation of results. Pre: ECON 130 or NREM 220, and ECON 321 or NREM 310; or consent. (Once a year) (Cross-listed as ECON 429 and NREM 429) DS

TPSS 430 Nursery Management (3) (2 Lec, 1 3-hr Lab) Management practices in production and operations of commercial nurseries in Hawaii. Pre: 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 nitrate, phosphate, and trace elements such as As, Pb, and Se. A-F only. Pre: 304 or consent. (Fall only) (Cross-listed as EPS 435) 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 biolistics and other molecular approaches. Pre: 420 or consent. Recommended: BOT 410. DB

TPSS 450 Sustainable Nutrient Management in Agroecosystems (4) (3 Lec, 1 3-hr Lab) Biological, chemical, and physical processes governing the cycling of nutrients in agroecosystems, crop and livestock production, and the effects on surrounding unmanaged ecosystems. Pre: CHEM 161, or consent. (Cross-listed as NREM 460) DB

TPSS 453 Plant Breeding and Genetics (3) (2 Lec, 1 3-hr Lab) Unique aspects of plant genetics and applications to crop improvement, with emphasis on breeding plants in Hawaii. Pre: BIOL 375 (or concurrent) or consent. DB

TPSS 460 Soil Plant Environment (3) (2 Lec, 1 3-hr Lab) Bio-physical processes in the soil-plant-atmosphere continuum that influence crop growth and development. Methods to estimate the impact of soil and climate on crop performance. Use of crop models to simulate effects of planting date, plant spacing and rate, rainfall, and soil and climate factors of irrigation, and daily weather on crop yield and farm income. Pre: 304 and either PHYS 151 or PHYS 170, or consent. DB

TPSS 463 Irrigation and Water Management (3) Basic soil-water-plant relationships, irrigation water requirements, irrigation efficiencies, different methods of irrigation, planning, design and management of an irrigation system, fertigation and irrigation of soil and water quality. Pre: NREM 205 (or equivalent) and NREM/TPSS 304 (or equivalent), or consent. (Alt. years) (Cross-listed as NREM 463) DS

TPSS 470 Plant Physiology (3) Introduction of form and function from cellular to whole plant levels in processes from photosynthesis, growth, and morphogenesis, to flowering and senescence. A-F only. Pre: BIOL 171 or consent. DB

TPSS 470L Principles of Plant Physiology Lab (1) (1 3-hr Lab) Precourse experimentation in plant physiology, includes individual investigations. A-F only. Pre: consent. DY

TPSS 473 Post-Harvest Physiology (3) Comparative physiological and biochemical processes during ripening, maturation, and senescence in fruits, vegetables, and flowers related to changes in quality and storage life. Tropical commodities emphasized. A-F only. Pre: 200, BIOL 171, or BOT 201; CHEM 152, or consent. DB

TPSS 475 Plant Nutrient Diagnosis in the Tro (3) Designed for students to identify essential nutrients required by plants; diagnose nutrient disorders in plants; and prepare environmentally sound solutions to nutrient disorders. Pre: 304/NREM 304 (or concurrent) and BIOL 172. (Cross-listed as NREM 475) DS

TPSS 481 Weed Science (3) (2 Lece, 1 3-hr Lab) Weed classification, identification, and adaptations for weediness; principles of weed control; properties, uses, and action of herbicides. Lab: pesticide application equipment and techniques, no-till farming, greenhouse and field experiments. A-F only. Pre: 200 and CHEM 152, or consent. (Fall only) (Cross-listed as EPS 481) DB

TPSS 491 Experimental Topics (V) Study and discussion of significant topics, problems. Offered by visiting faculty and/or for extension programs. Repeatable. Pre: consent.

TPSS 492 Internship (1) Integration and application of academic knowledge and critical skills emphasizing professional development. Placement will be arranged with cooperating supervisor/employer. Pre: consent.

TPSS 492L Internship Experience (3) Internship field experience for TPSS majors. TPSS majors only. A-F only. Pre: 300 or concurrent. DB

TPSS 499 Directed Studies (V) Supervised individual instruction in field laboratory and library. Repeatable up to six credits. CR/NCR only. Pre: 364 or consent.

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

TPSS 601 Crop Modeling (3) (2 Le, 1 3-hr Lab) Principles of modeling crop growth and development, model types, techniques, simulation. Modeling influence of climate/environment on phenology, growth, development of horticultural crops. Pre: BOT 470 and NREM 310, or consent.

TPSS 603 Experimental Design (4) (3 Le, 1 3-hr Lab) Design of experiments and various analyses in biological and agricultural research. Pre: graduate standing or consent. Recommended: ZOOL 632. (Cross-listed as ANSC 603) DS

TPSS 604 Advanced Soil Microbiology (4) (3 Le, 1 3-hr Lab) Study of microbial and biochemical transformations mediated by soil microorganisms, emphasis on processes important to plant growth productivity and environmental quality. Pre: 304 and MICR 351, or consent.

TPSS 610 Nutrition of Tropical Crops (3) (1 2-hr Le, 1 3-hr Lab) Mineral nutrition of plants in relation to plant metabolism, mechanisms of ion uptake, long-distance transport of solutes, and interactions at the root-soil interface. Special emphasis on problems associated with tropical crops. Pre: 450 and 470, or consent. (Alt. years)

TPSS 614 Molecular Genetics of Crops (3) (3 Lec, 2 3-hr Lec/Lab) Applications of molecular genetics to crop improvement. Pre: 453 and MBBE 402; or consent.

TPSS 615 Quantitative Genomics and Evolution (3) Overview and lab-based course exploring theory and methods to understand genome evolution and adaptation; focus will be on a range of organisms. Pre: 453 and 603, or consent. (Cross-listed as PEPS 615) DS

TPSS 640 Advanced Soil Chemistry (5) (3 Le, 1 3-hr Lab) Physio-chemical processes in soils and soil solutions, with emphasis on ionic equilibria, mineral stability, organic complexation, and surface sorption of major plant nutrients. A-F only. Pre: 435 and CHEM 351, or consent.

TPSS 650 Soil Plant Nutrient Relations (4) (2 Le, 2 3-hr Lab) Soil-plant interactions, emphasis on characteristics of tropical soils and plants influencing nutrient uptake by plants, and methods to identify nutrient deficiencies and element toxicity. Pre: 450 or consent.

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

TPSS 654 Communications in the Sciences (1) (3-hr Le/Lab combination) Laboratory-type course for improving communication abilities in the sciences and engineering. Presentations to lay audiences are emphasized. Hands-on experience in techniques and methods is provided.

TPSS 657 Grant Writing for Graduate Students (1) Combined lecture/discussion on grants and grant writing. Designed to introduce graduate students to grants and grant proposal writing through lectures, class discussion, writing assignments, and peer review. Open to CTAHR graduate students only; others with consent. (Cross-listed as ANSC 657 and FSHN 657)
PLAN 310 Introduction to Planning (3) Perspectives on planning; planning tools and methods; specific Hawai'i planning—research problems from a multidisciplinary approach. Pre: junior standing or consent. (Cross-listed as GEOG 310) DS

PLAN 399 Directed Reading in Planning (V) Independent research on topics in urban and regional planning. Pre: 310. PLAN 412 Environmental Impact Assessment (3) Introduction to the methods for identifying, measuring, and quantifying the impacts of changes or interventions in human, environment, and other geographic systems. Pre: junior standing or consent. (Alt. years—Cross-listed as GEOG 412)

PLAN 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. Junior standing or higher. (Spring only) (Cross-listed as GEOG 414)

PLAN 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 urban form. Pre: GEOG 102 or GEOG 151 or GEOG 330, or consent. (Cross-listed as GEOG 421) DS

PLAN 442 Principles of Environmental Management Systems (3) Addresses the principles outlined in ISO14001:2015. Repeatable one time. Junior standing or higher. A-F only. (Spring only) (Cross-listed as ÖST 442 and TIM 462)

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

PLAN 473 GIS for Community Planning (3) Exploration of geographic information systems (GIS) analysis techniques for spatial information management in community planning. Students will learn the basic concepts and principles, and practical skills of GIS through theoretical discussions, and labs. Repeatable one time. Junior standing or higher. (Fall only)

PLAN 495 Housing, Land, and Community (3) Analyses availability of housing, particularly affordable housing, and its relationship to use of land and 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 environment dimensions of society, planning and policy; c) assess the justifications for planning and differentiation across the U.S. and Asia-Pacific with a focus on the role of the planner in policy formulation and implementation. Graduate students only or with permission. A-F only. Repeatable one time. (Cross-listed as ASAN 600 and POLS 645C)


PLAN 622 Advanced Environmental Impact Assessment (3) Theory and practice of environmental planning. Students must have passed 600 or equivalent (by petition) with a B or better. Repeatable one time. PhD students only or by consent. A-F only. Pre: 600 or consent.

PLAN 603 Urban Economics (3) Reviews and builds skills in applying basic theories and principles of urban and regional economics in contemporary U.S., Hawai'i, and Asia-Pacific. Repeatable one time. Pre: PLAN majors only. 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 group interviews, ethnography, participant observation, and participatory action research) and various analytic methods and approaches. Graduate standing only. Pre: 600

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. PLAN majors only. 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 a 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 policies experienced by different groups; comparison of 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 consent.


PLAN 619 Multiculturalism in Planning and Policy (3) Graduate seminar focuses on issues of governance, policy and planning in diverse multicultural societies. Differences in backgrounds, languages, privilege, preferences and values are often expressed in planning and policy controversies such as affirmative action and land use planning. Will examine these controversies and explore theories of governance in a multicultural setting. Pre: 600 or consent.

ENVIRONMENTAL PLANNING AND RESOURCE MANAGEMENT

PLAN 620 Environmental Planning and Policy (3) Overview of urbanization and environmental change. An examination of environmental laws, policies, planning and urban design strategies designed to manage and mitigate environmental impacts. Repeatable one time. A-F only. Pre: 600 (or concurrent) or consent.

PLAN 622 Advanced Environmental Impact Assessment (3) Theory and practice of environmental planning. Students must have passed 600 or equivalent (by petition) with a B or better. Repeatable one time. PhD students only or by consent. A-F only. Pre: 600 or consent.
impacts. Policy and planning frameworks supporting environmental assessment in the U.S. and abroad. Cumulative environmental effects and strategic environmental assessment. Pre: GEOG 412 or consent. (Cross-listed as GEOG 622)

PLAN 624 Environmental Valuation and Policy (3) Build valuation skills to assess best use, conservation, and policies relating to environmental amenities. Provides an overview of policy solutions to environmental degradation used by planners. Pre: 600 and 603.

PLAN 625 Climate Change, Energy and Food Security in the Asia/Pacific Region (3) Analysis of planning and its relationship to human-induced climate change and related environmental problems. Part of the Asia/Pacific Initiative taught in collaboration with universities throughout the region via video-conferencing. Pre: 620 (or concurrent) or consent.

PLAN 626 Topics in Resource Management (3) Issues, analytic techniques and management strategies for different resource systems including land, water, energy, coastal resources, forests and fisheries. Course focus varies from one year to year. Repeatable one time. A-F only. Pre: consent.

PLAN 627 Negotiation and Mediation in Planning (3) Applicability and limitations of selected approaches; roles of planners; impact on planning. Pre: 600 or consent.

PLAN 628 Urban Environmental Problems (3) Seminar that examines environmental problems associated with urbanization. Reviews strategic approaches and collaboration among key actors to address such problems. Pre: 600 or consent.

PLAN 629 Advanced Negotiation (3) Mastery of advanced negotiation skills for strategic dispute resolution, non-routine problem-solving, creating partnerships and alliances, and crafting optimal agreements. Students participate in simulations and acquire personal and professional skills vital for leadership. Graduate standing only. Pre: one of the following courses: 627; or PAC 429, PAC 447, PAC 623, or PAC 668; or COMG 455 or SOC 730; or LAW 508; or MGT 660. (Cross-listed as PACE 629)

URBAN AND REGIONAL PLANNING IN ASIA AND THE PACIFIC

PLAN 630 Urban and Regional Planning in Asia (3) Key issues and policies in urban planning, rural-regional relations, rural regional planning, and frontier settlement in Asia and the Pacific. Repeatable one time. Pre: 603 or consent. (Cross-listed as GEOG 630)

PLAN 632 Planning in Hawai‘i and Pacific Islands (3) Urban and regional planning in island settings. Experiences in Hawai‘i, Polynesia, Melanesia, and Micronesia. Graduate standing only.

PLAN 633 Globalization and Urban Policy (3) Urbanization and urban policies in the Asia and Pacific region with focus on the international dimension of national and local spatial restructuring. Pre: 630 or consent.

PLAN 634 Shelter and Services in Asia (3) Examines government and non-government organizations' responses to urban and rural shelter issues and services in Asia. Pre: 630 (or concurrent) or consent.

PLAN 635 Urban Form in Asia (3) Cultural and historical impact on urban form, content of tradition and modernity in urban space, spatial expression of state and society, perception and utilization of urban design, evolution of urban form in selected Asian capitals. Pre: 310, 600, or ASAN 312. (Cross-listed as ASAN 636)

PLAN 637 Environment and Development (3) Theories and practice of development; how changing development strategies shape different ideas concerning the environment and the management of natural resources; emerging debates in development and environment in post-modern era. (Cross-listed as GEOG 637)

PLAN 638 Asian Development and Urbanization (3) Theories of globalization and sustainability in development, impacts of globalization and sustainability on development planning and policy formation, selected case studies of Asia-Pacific development.

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, and stabilization. Pre: 600 or concurrent or consent.

PLAN 642 Planning Urban Infrastructure (3) Introduction to the planning of various urban infrastructures. Explores approaches and tools to plan, evaluate, and regulate urban infrastructure systems in support of sustainable and resilient cities and communities. Pre: 600, 601, and consent.

PLAN 643 Project Planning and Management (3) Examination of project theory and practice and the roles and responsibilities of the project manager. Focuses on planning, organizing, and controlling the efforts of projects. A-F only. Pre: consent.

PLAN 645 Land Use Planning (3) Issues and methods of urban land use planning practices and plan making. A-F only. Pre: 640 or consent.


PLAN 648 Urban Transportation Policy and Planning (3) Theory and practice of urban transportation planning in developed and developing countries with an emphasis on the U.S., Asia, and Pacific region. A-F only. Pre: 600 and 601, or consent.

PLAN 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: 310 or ASAN 312. (Once a year) (Cross-listed as ASAN 649)

RESEARCH AND PLANNING METHODS


PLAN 652 Policy Implementation and Program Evaluation (3) Implementation and evaluation in public policy analysis: philosophical and methodological issues; impact of policies and plans; use of evaluation research in program implementation. Pre: 601 or consent.

PLAN 654 Applied Geographic Information Systems I (3) An introduction to GIS fundamentals, data creation and management, and data analysis (3) Use of advanced and specialized spatial models and methods in urban and regional planning. Use GIS software and build 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) Overview to the field of disaster management and humanitarian assistance with a specific focus on risk reduction. Includes background knowledge and skills for preparedness, response, recovery, mitigation, and adaptation to hazards and threats. Pre: graduate standing or consent. (Once a year)

PLAN 671 Disaster Management: Understanding the Nature of Hazards (3) Combined lecture/discussion in disaster management 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 670)

PLAN 672 Humanitarian Assistance: Principles, Practices and Politics (3) Combined lecture/discussion aimed at understanding the theoretical basis and working structures 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/laboratory in disaster management focusing on essential methodological and practical issues that are involved in spatial analyses using GIS and other information technologies to inform decision making related to natural hazards, disasters, and human attempts to respond to these through mitigation and planning activities. 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 recovery theory and an understanding of how authors, 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 675)

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

PLAN 677 Historic Preservation Planning (3) Local-level historic preservation, with an emphasis on historic districts, development agreements, rehabilitation controls, and community consensus-building. (Cross-listed as AMST 677)

PLAN 678 Site Planning (3) Fundamental principles that guide site planning and design determinants of the site taking into account its regional context, site-specific characteristics and applicable codes, ordinances, and standards. PLAN and ARCH majors only. (Fall only)

PLAN 680 Land Use Management and Control (V) Survey course of public land use management. (Cross-listed as LAW 580)

PLAN 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/laboratory 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 of analysis. Topic varies. Limited to 10 students. Prereq: 600, 601; and consent.

PLAN 752 Directed Project (V) Individual project in analysis, plan preparation and evaluation, and policy/program evaluation. Plan majors only. Prereq: 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 urban civilizations with strategies for implementation. Plan and ARCH majors only. A-F only. Prereq: 640 or consent.


Urdu (URDU)

College of Languages, Linguistics and Literature

URDU 205 Reading and Writing in Urdu (1) Introduces students to the Nastalig (Urdu) script, alphabets, their various forms, and combination rules. Reading and writing. A-F only. Prereq: HNDI 102 or consent. Co-requisite: HNDI 201 or consent. (Fall only)

Vietnamese (VIET)

College of Languages, Linguistics and Literature

VIET 101 Elementary Vietnamese (4) Listening, speaking, reading, writing. Structural points introduced inductively. Meets one hour daily, Monday–Friday; four out of five hours devoted to directed drill and practice. HL

VIET 102 Elementary Vietnamese (4) Continuation of 101. Prereq: 101 or consent. HSL

VIET 201 Intermediate Vietnamese (4) Continuation of 102. After completion, most students should be able to use all commonly used sentence patterns to produce sounds, combinations of sounds, tones, and intonation and have some understanding of Vietnamese culture. Meets one hour daily, Monday–Friday; Prereq: 102 or equivalent. HSL

VIET 202 Intermediate Vietnamese (4) Continuation of 201. Prereq: 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, i.e., newspapers, radio, film, etc. Prereq: 202 or equivalent.

VIET 302 Third-Level Vietnamese (3) Continuation of 301. Prereq: 301 or consent.

VIET 401 Fourth-Level Vietnamese (3) Continuation of 302. Emphasis on cultural understanding through modern literary Vietnamese. Prereq: 302 or equivalent.

VIET 402 Fourth-Level Vietnamese (3) Continuation of 401. Prereq: 401 or consent.

VIET 461 Introduction to Vietnamese Literature (3) Selections in major genres; emphasis on analysis. Modern literature. Prereq: 402 or consent. DL

VIET 699 Directed Reading/Research (V) Repeatable unlimited times. Prereq: consent.
in U.S. society; grassroots feminist and racial/justice activism on the continent and in Hawai‘i. A-F only.
Pre: 151 or ES 101 or junior standing. (Cross-listed as EJS 390) DS

WS 392 Sexualities (3) Multidisciplinary course draws on history, sociology, anthropology, gender, sexuality, politics, law, economics, law, and human rights. A-F only. Pre: one of 151, 175, 176, 202, 360, 381, or consent. (Cross-listed as AMST 436 and POLS 368) DS

WS 437 Gender and Environment (3) Interdisciplinary course will examine western constructs of gender violence on its correlates with ethnicity, class, sexual- ity, nation, and empire. Repeatable one time. A-F only.
Pre: one of 151, 202, 206, 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. Includes critical analysis as a social and political movement; cross-cultural comparison of women’s roles in human ecology. Pre: any course 200 or above in PHIL or WS or any course 200 or above with a DB or DP designation, or consent. (Cross-listed as PHIL 438) DH

WS 439 Feminist Theory (3) Contemporary debates in feminist theory concerning gender, race, and class; subjectivity and representation; gender and colonialism; bodies, sexualities and “nature.” Pre: any 300 level WS or POLS course, or consent. (Cross-listed as POLS 339) DS

WS 440 Feminist Methods and Research (3) Overview of feminist dominant theories of knowledge and major methodologies employed in the social sciences; and exploration of role of gender theory and feminist politics in feminist research. Pre: 151 or consent. 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 produc- tion 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 art and film). Emphasis on historical and social conditions and ex- pressions of women’s gendered identities. (Cross-listed as AMST 455 and ENGL 455) DL

WS 446 Gender Violence Over the Lifecycle (3) Examines the problem of violence, particularly sexual violence, over the life cycle. Offers gendered perspec- tive in activities aimed at prevention and treatment of violence, and cross cultural perspectives. Pre: 151 or any 200- or 300-level WS course, or SOC 300; or consent. (Cross-listed as SOC 446) DS

WS 452 Marriage and Family: Feminist Perspective (3) Sex-role socialization, motherhood, work- family conflicts, Alternative family structures in U.S. and other countries. Repeatable 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) Examina- tion of current and historical issues in education and how they are impacted upon by gender, with particu- lar reference to gender as it intersects with ethnicity and class, locally and globally. Pre: 151 or consent. (Cross-listed as EDUC 453 and EDEP 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 citizenship in the contemporary U.S. Pre: one of 151, 175, 176, or 202; or consent. DS

WS 460 Feminism, Nation and Empire (3) Exam- ines U.S. feminism from the 19th to the 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 the U.S. Includes critical analysis of American feminist methodology and theory. Pre: 360, 361, or 439 or AMST 410, AMST 415, AMST 437, AMST 455, or POLS 339; or consent. (Cross-listed as AMST 438 and POLS 572) DS

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

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. with class, religion, ethnicity). (Cross-listed as ASAN 463) DS

WS 465 Science, Sex, and Reproduction (3) Ex- plor-
knowledge, and self-articulating women’s voice; deconstructing gender. Repeatable one time. (Cross-listed as POLS 615C)

WS 618 Writing and Publishing in an Interdisciplinary Field (3) Writing-intensive and publishing-focused class designed to prepare students how to publish in an interdisciplinary field. Readings and assignments are designed to help students succeed in academic publishing. Graduate students only. A-F only. Pre: consent.

WS 620 Feminism and Its “Others” (3) Relationship between feminism and other sites of critical insight and scholarship that have contributed to creating anticolonial, antiracist, anthroposophic 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 boundary 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 critically examine strategies for conducting social policy research that is feminist in values and impact. Repeatable one time. A-F only. Pre: graduate standing, no waiver.

WS 625 Feminist Criminology (3) Key themes in feminist criminology are explored including focus on masculinities and crime, race and intersectionality, global crime and marginalization. Ways in which the criminal justice system controls women and girls. A-F only. (Cross-listed as SOC 625)

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) Provide women’s studies graduate certificate students with an opportunity to design, develop and complete a research project culminating in a publishable quality work and a professional quality seminar presentation. A-F only. Pre: classified graduate status and consent.

WS 699 Directed Reading and Research (V) Pre: classified graduate standing and consent of chair. (1 3-hr Lab) Reading and Research Pre: BIOL 172 and CHEM 161, or equivalent or consent for (D). Pre: BIOL 171 and BIOL 172. Required of students majoring in zoology or entomology. (B) general zoology; (D) animal behavior; (E) ecology; (F) physiology; (G) development, cellular construction, physiological, and imaging methods. Pre: BIOL 275 or equivalent or consent for (D). Pre: BIOL 171 and BIOL 172. (Alt. years: spring) DB

ZOOL 320 Vertebrate Zoology (3) Introduction to the evolution and systematics of vertebrates, with emphasis on comparative morphology, physiology, and ecology. Pre: BIOL 265. Co-requisite: 320L. DB

ZOOL 320L Vertebrate Zoology Lab (2) (2 3-hr Lab) Laboratory to accompany 320. Pre: BIOL 172 and BIOL 172L. Co-requisite: 320. DY

ZOOL 340 Parasitology (2) Animal parasites of mammals, birds, and reptiles; systematics, comparative morphology, life history, pathology, treatment. Pre: BIOL 275. DB

ZOOL 340L Parasitology Lab (2) (2 3-hr Lab) Laboratory to accompany 340. Pre: 340 (or concurrent) and BIOL 275 or BIOL 275L. 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 (or concurrent) or BIOL 301 (or concurrent). (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 416L Histology Lab (2) (2 2-hr Lab) Light microscopic study of animal tissues, especially vertebrates. Primarily for pre-professional students. Pre: BIOL 275. Recommended: BIOL 407. Co-requisite: 416. DY

ZOOL 417 Microtechnique (3) (2 Lect, 2 3-hr Lab) Preparation of animal tissues and organs for microscopic examination; introduction to tissue technique and histological techniques. Pre: BIOL 275 or consent. DB


ZOOL 420L Developmental Biology Lab (2) (2 3-hr Labs) Analysis of animal development by experimental methods, using local organisms. Pre: 420 (or concurrent) and BIOL 275, or consent. Recommended: BIOL 407. DY


ZOOL 432 Comparative Physiology (3) Physical-chemical cellular mechanisms underlying function of organ systems; general principles inferable from study of animal physiology. 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 3-hr Lab) Introduction experience in characterizing populations and communities. Pre: BIOL 265. DY

ZOOL 442 Introduction to Neuroscience (3) Nerve cells, their signalling capabilities and the developmental organization of nervous systems, both invertebrate and vertebrate, for sensory reception, integration, behavioral command and learning; insights from on-going research using molecular, genetic, biophysical, and imaging methods. Pre: BIOL 275 or consent. (Spring only)

ZOOL 450 Natural History of Hawaiian Islands (3) (2 Lect, 1-1-hr Lab) Geography, geology, climatology, biotic environment of Pacific Basin and Hawaiian Islands; emphasis on terrestrial and marine biota. Pre: one semester of biological sciences at college level. (Cross-listed as BOT 430) DB

ZOOL 466 Avian Biology (3) Broad coverage of the morphology, physiology, ecology, behavior, and evolution of birds, emphasizing the relationship of birds to general theory in biology. Pre: BIOL 265. DB

ZOOL 465 Fish Systematics (3) Survey of fish biodiversity focusing on genealogies, their phylogenetic relationships, and their geographic distribution in light of evolutionary history. Taught spring semester in alternate years. Junior standing or higher. Pre: BIOL 171 and BIOL 172. (Alt. years: spring) DB

ZOOL 465L Fish Systematics Lab (1) (2 2-hr Lab) Overview of the major orders and families of fishes of the world; introduction to local Hawaiian fishes; coverage of basic fish anatomy; introduction to field and laboratory techniques in fish research. Junior standing or higher. Pre: BIOL 171, BIOL 172, and ZOOL 465 (or concurrent). (Alt. years: spring) DY

ZOOL 466 Fisheries Science (3) General characteristics of fisheries; harvesting methods; principles and techniques to derive data and analyze fish populations; field trips. Pre: one of the following: BIOL 175, 460, 608, or 620; or consent. DB

ZOOL 467 Ecology of Fish (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. Pre: required: 470L. DB

ZOOL 470L Limnology Lab (1) (2 3-hr Lab) Experimental and descriptive project work on the biology, chemistry, hydrology, and physics of lakes, streams, and estuaries. Pre: BIOL 172 or consent. Pre: required: 470L. (Alt. years) DY


ZOOL 475L Biology of the Invertebrates Lab (2) (2 3-hr Lab) Pre: BIOL 172 and CHM 161 or consent. Pre: required: 475. DY

ZOOL 480 Evolutionary Biology (3) Process of evolution: genetic basis, natural selection, population genetics, speciation, the fossil record. Pre: BIOL 171 and BIOL 172. 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 experience. Required of students majoring in zoology or entomology. (B) general zoology; (D) animal behavior; (E) ecology; (F) physiology; (G) developmental biology; (H) marine biology. Repeatable 2 times per alpha, credits earned for 1 and only 360 or equivalent or consent for (D).

ZOOL 492 Teaching Internship (1) Teaching internship in zoology. Required of ZOOL BS degree students. ZOOL BS majors only. CR/NC only. Pre: laboratory in an upper division ZOOL course.

ZOOL 499 Directed Reading or Research (V) Performance of a laboratory, field or library research project under the direction of a faculty advisor. Preparation of a proposal and written final report required. Limited to zoology majors. Repeatable 8 times, up to 45 credits.

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

Key to symbols & abbreviations: see the first page of this section.
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 607 Genetics of Behavior and Evolution (1) Introduction to concepts and techniques in the genetics of behavior. Techniques include next gen sequencing, GWAS, and more. Students may use real data to analyze associations between genotype and phenotype. Repeatable one time. Graduate students only. (Fall only)

ZOOL 608 Fish Behavior and Sensory Biology (2) Lectures, readings and presentations on sensory systems and behavior of fishes. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608L. (Alt. years)

ZOOL 608L Fish Behavior and Sensory Biology Laboratory (1) Laboratory study of fish sensory systems and behavior. A-F only. Pre: 306, 430, 465, 606; or consent. Co-requisite: 608. (Alt. years)

ZOOL 610 Topics in Development and Reproductive Biology (V) Discussion and survey of literature on specific topics. 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 1-2 hr Lab, 1 Discussion) Formal quantitative approach in identifying, designing, performing, analyzing, and interpreting ecological field problems. A-F only. Pre: 439, 439L, and 631; or consent. (Alt. years)

ZOOL 625 Evolution in Marine Systems (3) Fundamental elements of modern evolutionary theory and research, with a strong focus on marine organisms and ecosystems. A-F only. Pre: instructor approval. (Alt. years: fall)

ZOOL 631 Biometry (4) (3 Lec, 1 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 1-2 hr Discussion) Multivariate statistical methods: multiple regression and correlation; multivariate ANOVA; general linear models; repeated measures and multivariate analysis of variance; log-linear analysis and logistic regression. Pre: 631 or consent.

ZOOL 642 Cellular Neurophysiology (3) Bio-physical 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 670 Scientific Teaching Tools to Promote Active Learning (2) Graduate level course to train students in the pedagogical tools to enhance active learning in STEM classes. Includes discussions of the primary literature, demonstrations and practice using scientific teaching techniques. BOT or ZOOL or M BIO majors only. Graduate students only. (Alt. years: spring) (Cross-listed as BOT 670)

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) 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. ZOOL majors only. Pre: 631 and 632, or consent.

ZOOL 712 Topics in Nerve/Muscle Physiology (V) Advanced treatment of selected topics under current active investigation. Repeatable unlimited times. ZOOL majors only. Pre: a graduate course in physiology, neurology, or related subjects and consent.

ZOOL 714 Topics in Animal Behavior (V) Lecture-discussion of selected topics. Repeatable three times, up to nine credits. ZOOL majors only. Pre: consent.

ZOOL 715 Topics in Invertebrate Zoology (V) Comparative morphology, development, taxonomy, phylogeny. Repeatable three times, up to nine credits.

ZOOL 718 Topics in Animal Physiology (V) Selected problems in environmental physiology, neuro-physiology, or neurophysiology. Basic concepts and measurements of function at the organismic or cellular level. Repeatable three times, up to nine credits.

ZOOL 719 Topics in Systemsatics and Evolution (V) Selected problems of current or historic interest. Repeatable three times, up to nine credits. Pre: consent.

ZOOL 739 Topics in Ecology (V) Advanced topics in ecology; discussion of literature and in depth survey of specific areas. Repeatable three times up to nine credits. Pre: graduate standing and consent.

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

ZOOL 770 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. (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. (Alt. years: spring)

ZOOL 800 Dissertation Research (V) Repeatable unlimited times.

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