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Courses of Instruction

Courses of instruction are listed alphabetically by subject (*course alpha*).

Course Credit

One credit is assigned to a course for one or more hours per week of class time during a typical 15-week semester. This time may be assigned to lecture, lecture-lab, or lab instruction.

The credit value of each course is indicated by a number at the end of each course description. For example, “3cr” indicates the course carries three credits; “3,3” indicates each course module “BC” carries three units of credit.

Following the credits is the number(s) indicating the contact hours per semester of lecture (*lec*), lecture-lab (*lec-lab*), and/or laboratory (*lab*). For example, “45hr lec” indicates the course meets in a lecture format for 45 hours per semester (plus the two-hour exam/evaluation). The instructor workload follows with the specified teaching equivalent (TE).

Methods of Instruction

The College delivers classes in a variety of modes beyond the traditional classroom setting. The alternative delivery is conveyed by the “*classroom*” listed for that class, as viewed online at *Class Availability*.

Internet classes are those where course materials and assignments are conducted over the Internet, denoted with WWW.

Hawai‘i Interactive Television System (HITS) enables live interaction among classrooms in Hāna, Kahului, Lahaina, Lāna‘i, Moloka‘i, and throughout the state via closed-circuit television.

Cable classes are broadcast over the College channel to Spectrum digital cable subscribers.

Hybrid-Technology Intensive (HTI)

courses make intensive use of online and offline technologies to such an extent that the schedule of class meetings is altered. The HTI designation may apply to campus-based course or to a distance learning course for which distant students can participate in scheduled meetings either off-site or via interactive video technologies.

Prerequisite Terminology

Prerequisite (Prereq): Course that must be satisfactorily completed or competency that must be met before the student can enroll in the desired course.

Corequisite (Coreq): Course that the student must take concurrently with the desired course.

Recommended: Prior course or competency that should help the student succeed in the specified course or program.

Consent: Term used at the end of a stated prerequisite, meaning a student not meeting the requirement may gain entry to the class through Consent of Instructor. The student may petition the instructor via email or office visit, explaining reasons for requesting consent; if the justification is found acceptable, the instructor may give an electronic override, thereby enabling the student to register for the class online.

Electronic Prerequisite Checking

The Star GPS registration system within MyUH Services checks a student’s electronic UHMC transcript to assess whether the prerequisite course, grade, or score is met. When the prereq is not met, Star GPS does not allow the student to register for that class.

There is one exemption, called “prerequisite in progress”. When students register before the end of a term, and they are currently enrolled in a course that is a prerequisite for a course to be taken in the subsequent term, GPS will allow the prerequisite override because the prerequisite is “in progress”. However, once grades are assigned, a report is issued showing “in progress” students who did not subsequently earn the required passing grade. These students with the unmet prerequisite may subsequently be dropped from the course.

A second exclusion is “Consent of Instructor”. Students may petition an override to the prerequisite by demonstrating evidence to support achievement of the requirement through other means. Overrides for due cause may be granted by the course instructor, program coordinator, or counselor.

Courses completed at a non-UH campus are not automatically entered into the student’s UHMC electronic transcript, and thereby unavailable to Star GPS during prerequisite checking. All non-UH system courses must be transferred, articulated, and input into Star GPS before electronic checks take place.

✎ To transfer courses completed outside the UH system, complete and submit the Transcript Evaluation Request form, available at: <http://maui.hawaii.edu/wp-content/uploads/2016/02/FINAL-Transcript-Evaluation-Request-Form.pdf>

Numbering System

Course numbers portray the level of difficulty and the transferability of courses.

Pre-Transfer Level Courses

Courses generally not transferable to four-year colleges but transferable within the UHCC System10-99

Lower Division Transfer Courses

Freshmen normally take these transfer-level courses 100-199

Sophomores normally take these transfer-level courses, which are also open to qualified freshmen 200-299

Upper Division Transfer Courses

Junior level 300-399

Senior level 400-499

Laulima

Laulima is the online, virtual classroom used by classes offered throughout the University of Hawai‘i system. Laulima means *cooperation*, or *joint action* and *many hands*. Many instructors use Laulima to support their face-to-face as well as online classes.

Via Laulima students are able to access and download handouts, take exams and quizzes, communicate with instructors and classmates, participate in discussions, turn in assignments, maintain a personal calendar, save documents to access from any computer, see their personal Gradebook, and much more.

✎ Access Laulima at laulima.hawaii.edu.

Writing Intensive Courses

WI (writing intensive) courses use writing to promote the learning of course subject material.

WI courses provide interaction between instructor and student while the student plans and completes assigned writing. This interaction can occur in a variety of ways:

- Guided and free writing;
- Directed peer-writing groups;
- Class discussions concerning the rhetorical/mechanical requirements of writing assignments before, during, and after papers are submitted;
- Written comments of instructor and/or Learning Lab staff on student outlines and drafts;
- One-on-one student/instructor conferences before, during, and after papers are submitted;
- Tutorial support for both instructor and student from Learning Lab professional staff.

Writing plays a major role in determining the grade for WI courses. Students complete the equivalent of sixteen (16) typed pages of writing - a minimum of four thousand (4,000) words, of which roughly 40% (6-7 pages, or 1600 words) should be edited and finished prose. Depending on the course, this may include informal, as well as formal writing, short essays, critical reviews, lab reports, etc.

The College offers a series of writing intensive courses in which students engage in formal and informal writing assignments. Students strengthen writing skills as well as learn course content and understand how to apply what they learn through writing. Students also satisfy degree requirements at the College (two required for the AA degree), and at UH Mānoa (a minimum of five writing-intensive classes required). The WI classes are designated with WI prefacing the course title (e.g., HIST 284 WI-Hawaiian History).

Sustainability Designation Classes (S-Focused and S-Related)

Some classes offered are designated sustainability-related or sustainability-focused.

Sustainability designated classes expose students to some core concepts of sustainability and their application to issues such as climate change, system thinking, social justice, biodiversity, as well as the transition of Hawai'i's food, water, energy, and transportation systems to more sustainable delivery models.

Sustainability-Related (SR) courses introduce topics of sustainability in some portion of the course through assignments and content, addressing sustainability issues through distinct course components or emphasizing a sustainability principle or issue throughout the course. Sustainability-related classes are offered for students who have an interest in gaining an understanding of the principles of sustainability through their application in another discipline such as the Humanities or Social Sciences.

Sustainability-Focused (SF) courses embody sustainability as a core requirement with a significant portion of course content directly and explicitly related to addressing concepts of sustainability as a lens.

Taking a sustainability-related class is **not** required for graduation or as a requirement for any program. The designation is indicated in the explanatory notes for the class as listed on Banner (Class Availability site).

AA Degree Requirement Codes

These codes are used by UHMC and by most UH colleges, to facilitate the articulation and the transfer of courses within the UH system.

For example, a DA-coded course at UHMC not only satisfies the DA requirement at UHMC, but also satisfies the DA requirements at the other UH campuses.

DA	Diversification Arts
DH	Diversification Humanities
DL	Diversification Literatures
DB	Diversification Biological Science
DP	Diversification Physical Science
DS	Diversification Social Sciences
DY	Diversification Laboratory
FW	Foundations Writing
FGA	Foundations Global (Before 1500 CE)
FGB	Foundations Global (Since 1500 CE)

FGC Foundations Global (Prehistory to now)

FQ Foundations Quantitative Reasoning^{1,2,3}

FS Foundations Symbolic Reasoning³

HI Hawai'i Emphasis¹

¹ Note: For courses meeting Hawaiian, Asian, and Pacific Issues (HAP) requirement at other UH colleges, check with an academic advisor.

² Note: For courses meeting the Hawaiian Second Language (HSL) requirement at other UH colleges, check with an academic advisor. HSL is not required for the AA degree in Liberal Arts.

³ Note: See Quantitative Reasoning (FQ) in the next section.

Quantitative Reasoning (FQ)

Requirement: 3 credits

Important! Quantitative Reasoning (FQ) replaces Symbolic Reasoning (FS) as a General Education requirement for the three UHMC Liberal Arts programs, effective Fall 2018.

To ensure there is adequate time for students who entered the UH System prior to Fall 2018 to complete their FS requirements, FS courses will be offered through Summer 2020 at UHMC and at the other UH community colleges. Students entering the UH System in Fall 2018 and beyond may select courses with the FQ designation.

Students who entered the UH System prior to Fall 2018 and have been continuously enrolled should refer to their original catalog year requirements. Students should contact their designated School/College academic or faculty advisor for more information.

The primary goal of FQ courses is to develop mathematical reasoning skills at the college level. Students apply mathematical concepts to the interpretation and analysis of quantifiable information in order to solve a wide range of problems arising in pure and applied research in specific disciplines, professional settings, and/or daily life.



Accounting (ACC)

K. Watanabe

124 Principles of Accounting I

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces basic accounting principles and practices for service and/or merchandising types of businesses. Areas include: accounting as an information system, the accounting cycle, financial statements, and internal control, current and/or long-term assets, current liabilities and payroll. Special emphasis will be placed upon the practical application of accounting principles. 3cr; 45hr lec, TE 3.00

125 Principles of Accounting II

Prereq: ACC 124 with grade C or better, or consent.

Continues the study of financial accounting procedures. Areas include: long-term assets, long-term liabilities, accounting for corporations and/or partnerships. 3cr; 45hr lec, TE 3.00

132 Payroll & Hawai'i General Excise Tax

Prereq or coreq: ACC 124 or ACC 201 (or concurrent), or consent.

Introduces principles, manual and computerized procedures, and terminology for business applications of payroll accounting. Includes preparation and filing of federal and Hawai'i state forms for payroll taxes and Hawai'i General Excise and Use Tax. 3cr; 45hr lec, TE 3.00

134 Individual Income Tax Preparation

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces the preparation of federal and State of Hawai'i individual income tax returns with an emphasis on tax laws and regulations and their application to the tax returns. This course is intended for an individual preparing basic tax returns under the supervision of an accounting professional. 3cr; 45hr lec, TE 3.00

137 Business Income Tax Preparation

Prereq: ACC 134 with grade C or better, or consent.

Introduces Federal and Hawai'i tax laws and regulations and basic return preparation for business entities. This course is intended for an individual preparing basic tax returns under the supervision of an accounting professional. The student will learn to conduct basic tax research using online databases and resources. The student will also learn to prepare tax returns both manually and using commercial tax software. 3cr; 45h lec, TE 3.00

201 Introduction to Financial Accounting

Prereq: ACC 124 with grade C or better; or both ENG 22 with grade C or better (or placement at ENG 100) and MATH 75X with grade C or better (or placement at least MATH 82); or consent.

Introduces accounting principles and practices used to record and communicate financial information. Analyzes methods for valuating assets, liabilities, and equity of an organization. (*Letter and Audit grades only.*) 3cr; 45hr lec, TE 3.00

202 Introduction to Managerial Accounting

Prereq: ACC 124 and 125, or ACC 201, or consent.

Introduces methods for evaluating financial performance, including cost accounting, budget, break-even analysis, ratio analysis, and sources and uses of funds. (*Letter and Audit grades only.*)

3cr; 45hr lec, TE 3.00

252 Using QuickBooks® in Accounting

Prereq or coreq: ACC 125/201, and BUSN 150 or ICS 101, both with C or better, or consent.

Provides "hands-on" approach to computerized accounting using QuickBooks®. Applies previously acquired accounting skills and knowledge in a computerized environment to set up and maintain accounting records. Emphasis will be placed on the application of QuickBooks® to the accounting cycle. 3cr; 45hr lec, TE 3.0

255 Using Excel in Accounting

Prereq: ACC 202 (or concurrent) and either BUSN 150 or ICS 101, both with grade C or better, or consent.

Provides "hands-on" training in the use of spreadsheets on computers to solve accounting problems. Applies previously acquired accounting skills and knowledge. Emphasizes financial and managerial accounting. 3cr; 45hr lec, TE 3.00

295 Accounting Capstone

Prereq: ACC 132, 134, and 202, all with grade C or better, and ACC 255 (or concurrent), or consent.

Provides an opportunity to demonstrate the knowledge and understanding gained during the Accounting program. Includes projects on financial, managerial, payroll accounting, and income tax preparation with use of computers. Emphasizes the use of ethics in business decisions.

3cr; 45hr lec, TE 3.00

300 Intermediate Financial Accounting I

Prereq: ACC 202, or consent.

Emphasizes application of generally accepted accounting principles to the preparation and use of financial statements in decision-making. Special emphasis placed on recognition and measurement of revenues, cash, receivables, inventories, property, plant and equipment, depreciation and depletion, and intangibles. Includes use of spreadsheets. 3cr; 45hr lec, TE 3.00

Administration of Justice (AJ)

R. Daniels

101 Introduction to Administration of Justice

Examines history and philosophy of the administration of justice in United States with overview of major sub-systems within the criminal justice system: law enforcement, courts, and corrections. Examines expectations and interrelationships of officials, theories of crime, punishment, and rehabilitation. Surveys career opportunities. 3cr; 45hr lec, TE 3.00

103 Criminal Investigation

Prereq: AJ 101, or consent.

Introduces initial investigatory steps relating to crime scenes. Acquaints student with specific offenses and methods of obtaining information. 3cr; 45hr lec, TE 3.0

104 Criminalistics

Prereq: AJ 103, or consent.

Emphasizes identification and reproduction of physical evidence. Studies specialized scientific methods and their relationship to court procedures. 3cr; 45hr lec, TE 3.00

150 The Correctional Process

Introduces the field of corrections. Includes the history and philosophy of punishment and methods used to protect society and rehabilitate the offender. 3cr; 45hr lec, TE 3.00

170 Introduction to Private Security

Surveys concepts and issues in the administration of security. Defines public vs. private security roles for retail business, industry, and governmental agencies. Provides an overview of the functions of various security activities. 3cr; 45hr lec, TE 3.00

200 Principles of the Hawai'i Justice System

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Reviews criminal justice systems in the United States, with special emphasis on Hawai'i. Analyzes law enforcement and the judicial and corrections procedures from time of arrest until final disposition of the case. Studies federal and state laws and constitutional principles through legal research. 3cr; 45hr lec, TE 3.00

210 Juvenile Justice

Prereq: AJ 101, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Studies principles and procedures of arrest, detention, petition, summons, records and adjudication of juvenile offenders. Introduces organization and function of the police juvenile unit, community diversion practices, and organization of the Family Court. Reviews Hawai'i statutes and United States Supreme Court decisions affecting juvenile rights of due process. Considers societal context of juvenile problems, delinquency prevention, and treatment. (*Crosslisted as SOC 231.*) 3cr; 45hr lec, TE 3.00

221 Criminal Law

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Studies history and philosophy of criminal law. Examines United States Constitution, especially the Bill of Rights. Considers nature of law, legal institutions, criminal court procedures, offenses against persons and property. Includes case briefs. 3cr; 45hr lec, TE 3.00

223 Laws of Arrest, Search, Seizure

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Analyzes statutes and cases pertaining to the problems and procedures in effecting valid arrests, searches, and seizures. Considers Hawai'i Supreme Court decisions and controlling opinions of the United States Supreme Court. 3cr; 45hr lec, TE 3.00

224 Rules of Evidence

Considers origin, development, philosophy, kinds and degrees of evidence. Surveys pertinent federal constitutional amendments, landmark Supreme Court decisions affecting the admissibility of evidence, and changes in Federal and Hawai'i case law. Case briefs. 3cr; 45hr lec, TE 3.00

226 Economic Crimes

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Provides information about major economic crimes such as embezzlement, computer crime, and others. Discusses investigative techniques relating to each of the major economic crimes. 3cr; 45hr lec, TE 3.00

230 Principles of Police Supervision

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Analyzes supervisor's function and principles of organization and personnel management. Stresses communication, training, disciplines, psychology of supervision, essentials of leadership, promotion methods, and selection of supervisors. 3cr; 45hr lec, TE 3.00

231 Stress in Policing

Surveys major sources of stress in police work and effects of stress on the officer. Considers stress management programs. 3cr; 45hr lec, TE 3.00

232 Officer Survival

Emphasizes positive tactics police officers can employ to effectively use their own firearms to defeat those of assailants. Covers techniques that work for survival in real-life situations. 3cr; 45hr lec, TE 3.00

234 Police-Community Relations

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines philosophies and styles of policing. Encourages effort of the police and community to share in the common goal of understanding mutual problems. 3cr; 45hr lec, TE 3.00

240 Hawaiian Cultural & Natural Resources Management

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: AJ 101, and one of COM 145, COM130/BUS 130, or SP 151.

Provides a background for onsite management of Native Hawaiian cultural and natural resources. Relates traditional Native Hawaiian resource conservation practices to current governmental policies, rules, and regulations. Introduces duties and responsibilities of conservation and resource enforcement officers. 3cr; 45hr lec, TE 3.00

250 Community Based Corrections

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Explores juvenile and adult probation, after-care parole, halfway houses, work and educational release-furlough. Examines dilemma of custody-control vs. supervision-treatment. Investigates citizen-agency relationships, along with potentials for utilizing citizen volunteers in corrections. 3cr; 45hr lec, TE 3.00

270 Principles of Loss Prevention

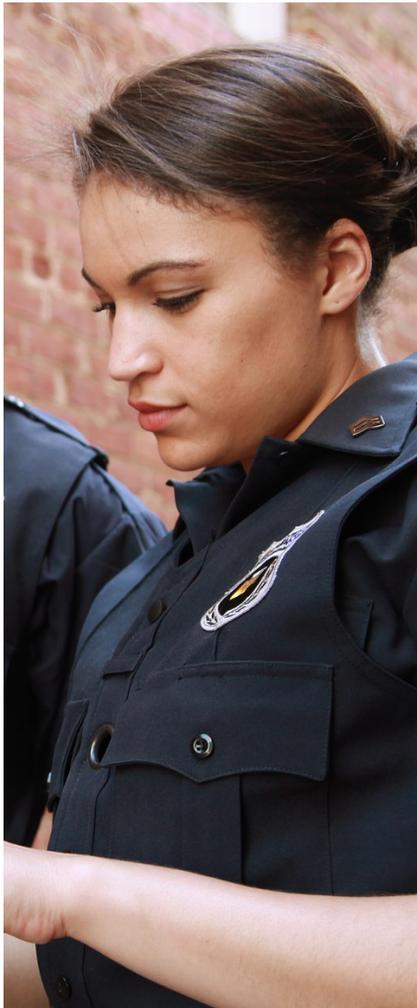
Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Considers various theories of managing security countermeasures. Acquaints students with loss prevention measures for retail businesses, government agencies, hotels and motels, hospitals, schools, and other organizations.
3cr; 45hr lec, TE 3.00

293v Administration of Justice Internship

Prereq: AJ 101 with grade C or better, or consent.

Offers flexible, customized, supervised school-to-work experiences in all aspects of the administration of justice field. Integrates and applies classroom theory to work situations via field experiences. (*Note: 3 credits required for AAS degree; student may take up to 6 additional credits.*) 1-3cr; 75hrs per cr, student must complete minimum 75hr/cr per semester.



Agriculture (AG)

A. Emmsley**92U Open Topic**

Meets local interests in agriculture. Varies specific content for each topic to match job site or geographical needs and conditions. *Credit in AG 92U is not applicable toward a degree in Agriculture. AG 92U may be repeated without limit for credit.*
1cr; 15hr lec, TE 1.0

101 Home Gardening

Introduces ornamental and vegetable gardening for the home gardener. Includes landscape installation and maintenance. *Intended for non-majors.*
3cr; 30hr lec, 30hr lec-lab, TE 3.33

103 Sustainable Agriculture Systems

Explores sustainable agriculture systems in Hawai'i and the world. Compares various sustainable models. Examines various sectors of production agriculture and related agribusinesses in Hawai'i. *Field trips to farms, processors, and wholesalers.*
2cr; 15hr lec, 30hr lec-lab, TE 2.50

104 Food Safety & Post Harvest Handling

Examines Food Safety Certification requirements for farms. Explores and evaluates post harvest handling of farm products including vegetables, fruits, meats, and flowers. Identifies and evaluates standard wholesale and retail packaging for various farm products. Reviews worker protection standards.
1cr; 15hr lec, TE 1.00

113 Organic Certification

Outlines the requirements for certified organic farms. Examines process of transitioning to organic farming. Examines and evaluates record keeping requirements and accepted products and practices.
1cr; 15hr lec, TE 1.00

122 Soil Technology

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent. Studies identification, preparation, and fertilization of soils; amendments, sterilization, mulching, and composting methods. Includes soil testing, microbiology, and soil moisture. Emphasizes sustainable management systems.
3cr; 30hr lec, 45hr lab, TE 4.17 (DB, DY)

162 Introduction to Beekeeping

Recommended: AG 174.

Introduces the biology and behavior of honeybees and best management practices for hive management. Develops hands-on skills for hive inspection, maintenance, and management techniques to control honeybee diseases and pests. Investigates alternative pollinators.
2cr; 15hr lec, 30hr lec-lab, TE 2.50

163 Advanced Beekeeping

Prereq: AG 162 with grade B or better, or consent.

Provides the student with additional hands on training in all aspects of beekeeping. Honeybee hive inspection, maintenance, and best management practices carried out under limited supervision of instructor. Examines honeybee diseases and pests and the management techniques for these problems. Primary topics include and not limited to: Swarm Trapping, Swarm Management, Hive Splits, Queen Rearing and Value Added Products.
2cr; 15hr lec, 30hr lec-lab, TE 2.50

174 Insects & Their Control

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent. Introduces basic morphology and classification of insects. Studies destructive and beneficial insects. Covers principles of cultural, mechanical, legislative, biological, and chemical control. Investigates sustainability of control methods. 3cr; 30hr lec, 30hr lec-lab, TE 3.33 (DB, DY)

200 Principles of Horticulture

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.
Coreq: AG 200L.

Introduces plant botany and physiology. Discusses plant nutrients, moisture, and environmental requirements and plant propagation. Studies culture and production techniques for selected ornamental crops.
3cr; 45hr lec, TE 3.00 (DB)

200L Principles of Horticulture Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.
Coreq: AG 200

Lab to accompany AG 200. Examine internal and external plant anatomy, plant growth, and physiology. Propagate plants by sexual and asexual methods. Produce a commercial horticulture crop.
1cr; 45hr lab, TE 2.50 (DY)

201 Introduction to Plant Disease

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces classification, morphology, and biology of fungi, bacteria, viruses, and nematodes that attack economic crops. Covers diagnosis and control of plant diseases. Investigates sustainability of control methods.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

230 Agricultural Business Management

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces farm and landscape management practices including decision making, record keeping, cash flow, financial statements, ratio analysis, use of computers as a management tool, and marketing of agricultural products and services.

3cr; 45hr lec, TE 3.00

232 Farm Tractor & Equipment Operation

Prereq: Consent.

Teaches operation of a rototiller and wheel type tractor with allied implements on the College farm. Includes safety, maintenance, three point hitch hookups, hydraulics, and field adjustments.

1cr; 45hr lab, TE 2.50

235 Irrigation Principles & Design

Prereq: MATH 75X with grade C or better or placement at least MATH 82, or consent.

Examines types of irrigation systems including materials, equipment, and installation. Discusses evapotranspiration and soil moisture relations. Calculates hydraulic and operational parameters of irrigation systems. Designs an irrigation system to scale.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

251 Sustainable Crop Production

Prereq or coreq: AG 103 and AG 104, or consent. Recommended: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces production methods for selected crops including propagation planting, fertilization, irrigation, pest control, harvesting, and marketing. Evaluates conventional and alternative methods of production and analyzes effects of these practices. Examines economic and social impacts. *Field trips to production areas.*

4cr; 30hr lec, 90hr lab, TE 6.67

252 Sustainable Crop Production II

Prereq: AG 251 with grade C or better, or consent. Recommended: AG 200.

Reinforces production practices for sustainable agriculture. Develops skills in designing, planning, and executing a sustainable production system for wholesale and retail sales. Determines cost of production and integrates multiple marketing practices.

Evaluates products, cultural practices, and marketing methods. Practices farm record keeping. 2cr; 90hr lab, TE 5.00

253 Hawaiian Food Plants: Traditional and Contemporary Production

Prereq: AG 200 or BOT 105/HWST 211, either with grade C or better, or consent.

Explores commercial production of traditional food crops of Hawai'i. Compares traditional geographical centers of production to contemporary production areas. Compares and contrasts traditional and contemporary cultural production practices. Explores modern markets for traditional crops. Teaches production techniques including propagation, planting, fertility, harvest, and post harvest methods. Identifies common varieties of traditional crops.

3cr; 45hr lec, TE 3.00 (HI, DB)

253L Hawaiian Food Plants: Traditional and Contemporary Production Lab

Prereq: AG 200 or BOT 105/HWST 211, either with grade C or better, or consent.

Coreq: AG 253.

Lab to accompany AG 253.

1cr; 45hr lab, TE 2.50 (HI, DY)

260 Tropical Landscape

Prereq: Either AG 265 and 265L, or AG 269, or consent.

Introduces the student to the elements of landscape design, planning and plan implementation. The areas covered include design principles, functional aesthetics, reading and development, landscape plants, and cost estimates. (Formerly AG 250.) 4cr; 45hr lec, 45hr lab, TE 5.00

261 Turfgrass Management

Recommended: Placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Studies identification, planting, and maintenance of turfgrasses for home, park, and golf areas. Discusses watering and fertilizing. Treats insect, disease, and weed control. (Formerly AG 260.)

3cr; 30hr lec, 30hr lec-lab, TE 3.33

264 Plant Propagation

Prereq: AG 200, or consent.

Introduces theoretical and applied aspects of sexual and asexual reproduction of plants. Discusses propagation of selected plants by seed, cuttings, grafting, budding, layering, and division.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

265 Horticulture of Hawaiian Plants

Prereq: AG 200 or BOT 105/HWST 211, either with grade C or better, or consent. Coreq: AG 265L.

Explores the biology, ecology, and adaptations of plants focusing on endemic and indigenous Hawaiian and Polynesian introduced. Teaches techniques of horticulture including propagation, cultivation, and management. Introduces uses of plants in landscaping and native habitat restoration projects. 3cr; 45hr lec, TE 3.00 (HI, DB)

265L Horticulture of Hawaiian Plants Lab

Prereq: AG 200 or BOT 105/HWST 211, either with grade C or better, or consent.

Coreq: AG265.

Lab to accompany AG 265.

1cr; 45hr lab, TE 2.50 (DY)

266 Greenhouse & Nursery Management

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces management practices for production and operation of nurseries and greenhouses in Hawai'i. Includes environmental factors, structures, materials, sanitation, pests, and diseases.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

269 Ornamental Plant Materials

Presents identification, use, propagation, and cultural requirements of trees, shrubs, vines, and ground covers used in Hawaiian landscapes.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

281 Weed Science

Recommended: Placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Teaches weed classification, identification, ecology, and principles of weed control. Emphasizes properties, uses, action, and safety of herbicides and pesticides.

3cr; 30hr lec, 30hr lec-lab, TE 3.33

Anthropology (ANTH)

M. Kirkendall

150 Human Adaptation

Studies human evolution. Examines prehistoric and recent developments of culture, and common features and principle variations in cultural behavior. 3cr; 45hr lec, TE 3.00 (DS)

151 Emerging Humanity: Introduction to human biological evolution and the archaeology of culture in the world prior to AD 1500.

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces human biological evolution, concepts and practices of archaeology and anthropology. Topics include the fossil record of human biological evolution, archaeology of culture of the world prior to AD 1500, the development of technology, the origins of plant and animal domestication, the genesis of cities and urbanism, and the political and ecological consequences of human impact on the natural environment. 3 cr; 45 hr. lec. TE 3.00 (FGA)

152 Culture and Humanity

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Provides an introduction to Cultural Anthropology. Students examine the interaction between the natural environment, human cultures, using a multi-cultural perspective through which they interpret the post-1500 world. 3cr; 45 lec, TE 3.00 (FGB)

165 Heritage Sites in Archaeology

Prereq: ENG 100 with grade C or better, or consent.

Introduces the concepts and practices of archeology, historical research, historic site preservation, and heritage management. Combines lecture, laboratory, and field-work. 3cr; 45hr lec, TE 3.00 (HI, DS)

200 Cultural Anthropology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Studies the concept of culture and basic tools for analyzing cultural behavior. Topics include patterning and integration, dynamics of culture, culture and the individual, cultural change, and anthropology and the future. 3cr; 45hr lec, TE 3.00 (DS)

210 Archaeology

Recommended: ANTH 150, 200, or 215.

Introduces prehistoric archaeology. Surveys cultural growth in prehistoric times. Explains methods and techniques of excavation and laboratory analysis. 3cr; 45hr lec, TE 3.00 (DS)

210L Archaeology Laboratory

Prereq: ANTH 210 with grade C or better (or concurrent), or consent.

Teaches methods and techniques of archaeological excavation. Uses laboratory techniques to analyze data. 1cr; 45hr lab, TE 2.50 (DY)

215 Biological Anthropology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces students to the study of human biological make-up, origins of that make-up, and the pre-history of human biological and cultural development. 3cr; 45hr lec, TE 3.00 (DB)

225 Medical Anthropology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: ANTH 200 or 215 (or concurrent).

Surveys human health and disease, and how they relate to cultural practices, belief systems, and environmental factors. Seeks to bridge the health sciences and anthropology by focusing on how social and environmental factors affect health. Explores alternative ways of understanding and treating disease. Includes ethno-medicine, the traditional healing and health practices of a selection of cultures, paleopathology, epidemiology, and human adaptation. 3cr; 45hr lec, TE 3.00 (DS)

235 Peoples of the Pacific

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: HIST 152 or ANTH 200.

Surveys the cultural areas of the Pacific from pre-contact to present day. Covers prehistoric migration patterns, historical movements, and present day distributions, including western colonization and current problems. (Crosslisted as HIST 288.) 3cr; 45hr lec, TE 3.00 (DH)

281 Archaeological Field Techniques

Prereq: ANTH 210 with grade C or better (or concurrent), or consent.

Applies archaeological techniques including survey, excavation, mapping, and photography. *Taught entirely in the field at an archaeological site.* 4cr; 120hr lec-lab, TE 6.67 (DS)

Aquaculture (AQUA)

S. Calder

362 Aquaculture and Mariculture

Prereq: BIOL 171, CHEM 151 or 161 (or concurrent), and ZOO 200/L, all with grade C or better, or consent.

Coreq: AQUA 362L.

Examines the principles and practices of aquaculture and mariculture as well as the historic and current status of aquaculture. Explores fish production, commercial species currently being cultivated, traditional Hawaiian aquaculture, water quality dynamics, aquaponics, and hatchery technology. Investigates aquaculture as a case study for global food production. 2cr; 30hr lec, TE 2.00 (DB)

362L Aquaculture and Mariculture Lab

Prereq: BIOL 171, CHEM 151 or 161 (or concurrent), ZOO 200 and ZOO 200L, all with grade C or better, or consent.

Coreq: AQUA 362.

Laboratory to accompany AQUA 362 1cr; 45hr lab, TE 2.50 (DY)

466 Fisheries Science

Prereq: OCN 201, 201L, ZOO 200, and ZOO 200L, all with grade C or better, or consent.

Coreq: AQUA 466L.

Recommended: MATH 115 and AQUA 362.

Examines general characteristics of fisheries, harvesting methods, principles and techniques to derive data and analyze fished populations.

2cr; 30hr lec, TE 2.00 (DB)

466L Fisheries Science

Prereq: OCN 201, 201L, ZOO 200, and ZOO 200L, all with grade C or better, or consent.

Coreq: AQUA 466.

Recommended: MATH 115 and AQUA 362.

Laboratory to accompany AQUA 466. 1cr; 45hr lab, TE 2.50 (DY)

Architectural Engineering & CAD Tech (AEC)

C. Rutherford

110 Basic AutoCAD

Prereq: BLPR 101 or equivalent training/experience with consent.

Recommended: ICS 101 or BUSN 150, and placement at ENG 100.

Introduces the foundation of AutoCAD. Covers basic commands and operations from 2D drawing and editing to creating solid models and rendering. Teaches 2D drawing, text, dimensions, blocks, hatching, reference files, sharing data, 3D drawing, and plotting. Prepares students for Autodesk certification. 4cr; 4hr lec, TE 4.00

Art (ART)

M. Takemoto

101 Intro to Visual Arts

Introduces the basic elements of visual arts and their expressions in various forms.

Meets the UH Mānoa Arts & Science core requirement.

3cr; 45hr lec, TE 3.00 (DA)

104 Intro to Printmaking

Recommended: ART 113.

Introduces basic technical information and hands on experience in the multiple facets of printmaking media.

3cr; 90hr lec-lab, TE 4.29 (DA)

105 Intro to Ceramics

Studies ceramic form. Emphasizes hand building, glazing techniques, and surface treatment. Involves lectures and projects.

Meets the UH Mānoa Arts & Science core requirement.

3cr; 90hr lec-lab, TE 4.29 (DA)

107 Introduction to Photography

Introduces the history of film and non-silver photography from its 19th century invention to its current practice as an art form. Students will learn the basics of film photography, including the proper use of a 35mm manual camera and the darkroom techniques of black and white photography.

3cr; 90hr lec-lab, TE 4.29 (DA)

107D Introduction to Digital Photography

Prereq: Access to digital camera (manual settings preferable).

Introduces the fundamental, technical, and aesthetic practices of digital photography. Students will learn camera operation, computer editing techniques, basic lighting concepts, composition and print production.

3cr; 90hr lec-lab, TE 4.29 (DA)

113 Introduction to Drawing

Emphasizes two-dimensional visualization and rendering of forms, spaces, and ideas through a variety of approaches and media. *Meets the UH Mānoa Arts & Science core requirement.*

3cr; 90hr lec-lab, TE 4.29 (DA)

115 Introduction to 2D Design

Recommended: ART 101.

Introduces the theory and practice of composing and arranging two-dimensional forms in black, white, and color through manipulation of the basic elements and their interrelationships. *Meets the UH Mānoa Arts & Science core requirements.*

3cr; 90hr lec-lab, TE 4.29 (DA)

123B Introduction to Water Color Painting

Introduces the theory and practice of watercolor painting. Includes basic materials and technical procedures.

1cr; 30hr lec-lab, TE 1.43 (DA)

123C Introduction to Oil Painting

Introduces the theory and practice of oil painting. Includes basic materials and technical procedures.

1cr; 30hr lec-lab, TE 1.43 (DA)

123D Introduction to Acrylic Painting

Introduces the theory and practice of acrylic painting. Includes basic materials and technical procedures.

1cr; 30hr lec-lab, TE 1.43 (DA)

161 Introduction to Computer Graphics

Prereq or coreq: ICS 101 or BUSN 150, or consent.

Introduces computer graphics tools and concepts in digital image editing, illustration graphics, print and web design, and 2D and 3D animation. *(Crosslisted as ICS 161.)* 3cr; 45hr lec, TE 3.00 (DA)

205 Photoshop and Illustrator

Prereq: ICS 101 or BUSN 150, or consent.

Introduces the basic tools and features of digital image editing, photo retouching, and color correction of images. Focuses on the fundamental drawing techniques of illustration graphics including pen tool paths, objects, and type. *(Crosslisted as ICS 205.)* 3cr; 45hr lec, TE 3.00 (DA)

218 Intermediate Computer Graphics

Prereq: ICS 161, 205, or 214, or consent.

Provides instruction with the tools and concepts of computer graphics utilizing digital media technology. Offers experience that integrates digital image editing, illustration graphics, print publishing, web authoring, and 2D and 3D animation. *(Crosslisted as ICS 261.)*

3cr; 45hr lec, TE 3.00 (DA)

221 Design for Print and Web

Prereq: ICS 101 or BUSN 150, or consent.

Introduces development principles related to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images, and other design elements, developing computer skills in industry standard computer programs, and study of design development pertaining to color theories, publications, and advertising. Projects emphasize relating form to content through selection, creation and integration of typographic, digital imaging, illustrative and design elements in print and web environments. *(Crosslisted as ICS 214.)*

3cr; 45hr lec, TE 3.00 (DA)

223 Intermediate Painting

Prereq: ART 113 and 123BCD, or consent.

Practices the development of painting skills following the chronological progression of Western Modernism. Explores painting work by studying the foundations of major developments in the late 19th century and early 20th century painting styles. Examines and compares the two parallel tendencies of Structuralism and Expressionism. Teaches control and management of pictorial space and paint application. Develops personal sources of imagery, and explores the effects of scale and color interaction in personal work.

3cr; 90hr lec-lab, TE 4.29 (DA)

243 Intermediate Ceramics: Hand Building

Prereq: ART 105, or consent.

Develops vessel and sculptural concepts using hand-building techniques. Introduces the elements of art through the making of ceramic form. Progresses beyond basic hand building techniques to advanced skills: various forming and embellishing techniques, work with plaster and molds, colored slip, colored clay, glaze work, and the firing of kilns. Students work towards development of individual creative expression. 3cr; 90hr lec-lab, TE 4.29 (DA)

244 Intermediate Ceramics: Wheel Throwing

Prereq: ART 105, or consent.

Develops vessel and sculptural concepts using wheel-throwing techniques. Introduces the elements of art through the making of ceramic form. Progresses beyond basic throwing techniques to intermediate throwing skills, various forming and embellishing techniques both on the wheel and subsequent to throwing, colored slip work, glaze work, and the firing of kilns. Students work towards development of individual creative expression. 3cr; 90hr lec-lab, TE 4.29 (DA)

263 Advanced Ceramics: Sculpture

Prereq: ART 243 or ART 244, either with grade C or better, or consent.

Explores sculptural concepts and techniques specifically related to the medium of clay; advanced hand-building, throwing, glazing, and firing techniques. 3cr; 90hr lec-lab, TE 4.29 (DA)

264 Advanced Ceramics: Vessels

Prereq: ART 243 or ART 244, either with grade C or better, or consent.

Explores the ceramic vessel as function, metaphor, and expression. Advanced hand-building, throwing, glazing, and firing techniques. 3cr; 90hr lec-lab, TE 4.29 (DA)

270 History of Western Art

Surveys Western Art from prehistoric to modern times. Emphasizes the historical aspects of art including an overview of each historical period. 3cr; 45hr lec, TE 3.00 (DH)

 **Astronomy (ASTR)**

H. Shih

110 Survey of Astronomy

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Recommended: High school science

Introduces the history and methods of astronomy, with descriptive treatments of planets, the solar system, stars, galaxies, and cosmology. Discusses the concepts of size, distance, and time in the observable universe. 3cr; 45hr lec, TE 3.00 (DP)

110L Introduction to Astronomy Laboratory

Prereq: ASTR 110 with grade C or better (or concurrent), and MATH 82 with grade C or better or placement at least MATH 100.

Recommended: ICS 101 or equivalent.

Introduces instrumentation and methods used in astronomical observations and research. Demonstrates astronomical principles through laboratory observations and analysis of astronomical data, and provides experience using instrumentation and software for observations, data collection and analysis, and image processing. 1cr; 45hr lab, TE 2.50 (DY)

 **Auto Body Repair & Painting (ABRP)**

T. Hussey

120G Auto Sheet Metal

Prereq: AMT 100 with grade C or better (or concurrent), or consent. Student must maintain a valid driver's license throughout duration of the Auto Body course of studies.

Explains the theory and principle of the basic skills required for automotive sheet metal panel repair. Introduces picking and filing, shrinking of damaged sheet metal, and corrosion repair. (Formerly ABRP 20G) 3cr; 90hr lec-lab, TE 3.75

120H Body & Fender Repair

Prereq: ABRP 120G with grade C or better, or consent. Student must maintain a valid driver's license throughout duration of the auto body course of studies.

Introduces basic auto body skills and procedures. Covers the proper and safe handling of hand and power tools and materials used in the auto body industry. (Formerly ABRP 20H) 3cr; 90hr lec-lab, TE 3.75

122E Basic Auto Refinishing

Prereq: AMT 100 with grade C or better, or consent. Student must maintain a valid driver's license throughout duration of the Auto Body course of studies. *Recommended:* ABRP 120H.

Presents the basics of automotive refinishing. Emphasizes shop and personal safety in using hand tools, power tools, supplies, and materials for vehicle preparation for painting.

4cr; 120 hr lec-lab, TE 5.00

122G Complete and Touch Up Refinishing Techniques

Prereq: ABRP 122E with grade C or better, or consent. Student must maintain a valid driver's license throughout duration of the Auto Body course of studies.

Explains the complete painting process.

Covers preparation and application of sealers to surface, to the final detailing of the vehicle.

6cr; 180hr lec-lab, TE 7.50

141G Plastic Panel Repair

Prereq: ABRP 120H with grade C or better (or concurrent), or consent. Student must maintain a valid driver's license throughout duration of the auto body course of studies.

Introduces the repairing of damaged plastic and fiberglass panels and components. (Formerly ABRP 41G)

3cr; 90hr lec-lab, TE 3.75

141H Management & Estimating

Prereq: ABRP 122G with grade C or better (or concurrent), or consent. Student must maintain a valid driver's license throughout duration of the Auto Body course of studies.

Introduces the student to the fundamentals of writing and understanding repair estimates and repair orders. Discusses management, business procedures, and industrial relations. (Formerly ABRP 41H) 2cr; 60hr lec-lab, TE 2.50

 **Automotive Technology (AMT)**

T. Hussey, L. Martinson

80 Small Engine Repair

Explores the theory and practice in the operation, repair, and maintenance of small displacement internal combustion engines including two-cycle and four-cycle types found on single cylinder lawn mowers, power plants, garden tillers, and chain saws.

2cr; 30hr lec, TE 2.00

100 Introduction to Automotive Technology

Prereq: Student must maintain a valid Driver's license throughout duration of the automotive course of studies, or consent.

Recommended: Placement at ENG 21 or higher.

Introduces principles for the operation of automotive systems. Explains the selection and use of basic automotive tools, equipment, and procedures for the preventive maintenance and minor repair service. Includes lectures, demonstrations, and lab work on shop training units and "live" service vehicles. (Formerly AMT 20) 2cr; 60hr lec-lab, TE 2.50

129 Engines Repair

Prereq: AMT 100 with grade C or better; and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill.

This course will cover shop safety, tools, and all components found in the modern internal combustion engine. The course is designed to provide students with an understanding of the fundamental operation and construction of internal combustion engines. Instruction will include theory and laboratory(shop) activities in which students will learn how to inspect, service, maintain, diagnose, and repair automobile engine malfunctions. This course includes live work. Students are required to have valid driver's license. (Formerly AMT 30) 7cr; 210 hr lec-lab, TE 8.75

141 Electrical/Electronics Systems I

Prereq: AMT 100 with grade C or better(or concurrent), and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Examines principles of operation, diagnosis, service and repair of the electrical/electronic system. Covers the electron theory, circuits and schematics, batteries, starting and charging system. Explains use of automotive tools and testing equipment. (Formerly AMT 40C) 5cr; 150hr lec-lab, TE 6.25

144 Heating and Air Conditioning

Prereq: AMT 100 with grade C or better, and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

This course provides an understanding of the theory, diagnosis, service, safety handling of refrigerant and repair of automotive heating, ventilation, and air conditioning (HVAC) systems. The course presents the operation and function of vacuum, electrical, refrigeration circuits, and computer controls. Training is provided on the use of tools and equipment while performing diagnostics, repairs, and service on HVAC systems. (Formerly AMT 43) 4 cr; 120hr lec-lab, TE 5.00

145 Manual Drive Trains and Axles

Prereq: AMT 100 with grade C or better, and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill, or consent.

Examines principles of operation, diagnosis, and repair of standard transmissions and transaxles, clutches, drive shafts, and drive axles. Explains use of automotive tools and testing equipment. (Formerly AMT 46) 4cr; 120hr lec-lab, TE 5.00

149 Automatic Transmissions and Transaxles

Prereq: AMT 241 with grade C or better(or concurrent), and ENG 19 with grade C or better, or placement at least ENG 22, or consent. Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill, or consent.

Examines principles of operation, diagnosis, and repair of automatic transmissions and transaxles. Explains use of automotive tools and testing equipment. (Formerly AMT 50) 4cr; 120hr lec-lab, TE 5.00

152 Brake Systems

Prereq: AMT 100 with grade C or better(or concurrent), and ENG 19 with grade C or better, or placement at least ENG 22, or consent. Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill, or consent.

Examines principles of operation, diagnosis, service, and repair of drum, disc, and power brake systems. Explains use of automotive tools and testing equipment. (Formerly AMT 53) 4cr; 120hr lec-lab, TE 5.00

154 Suspension and Steering Systems

Prereq: AMT 100 with grade C or better(or concurrent), and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill, or consent.

Examines principles of operation, theory, design, and repair of standard and power steering systems, front and rear suspension, tires, wheels, alignment, and balancing. Explains use of automotive tools and testing equipment. (Formerly AMT 55) 4cr; 120hr lec-lab, TE 5.00

240 Fuel & Emission Systems

Prereq: AMT 241 with grade C or better, or consent.

Recommended: Eng 21; and QM 107C or MATH 100 or higher.

Examines principles of operation, diagnosis, and repair of fuel systems and emission systems. Explains fuel injection, direct injection supercharging, turbocharging, fuel pumps, electronic control systems, and emission controls. Explains use of automotive tools and testing equipment. (Formerly AMT 40B) 4cr; 120hr lec-lab, TE 5.00

241 Electrical/Electronics Systems II

Prereq: AMT 141 with grade C or better, and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill, or consent.

This course covers essential theories and practical skills in diagnosing and repairing automotive accessory circuits such as power windows, power door locks, power antennas, power mirrors, audio systems, anti-theft systems, power seats, horns, blower fan, and wiper/washer. Also covered are conventional instrumentation, digital instrumentation, and supplemental inflatable restraint (SRS). (Formerly AMT 41C) 4cr; 120hr lec-lab, TE 5.00



246 Ignition Systems

Prereq: AMT 241 with grade C or better, and ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Recommended: At least 10th grade reading skill; or consent.

Examines principles of operation, diagnosis, service, and repair of the ignition and computer systems. Explains the use of automotive tools and equipment.

(Formerly AMT 40G)

4cr; 120hr lec-lab, TE 5.00

262 Advanced Diagnostic and Repair

Prereq: AMT 100, 129, 141, 144(or concurrent), 145, 149, 152, 154, 240, 241, and 246, all with grade C or better; and ENG 19 with grade C or better or placement at least ENG 22, or consent.

Student must maintain a valid Driver's license throughout duration of the automotive course of studies.

Applies diagnostic skills and techniques in advanced automotive mechanics technology with emphasis on realism in lab and shop operations. Includes students being prepared to take the ASE certification exam in the following areas: suspension and steering, electrical/electronics, engine performance, automatic transmission/transaxle, manual drive train and axles, brakes, heating and air conditioning, and engine repair. *(Formerly AMT 60)*

8cr; 240hr lec-lab, TE 10.00

Biochemistry (BIOC)

S. Calder

141 Fundamentals of Biochemistry

Prereq: MATH 82 with grade C or better, or placement at least MATH 100, or consent.

Recommended: High school science.

Introduces biological chemistry stressing integration of the fundamental concepts of general chemistry, inorganic chemistry, and organic chemistry with broad application of these principles to the study of living systems. *(Formerly BIOC 241)*

3cr; 45hr lec, TE 3.00 (DP)

142 Elements of Biochemistry

Prereq: BIOC 141or CHEM 151 or CHEM 161, or consent.

Introduces chemical principles and concepts of living systems. Emphasizes the composition, function, and transformation of biological substances in animals, plants, and microorganisms. Provides sufficient organic chemistry to supplement a thorough understanding of the general concepts of biochemistry. *(Formerly BIOC 244)*

3cr; 45hr lec, TE 3.00 (DP)

Biology (BIOL)

S. Calder, S. Irwin, M. Gould

100 Human Biology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Surveys human anatomy and physiology. Introduces students to the structure and function of cells, tissues, organs, and systems of the human body. Includes disease processes and recent scientific advances.

3cr; 45hr lec, TE 3.00 (DB)

101 Biology and Society

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces characteristics of science, historical development of scientific concepts, and interactions of society with science, illustrated by topics from biological sciences. *(Crosslisted as SCI 121.)*

3cr; 45hr lec, TE 3.00 (DB)

101L Biology and Society Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. *Coreq:* BIOL 101.

Laboratory to accompany BIOL 101. *(Crosslisted as SCI 121L.)*

1cr; 45hr lab, TE 2.50 (DY)

102 General Botany

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Studies growth, function, and evolution of plants. Analyzes human interactions with plants and plant interactions with their environment. *(Crosslisted as BOT 101.)*

3cr; 45hr lec, TE 3.00 (DB)

102L General Botany Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: BIOL 102.

Lab to accompany BIOL 102. *(Crosslisted as BOT 101L.)*

1cr; 45hr lab, TE 2.50 (DY)

103 Principles of Zoology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Surveys major animal groups with emphasis on structure, physiology, development, reproduction, evolution, ecology, behavior, and interactions with humans.

(Crosslisted as ZOO 101.)

3cr; 45hr lec, TE 3.00 (DB)

103L Principles of Zoology Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: BIOL 103.

Lab to accompany BIOL 103.

(Crosslisted as ZOO 101L.)

1cr; 45hr lab, TE 2.50 (DY)

105 Hawaiian Field Biology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Surveys, in the classroom and on location, ecosystems from near-shore ocean waters to mountain top. Considers geological history, physical geography, and natural history. Discuss pre-Polynesian establishment of organisms, origins of endemic species, and the influences of human populations on island ecosystems. 3cr; 45hr lec, TE 3.00 (HI, DB)

105L Hawaiian Field Biology Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: BIOL 105.

Lab to accompany BIOL 105.

1cr; 45hr lab, TE 2.50 (HI, DY)

124 Environment and Ecology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines the biological and physical principles affecting human interactions with the environment. Explores the impacts of science, technology, values, and perceptions on global ecology. Discusses problems of pollution, overpopulation, and resource depletion with an emphasis on island ecosystems. Evaluates alternatives to current actions and public policies stressing responsibility of the individual. 3cr; 45hr lec, TE 3.00 (DB)

124L Environment and Ecology Lab

Prereq: BIOL 124 with grade C or better (or concurrent), or consent.

Laboratory to accompany BIOL 124.

1cr; 45hr lab, TE 2.50 (DY)

151 Introduction to Genetics

Prereq: ENG 100, or consent.

Recommended: BIOL 100 or 101.

Introduces basic concepts in genetics and explores how they are used in research. Investigates human gene structure and function, including the genetic basis of development, causes of birth defects, mental retardation, genetic diseases, sexual determination, and behavior. Surveys current topics in genetic research. 3cr; 45hr lec, TE 3.00 (DB)

152L Introduction to Biotechnology Lab

Prereq: BIOL 100 or 151, and ENG 100, both with grade B or better, and at least MATH 82 with grade B or better or placement at least MATH 103, or consent.

Recommended: High school or college level chemistry

Provides and overview of the impact of biotechnology in the achievement of contemporary objectives in the fields of medicine, ecology, food science, and forensics. Introduces the concepts of bioethics, patenting, and regulatory issues in biotechnology. Focus on laboratory section with hands-on applications in DNA and protein technologies. Course serves as a complimentary lab for BIOL 151.

2cr; 90hr lab, TE 5.00 (DY)

171 General Biology I

Prereq or coreq: CHEM 151 or 161, or consent. *Coreq:* BIOL 171L.

Introduces cell structure and chemistry, growth, reproduction, genetics, evolution, viruses, bacteria, and simple eukaryotes. *Required for life science majors.*

3cr; 45hr lec, TE 3.00 (DB)

171L General Biology I Lab

Prereq or coreq: CHEM 151 or 161, or consent. *Coreq:* BIOL 171, or consent.

Laboratory to accompany BIOL 171.

1cr; 45hr lab, TE 2.50 (DY)

172 General Biology II

Prereq: BIOL 171, or consent.

Continues BIOL 171. Includes anatomy, physiology, and systematics of plants and animals. Studies behavior, ecosystems, populations, and communities.

3cr; 45hr lec, TE 3.00 (DB)

172L General Biology II Lab

Prereq: BIOL 171, 171L, and 172 (or concurrent), or consent.

Laboratory to accompany BIOL 172.

1cr; 45hr lab, TE 2.50 (DY)

200 Coral Reefs

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces the biology, ecology, and geology of stony corals and the reef structures they build. Identifies the roles of other members of the coral reef community including algae, other invertebrates, and fishes. Explores the use of corals as resources and the impacts of human activities on coral reefs.

3cr; 45hr lec, TE 3.00 (HI, DB)

200L Coral Reefs Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: BIOL 200.

Laboratory to accompany BIOL 200.

1cr; 45hr lab, TE 2.50 (DY)

282 Global Change

Prereq: ENG 100 with grade C or better, or consent. *Recommended:* College science course.

Introduces principal components of global change and explores the impacts on the environment. Focuses on the interdisciplinary nature of global change and Interrelationships to biological, physical, anthropological, economic, and political concepts. 3cr; 45hr lec, TE 3.00 (DB)

331 Marine Mammal Biology

Prereq: Either BIOL 171 or ZOO 200, and MATH 115, both with grade C or better, or consent.

Provides an overview of marine mammal science, significance and roles of marine mammals in their ecosystems, and marine conservation issues. Covers current research topics in marine mammal science. 3cr; 45hr lec, TE 3.00 (DB)

331L Marine Mammal Biology Lab

Prereq: BIOL 331 (or concurrent).

Introduces current field and laboratory techniques and equipment used to collect and analyze data on marine mammal population structure and dynamics.

1cr; 45hr lab, TE 2.50 (DY)

424 Protected Species Management

Prereq: BIOL 171 and ZOO 200/L, all with grade C or better, or consent.

Recommended: ENG 225, and MATH 115.

Examines policy and management issues related to protected species. Explores methods for monitoring and estimating population sizes. Provides opportunities for students to assist agencies with monitoring and assessment activities. 2cr; 30hr lec, TE 2.00 (DB)

424L Protected Species Management Lab

Prereq: BIOL 171 and ZOO 200/L, all with grade C or better, or consent.

Coreq: BIOL 424 *Recommended:* ENG 225, and MATH 115.

Laboratory to accompany BIOL 424.

1cr; 45hr lab, TE 2.50 (DY)

Blueprint (BLPR)

C. Rutherford

101 Blueprint & Drafting Foundations

Prereq: ENG 22 with grade C or better, or placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent

Introduces the fundamental principles of pictorial and architectural drawing and blueprint reading. Focuses on the use of mechanical drawing instruments and free-hand sketching to make shop drawings and develop interpretation and visualization techniques as they refer to detailed artistic renderings and construction drawings, and concepts essential to related fields of carpentry, architecture, engineering, and graphic arts. 3cr; 45hr lec, TE 3.00

Botany (BOT)

A. Emmsley

101 General Botany

Studies growth, function, and evolution of plants. Analyzes human interactions with plants and plant interactions with their environment. *(Crosslisted as BIOL 102.)* 3cr; 45hr lec, TE 3.00 (DB)

101L General Botany Lab

Coreq: BOT 101.

Laboratory to accompany BOT 101. *(Crosslisted as BIOL 102L.)* 1cr; 45hr lab, TE 2.50 (DY)

105 Ethnobotany

Identifies endemic, indigenous, and Polynesian introduced flora of Hawai'i. Examines the many uses of Hawai'i's flora by the indigenous people. Reveals the relationship of gods/plants/man, and connects belief and practices with the intentional migration of specific plants. *(Crosslisted as HWST 211.) Meets Social Science requirement, not Natural Science requirement.* 3cr; 45hr lec, TE 3.00 (HI, DS)

105L Ethnobotany Lab

Prereq: BOT 105 or HWST 211, either with a C or better (or concurrent).

Studies the interactions between the Hawaiian culture and plants/plant environments. Considers different levels and types of interactions and patterns of interactions between people and plants. Places emphasis on the importance of cultural upbringing. Includes field trips in lieu of lab. *(Crosslisted as HWST 211L.)* 1cr; 45hr lab, TE 2.50 (DY)

Business (BUS)

D. Battacharya, G. Logan, F. Mabie, K. Watanabe

120 Principles of Business

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: ENG 22 with grade C or better, or placement at ENG 100.

Surveys the fundamentals of American business enterprise and examines the foundations and responsibilities of accounting, management, finance, marketing, and the business environment. 3cr; 45hr lec, TE 3.00

125 Starting a Business

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: ENG 22 with grade C or better, or placement at ENG 100.

Surveys the business environment, establishing a business entity, decision-making processes, marketing assessments, financing, operations considerations, and government regulations as they relate to the development of a formal business plan. It is designed for those who wish to start or are currently operating their own business. 3cr; 45hr lec, TE 3.00

130 Business Communication - Oral

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Develops competence in oral communication within business and organizational context. Provides the theory and practical skills to be a confident and effective communicator in a variety of business and organizational settings. *(Crosslisted as COM 130.)* 3cr; 45hr lec, TE 3.00 (DA)

150 Personal Finance

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces financial planning, money management and tax planning. Includes financing real and personal property, purchasing insurance and managing investments. *(Crosslisted as ECON 150.)* 3cr; 45hr lec, TE 3.00

310 Statistical Analysis for Business Decisions

Prereq: MATH 115 with grade C or better, or consent.

Emphasizes problem recognition, formulation, and stress on cross-disciplinary complex problem solving and communication. Covers descriptive statistics, probability, and hypothesis testing with emphasis on quality, productivity, and regression analysis. *(Computer intensive.)* 3cr; 45hr lec, TE 3.00

318 Principles of Finance

Prereq: ACC 300 with grade C or better, or consent.

Introduces the theory and practice of financial management: analysis and decision making for asset management, capital budgeting, capital structure, and dividend policy. 3cr; 45hr lec, TE 3.00

320 Entrepreneurship – Opportunity Recognition and Evaluation

Prereq: MGT 310 and MKT 300, or consent.

Develops skills necessary to recognize an opportunity, and evaluate the viability of an idea, prior to the investment of significant time and money. *Uses student teams to develop, present, and critique entrepreneurial startups.* 3cr; 45hr lec, TE 3.00

322 New Venture Leadership

Prereq: MGT 310, or consent.

Recommended: PSY 100 or SOC 100. Focuses on organizational leadership. Emphasizes the human dimension within organizations. Provides a foundation for understanding the process and stages of organization dynamics. Includes the management of change and innovation. 3cr; 45hr lec, TE 3.00

420 Global Business Strategies

Prereq: MKT 300 and MGT 310, or consent.

Focuses on understanding the global environment and the interconnections of cultural, political, legal, economic, and ethical systems. Identifies forms of business ownership and international opportunities. Explores basic concepts underlying international finance, management, marketing, and trade relations. 3cr; 45hr lec, TE 3.00

495 ABIT Capstone I

Prereq: BUS 320 with grade C or better, or consent.

Provides the skills necessary to utilize and demonstrate the tools and understanding developed during the ABIT program. Includes strategy formulation and implementation, competitive analysis, and e-commerce as models for problem solving and decision-making in an organizational setting. A comprehensive business and marketing plan is required.

(Letter grade only.)

3cr; 45hr lec, TE 3.00

496 ABIT Capstone II

Prereq: BUS 495 with grade C or better, or consent.

Provides the skills necessary to utilize and demonstrate the tools and technologies developed during the ABIT program. Includes Internet technology design, prototyping, and implementation. *Requires demonstration of business plan and supporting technology to external stakeholders. Extension of Capstone I project using latest Internet technologies. (Letter grade only.)*

3cr; 45hr lec, TE 3.00

 **Business Law (BLAW)**

G. Logan

200 Legal Environment of Business

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces legal environment in which businesses operate with particular attention to principles of law relating to contracts, agency, commercial paper, partnerships, corporations, and government regulations.

3cr; 45hr lec, TE 3.00

324 Business Law for Entrepreneurs

Prereq: ENG 100 with grade C or better, or consent.

Explores the legal challenges the entrepreneur faces throughout the course of a project or business venture. Identifies and develops skills and tools used to increase or realize value and grow the business while mitigating risks.

3cr; 45hr lec, TE 3.00

360 International Business Law

Prereq: ENG 100 with grade C or better, or consent.

Examines international and national laws as they apply 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.

3cr; 45hr lec, TE 3.00

 **Business Technology (BUSN)**

S. Low

50 Basic Computing Skills for College Success

Introduces the basics of how computers are used by college students. Covers the parts and operations of personal computers, the graphical user interface and file management techniques. Provides instruction and practice with E-Mail, Internet and the Lulima course management system. Provides instruction and practice with word processing and presentation programs.

3cr; 45hr lec, TE 3.00

110 Office Computer Troubleshooting and Maintenance

Prereq: BUSN 150 or ICS 101, either with grade C or better, or consent.

Introduces basic troubleshooting and maintenance procedures for personal computers used in typical office environments. Develops basic understanding of computer hardware modules and operating system software. Covers system assembly, disassembly, configuration, booting up, preparing disk drives, loading operating system software, diagnosing problems, and upgrading.

3cr; 45hr lec, TE 3.00

121 Introduction to Word Processing

Introduces the parts of a personal computer and how the computer keyboard and mouse are used. Develops the ability to key alphabetic, punctuation, number, symbol keys, and the ten-key pad by touch. Further develops speed, accuracy, and technique keying. Introduces document formatting.

3cr; 45hr lec, TE 3.00

123 Word Processing for Business

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Recommended: 35 gross words a minute (gwam) or BUSN 121 with grade C or better.

Uses advanced features from a word processing program to create business documents emphasizing production and proofreading. Integrates knowledge of the Internet and computer. Includes timed computer keyboarding skills for creating and editing business documents and sending electronic attachments.

3cr; 45hr lec, TE 3.00

150 Introduction to Business Computing

Recommended: BUSN 50 or 121.

Introduces the role of computers in the evolution of an information-based society. Reviews history and need for information processing, the basic information processing cycle and functions, processing capabilities of computers, system development, and program development. Provides students with experience in an operating system and business applications, such as word processing, database management, spreadsheets, and presentation software.

3cr; 45hr lec, TE 3.00

151 Intermediate Business Computing

Prereq: BUSN 150 or ICS 101, either with grade C or better, or consent.

Expands the concepts of business computing introduced in BUSN 150. Develops greater proficiency in creating, modifying, and printing documents, spreadsheets, database queries, reports, and forms. Broadens knowledge of word processing, spreadsheet, database, and presentation software. Provides experience with typical business applications that utilize Intranet and Internet technologies.

3cr; 45hr lec, TE 3.00

157 Desktop Publishing for Business

Prereq: BUSN 150 or ICS 101, either with grade C or better, or consent.

Introduces desktop publishing on the personal computer. Develops proficiency in creating and modifying layout for brochures, business cards, fliers, and newsletters. Covers basic principles of graphics designs, formatting techniques, importing text files from word processing programs, preparing and importing various types of graphics, and creating special effects with graphics and text.

3cr; 45hr lec, TE 3.00

158 Social Media and Cloud-Based Collaboration for Business

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: Basic computer, Internet, and keyboarding skills.

Introduces students to social media and collaboration tools as they relate to business. Students create, maintain, and update blogs, social media sites, and internal/external collaboration and communication tools. Organizational management of cloud storage is included.

3cr; 45hr lec, TE 3.00

159 Creating and Managing the Virtual Office

Prereq: BUSN 121 or 123, and BUSN 150/ ICS 101, and BUSN 164, all with grade C or better, and ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: Basic computer, Internet, and keyboarding skills.

Explores concepts and issues involved in establishing a virtual assistant business. Students apply integrated software applications to complete assignments, create projects, conduct research, and prepare a basic business and marketing plan. 3cr; 45hr lec, TE 3.00

161 Customer Service

Prereq: ENG 22 or placement at ENG 100, or consent.

Builds and maintains the critical skills and understanding necessary to be a dynamic and successful member of today's rapidly growing service economy. Individuals who work with customers gain insight into customer behavior and attitudes and develop strategies to create positive customer relationships encountered in various situations on the job. 3cr; 45hr lec, TE 3.00

164 Career Success

Prereq: ENG 22 with grade C or better (or concurrent), or placement at ENG 100, or consent. *Recommended:* Computer experience using word processing.

Presents concepts and theories relating to workplace behavior and managing one's attitude and relationships for workplace effectiveness. 3cr; 45hr lec, TE 3.00

166 Professional Employment Preparation

Facilitates employment search by emphasizing professional techniques and standards in the preparation of application forms, resumes, cover letters, and employment interviews. (Crosslisted as IS 105C.) 1cr; 15hr lec, TE 1.00

170 Records and Information Management

Prereq or coreq: ENG 100, or consent.

Studies principles and procedures for organizing and operating Records and Information Management (RIM) programs. Topics include: selection of filing systems, equipment, and supplies, procedures for storage, retrieval, transfer, retention, and disposal of record; records inventory and analysis; records protection and disposition; and study and application of ARMA (Association of Records Managers and Administrators) rules for alphabetic, alpha-numeric, geographic, numeric, and subject methods. Helps a business or organization meet its fiscal, legal, governmental, requirements by managing its information systems. 3cr; 45hr lec, TE 3.00

185 Processing Physician's Orders

Prereq: NURS 50 and BUSN 123, both with grade C or better, or consent.

Introduces skills for transcribing physician orders. Includes transcribing medication, intravenous, admission, pre-operative, post-operative, and referral orders. Includes computer transcription. 3cr; 45hr lec, TE 3.00

189 Business Mathematics

Prereq: MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces various quantitative computational procedures used in accounting and finance such as present and future value concepts, payroll, inventory, and international currency exchange rates. Utilization of the electronic 10-key pad as a tool for calculating is stressed. 3cr; 45hr lec, TE 3.00

193v Business Technology Cooperative Education

Prereq: BUSN 123, BUSN 151, and BUSN 170, all with grade C or better; or BUSN 159 (or concurrent) and BUSN 158, both with grade C or better; or consent.

Provides practical career-related work experience through a program used nationally in colleges and universities to apply classroom knowledge and to develop job competencies. Full-time or part-time work in private and public sectors of the business, government and industrial communities is utilized for this program. (Letter grade only.) 1-3cr; 1.25hr seminar, plus minimum 75hr/cr documented field experience (e.g., 1cr-75hrs, 2cr-150hrs)

232 Business Computer Spreadsheets

Prereq: BUSN 151 and BUSN 189, both with grade C or better, or consent.

Covers business spreadsheets with special attention to advanced techniques required by experts. Develops critical thinking skills for applying software tools to business problems. Covers financial and logical functions, custom formatting, charts and graphs, multi-sheet and shared workbooks, formula auditing, data importing, Web features, one-variable and two-variable data tables, and application development tools. 3cr; 45hr lec, TE 3.00

237 Business Computer Databases

Prereq: BUSN 151 and BUSN 189, both with grade C or better, or consent.

Covers business databases with special attention to advanced techniques required by experts. Develops critical thinking for applying software tools to business problems. Covers databases and table creation and modification, queries, forms, reports, defining data relationships, importing and exporting data, multi-user databases, operations on the Web, and creating database applications. 3cr; 45hr lec, TE 3.00

261 Web Page Construction Fundamentals and Marketing

Prereq: BUSN 150 or ICS 101, either with grade C or better, or consent.

Introduces web page construction including HTML code, Internet service providers, and web page construction software. Examines World Wide Web marketing strategies. 3cr; 45hr lec, TE 3.00

292 Integrated Office Procedures

Prereq: BUSN 123, 151, and 193v, all with grade C or better, or consent.

Designed to bring together, within a portfolio, all elements of learning from the Business Technology program. Includes advanced word processing, spreadsheet, database, integration of applications, and creation of a web site. Utilizes Microsoft applications. Applies electronic presentations for projects. Prepares for Microsoft Office Specialist (MOS) Core certification. (Letter grade only.) 3cr; 45hr lec, TE 3.00

Carpentry (CARP)

C. Rutherford

120 Basic Carpentry Skills

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and at least MATH 75X with grade C or better (or concurrent) or placement at least MATH 82, or consent.

Introduces proper use and maintenance of carpentry hand and power tools. Practices selecting and using construction materials and fastening systems. (Formerly CARP 20) 3cr; 15hr lec, 60hr lec-lab, TE 3.13

121 Framing and Exterior Finish

Prereq: CARP 120, or consent.

Introduces theoretical and job related skills necessary to lay out and construct foundations, wall and ceiling framing, roofing systems, and apply exterior finish components for residential and light commercial construction. (Formerly CARP 40) 3cr; 15hr lec, 60hr lec-lab, TE 3.13

122 Interior Finish

Prereq: CARP 120, or consent.

Introduces interior finish of floors, walls, ceiling, trim and special feature applications in residential and light commercial construction. (Formerly CARP 43) 3cr; 15hr lec, 60hr lec-lab, TE 3.13

Chemistry (CHEM)

M. Ferguson

100 Chemistry and Society

Prereq: ENG 22 with grade C or better or placement at least ENG 100, and MATH 75X with grade C or better or placement at least MATH 115, or consent.

Provides an introduction to chemistry for non-science majors. Reviews basic chemistry concepts and their application to everyday life. Provides a survey of concepts and applications of chemistry with emphasis on the role of chemistry in the real world. 3cr; 45hr lec, TE 3.00 (DP)

100L Chemistry and Society Lab

Prereq: CHEM 100 (or concurrent) with grade C or better; and ENG 22 with grade C or better or placement at least ENG 100, and MATH 75X with grade C or better or placement at least MATH 115; or consent.

Laboratory to accompany CHEM 100. Lab introduces fundamental applications of chemistry, with special emphasis on relevant topics and how chemistry relates to the real world. (Intended for students preparing for careers in non-science fields.) 1cr; 45hr lab, TE 2.50 (DY)

131 Preparation for General Chemistry

Prereq: ENG 22 with grade C or better or placement at least ENG 100, and MATH 82 with grade C or better or placement at least MATH 103; or consent.

Provides background in algebra and elementary concepts of chemistry in preparation for entering the General Chemistry sequence. 3cr; 45hr lab, TE 3.00

151 Elementary Survey of Chemistry

Prereq: ENG 22 with grade C or better or placement at least ENG 100, and MATH 82 with grade C or better or placement at least MATH 103; or consent.

Provides the beginning student with background in the fundamentals of chemistry. Intended for students needing a one-semester science course. Presents films, demonstrations, and experiments of introductory laboratory techniques illustrating chemical principles. 3cr; 45hr lec, TE 3.00 (DP)

151L Elementary Survey of Chemistry Lab

Prereq: ENG 22 with grade C or better or placement at least ENG 100, and MATH 82 with grade C or better or placement at least MATH 103; or consent. Coreq: CHEM 151 Laboratory to accompany CHEM 151 1cr; 45hr lab, TE 2.50 (DY)

161 General Chemistry I

Prereq: ENG 22 with grade C or better, or placement at least ENG 100, and MATH 103 with grade C or better (or concurrent) or placement at least MATH 135, or consent.

Coreq: CHEM 161L.

Covers basic principles of chemistry including introduction to units, equations, atomic structure, chemical bonding, gases, crystals, and solutions. 3cr; 45hr lec, TE 3.00 (DP)

161L General Chemistry I Lab

Coreq: CHEM 161, or consent.

Presents laboratory experiments illustrating fundamental principles of chemistry. 1cr; 45hr lab, TE 2.50 (DY)

162 General Chemistry II

Prereq: CHEM 161 and at least MATH 135, or consent. Coreq: CHEM 162L.

Covers reaction thermodynamics, chemical kinetics, chemical equilibrium, acids and bases, solubility, complex ions, oxidation-reduction, and the various groups of elements including their differences, production, uses, and reactions. 3cr; 45hr lec, TE 3.00 (DP)

162L General Chemistry II Lab

Coreq: CHEM 162, or consent.

Presents laboratory experiments illustrating fundamental principles of chemistry. 1cr; 45hr lab, TE 2.50 (DY)

272 Organic Chemistry I

Prereq: CHEM 162 with grade C or better, or consent. Coreq: CHEM 272L.

Introduces the first semester of a comprehensive organic chemistry course including molecular structure, nomenclature, stereochemistry, spectroscopy, reactions and reaction mechanisms, synthesis, and applications to biology. (Intended for science majors.) 3cr; 45hr lec, TE 3.00 (DP)

272L Organic Chemistry I Lab

Prereq: CHEM 162L with grade C or better, or consent. Coreq: CHEM 272.

Introduces standard laboratory principles of organic chemistry including proficient use of laboratory equipment, manipulation of organic materials, laboratory safety, molecular structure, nomenclature, stereochemistry, spectroscopy, reactions and reaction mechanisms, synthesis, and applications to biology. (Intended for science majors.) 2cr; 60hr lab, TE 3.33 (DY)

273 Organic Chemistry II

Prereq: CHEM 272 with grade C or better, or consent. Coreq: CHEM 273L.

Covers the second semester of a comprehensive organic chemistry course including molecular structure, nomenclature, stereochemistry, spectroscopy, reactions and reaction mechanisms, synthesis, and applications to biology. 3cr; 45hr lec, TE 3.00 (DP)

273L Organic Chemistry II Lab

Prereq: CHEM 272L with grade C or better, or consent. Coreq: CHEM 273.

Covers the second semester of standard laboratory principles of organic chemistry including proficient use of laboratory equipment, manipulation of organic materials, laboratory safety, molecular structure, nomenclature, stereochemistry, spectroscopy, reactions and reaction mechanisms, synthesis, and applications to biology. 2cr; 60hr lab, TE 3.33 (DY)

Communication (COM)

W. Hashimoto

130 Business Communication - Oral

Prereq: ENG 22 with grade C or better, or placement at least ENG 100, or consent.

Develops competence in oral communication within business and organizational context. Provides the theory and practical skills to be a confident and effective communicator in a variety of business and organizational settings. (Crosslisted as BUS 130.) 3cr; 45hr lec, TE 3.00 (DA)

145 Interpersonal Communication I

Provides the theory and practical skills to be a competent communicator in a one-to-one setting.

3cr; 45hr lec, TE 3.00 (DS)

210 Intercultural Communication I

Prereq: ENG 100, or consent.

Explores problems and opportunities of communicating in a variety of intercultural contexts. Focuses on theory and practice in managing intercultural communication effectiveness.

3cr; 45hr lec, TE 3.00 (DS)

215 Conflict Resolution & Mediation

Prereq: COM 145, BUS/COM 130, or PSY 100, any with grade C or better, or consent.

Recommended: ENG 100 with grade C or better.

Explores the reason for conflict and the different approaches for seeking resolution for conflict. Studies personal and societal value systems, the psychology of how people respond to conflict, the impact of culture on conflict styles, communication skills useful in dealing with conflict, and alternative resolution strategies. Practices mediation skills as a third party intervention method. (Crosslisted as PSY 253.)

3cr; 45hr lec, TE 3.00 (DS)

353 Conflict Management & Resolution

Prereq: ENG 100, PSY 100, or SOC 100, any with grade C or better; and BUS/COM 130, COM 145, or COM 210, any with grade C or better; or consent.

Recommended: PSY 253/COM 215.

Examines communication and behavior in interpersonal conflict through analysis of professional and personal relationships. Assesses political, social, and cultural influences on conflict, and applies Western and Polynesian models of dispute resolution processes in relational conflict. (Crosslisted as PSY 353.)

3cr; 45hr lec, TE 3.00 (DS)

459 Intercultural Communication II

Prereq: ENG 100 with grade C or better, or consent.

Surveys the major factors affecting interpersonal communication between/among members of different cultures. Expands breadth and depth of knowledge of cultural, social, and political influences on intercultural communication. Focuses on theory, research, and managing intercultural effectiveness globally.

3cr; 45hr lec, TE 3.00 (DS)

Community Health Worker (CHW)

S. LeGare

135 Health Promotion/Disease Prevention

Prereq: HSER 101 with grade C or better, or consent.

Explores the role Community Health Workers play in health promotion and disease prevention. Introduces the major causes of premature mortality and morbidity, behavioral and environmental contributions to illness and injury, and strategies for promoting health, wellness and risk reduction. Provides opportunities to practice developing and teaching health promotion/disease prevention classes.

3cr; 45hr lec, TE 3.00

Cooperative Arts & Sciences Education (CASE)

J. Patao

See Special Curricula section for details.

193v, 293v Work-Based Learning**393v, 493v Work-Based Learning**

Prereq for 393v and 493v: Students must be upper division program majors, or consent.

Cooperative Education is an academic course awarding college credits to students who participate in a field experience that is related to their major or career goals.

Cooperative Vocational Education (CVE)

J. Patao

See Special Curricula section for details.

93v, 193v, 293v Work-Based Learning**Creative Media (CM)**

B. Kohne

105 Storytelling: Find Your Voice in Creative Media

Introduces students to core principles of Digital Storytelling as a career, and inspires passion, focus, and commitment. Students explore the nature of storytelling and storytellers through media such as movies, literature, spoken word, television, web, news, classic and commercial art, and are exposed to media professionals as guest presenters. Students then apply what they learn by creating a/their digital story in video or website form.

3cr; 45 hr lec, TE 3.00 (DA)

119 Movies from Script to Screen

Introduces the interconnected processes of screenwriting, production, editing and marketing for digital motion pictures. Examines primary considerations when planning digital video projects. (Formerly CM 115)

3cr; 45 hr lec, TE 3.00 (DA)

120 Introduction to Digital Video

Prereq: CM 152 with grade C or better (or concurrent), or consent

Develops foundational skills in pre-production and production for both studio and field-based video projects. The course emphasizes technical aspects of digital cinematography and sound recording as well as fundamentals of field and TV studio production in terms of conceptual development, planning, writing, storyboarding, editing, and project management. In addition, students will be introduced to basic rules of visual composition, sequencing and storytelling.

3cr; 45 hr lec, TE 3.00 (DA)

123 Photoshop and Illustrator

Prereq or coreq: ICS 101 (or concurrent), or consent.

Introduces the basic tools and features of raster image editing, photo retouching, and color correction of images. Focuses on the fundamental drawing techniques of vector illustration graphics, including pen tool paths, objects, and type with specific attention to practical applications.

3cr; 45 hr lec, TE 3.00 (DA)

125 Introduction to Graphic Design

Prereq: CM 123 with grade C or better, or consent.

Plan, develop and produce visual communications for print and electronic formats. Elevate skills and prepare for a career in graphic design with hands-on experience while utilizing industry-standard software to explore your creativity in a design-centric and project-focused environment. 3cr; 45 hr lec, TE 3.00 (DA)

139 Media Analysis: Comedy

Explores literary humorists such as Mark Twain and Hunter S Thompson, the rise of comedy in Radio/TV/Film in the mid-twentieth century, groundbreaking stand-up comedians such as Lenny Bruce, George Carlin, and Chris Rock, plus iconic classics Saturday Night Live and Monty Python's Flying Circus. Students will discover the science of comedy and utilize proven techniques to inject humor into both their writing and commercial art. 3cr; 45 hr lec, TE 3.00 (DH)

144 Media Analysis: Graphic Novel

Examines the history, evolving art forms and cinematic interpretations of comic books. Topics include the process of artistic adaptation, contrasting approaches to creating narrative and visual structures, historical and social responses to the material and how the creation of graphic novel artistry on film can accelerate or descend the intent of the original author. 3cr; 45 hr lec, TE 3.00 (DH)

146 Media Analysis: Horror Cinema

Explores the subtext, artistic influences and social relevance within the history of horror films. Covers the varying definitions of the genre, the social and political means in which the subject is examined and focuses on the need for the genre to address and confront troubling societal norms. Students will work at developing abilities at constructive criticism and become familiar with tropes and possibilities within the genre. 3cr; 45 hr lec, TE 3.00 (DH)

147 Mass Media and Culture

Examines the historical beginnings of electronic media and its global impact by delving into the advent and rise of radio, cinema, television, home computers, the internet, social-media, and emerging technologies. Students develop critical-thinking skills as they further understand the potential of shaping understanding, creating art, commerce, and sharing of ideas on an international scale. 3cr; 45 hr lec, TE 3.00 (DS)

148 Media Analysis: World Cinema

Introduces students to indigenous, Hawaii, and world cinema history, and encourages creative writing and critical thinking. Subjects cover the origin and growth of international cinema, lingering stereotypes, and perceptions of culture. Students will work on research projects, delve into histories of international and/or island-based cultures, broaden understanding and perspectives on creative arts, explore established norms within narrative and documentary media, and explore the possibilities for future careers in digital media, production, writing and social causes. 3cr; 45 hr lec, TE 3.00 (DH)

152 Principles of Video Editing

Prereq: CM 123 with grade C or better, or consent.

Develops technical and creative skills essential for video editing. Students learn to manipulate existing footage into thoughtful and creative video edits by using Adobe Premier Pro software and discover the technical and creative elements essential for success. (Formerly CM 149) 3cr; 45 hr lec, TE 3.00 (DA)

175 Motion Graphics and Animation

Prereq: CM 152 with grade C or better, or consent.

Introduces two-dimensional digital illustration, animation principles, and techniques. Topics include drawing and manipulating objects, scaling and rotating, creating symbols, tweens, frame by frame animations, nested animations, and animating along a path. Additionally, lessons will include audio integration, synching and basic interactive elements. Projects will utilize the use of vector and raster images, typology and effects to create integrated motion graphics for use in advertising, education or demonstration purposes. 3cr; 45 hr lec, TE 3.00 (DA)

180 Intermediate Web Technology

Prereq: CM 125 with grade C or better, or consent.

Studies and practices creative strategies for the build and maintenance of professional websites using powerful industry-standard tools and advanced methodologies. Explores social media, search-engine optimization, business and advertising paradigms, and emphasizes effective client and project management skills. Students are not required to have prior web-coding experience, but would benefit greatly if they do. This is a hands-on, intensive course for graphic artists and web developers to prepare them for either entry level or advanced work in the field. 3cr; 45 hr lec, TE 3.00 (DA)

220 Intermediate Digital Video

Prereq: CM 120 with grade C or better, or consent.

Develops advanced skills in pre-production and production for both studio and field-based video projects. The course emphasizes technical and creative aspects of digital cinematography and sound recording as well as essential skills for field and TV studio production in terms of conceptual development, planning, writing, storyboarding, editing, and project management. Students must produce, deliver, and exhibit a graduate-level narrative or documentary short film to complete this course. 3cr; 45 hr lec, TE 3.00 (DA)

225 Intermediate Graphic Design

Prereq: CM 125 with grade C or better, or consent.

Explore higher-levels of communication design with in-depth refinement of the creative process and emphasis on typography, composition, and layout. Assigned projects demand effective branding and marketing solutions, compelling logo design, and professional multiple-page interactive document design and layout. Working with industry-leading software including Adobe Illustrator, Photoshop and InDesign this course prepares students to manage complex projects, and the expectations of their clients. 3cr; 45 hr lec, TE 3.00 (DA)

252 Intermediate Video and Audio Editing

Prereq: CM 152 with grade C or better, or consent.

Emphasizes next-level editing considerations, and professional editorial techniques while also providing support in the completion of Graduate projects for Creative Media filmmaking majors. Editing is at its core communication; students in this course develop strategies within a grand scale of intent, meaning, and impact, while elevating their capabilities with sound effects, dialog preparation, score, and fundamental sound design principles.

3cr; 45 hr lec, TE 3.00 (DA)

285 Creative Media Capstone

Prereq: CM 175 with grade C or better, or consent. *Recommended:* Completion of the majority of Creative Media requirements for an A.S. degree.

Evaluates the scope of understanding accumulated during the student's years in the program, with requires delivery of an ambitious final project encompassing their overall knowledge, familiarity and process in their chosen subject area. For designers/photographers that might be a portfolio, a reel for filmmakers/animators, or for web developers a comprehensive site. Through job market research and development of employment strategies, we also aim to prepare students as entrepreneurs, for the workforce, or continuation to a four-year college. 3cr; 45 hr lec, TE 3.00 (DA)

 **Culinary Arts (CULN)**

T. Lelli, C. Omori, T. Shurilla, C. Speere

100 Math for the Culinary Arts

Prereq: MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces the quantitative methods, reasoning, and operations necessary to perform tasks and solve problems needed by culinary professionals. The quantitative methods covered include computation measurement, ratio, proportion, and percent; conversions, recipe scaling, yield percent, and recipe costing; baker's percent and kitchen ratios; purchasing, and proportioning. Applications include interpretation and analysis of quantitative information needed in culinary situations.

The course is designed for Culinary Arts degrees and certificates but does not satisfy the Foundation Symbolic Reasoning (FS) and Foundation Quantitative Reasoning (QR) core requirement of an Associate in Arts degree. (Letter grade only.)

3cr; 45 hr lec, TE 3.00

111 Introduction to the Culinary Industry

Provides an overview of the culinary industry within the aspects of the entire hospitality industry. It provides students with an introduction to the historical, social, and cultural forces that have affected and shaped the industry of today. Students identify job qualifications and opportunities, professional standards, communication skills, and attitudes essential for successful workers in the industry (*Letter grade only.*) 2cr; 30hr lec, TE 2.00

112 Sanitation and Safety

Provides the study and application of the principles and procedures of sanitation and safety in the hospitality industry. Includes the study of food-borne illnesses, biological, chemical, and physical hazards, and cross-contamination as they may occur during the flow of food. An introduction to HACCP (Hazard Analysis Critical Control Point) and other sanitation and safety programs will also be presented. Safety issues, ServSafe certification or equivalent, and OSHA (Occupational Safety and Health Administration) guidelines and standards will be covered as they apply to the hospitality industry. (*Letter grade only.*) 2cr; 30hr lec, TE 2.00

115 Menu Merchandising

Studies the factors involved in planning effective menus for a variety of food service operations. Includes the design, format, selection, costing, pricing, and balance of menu items based on an understanding of the needs of various target markets. (*Letter grade only.*)

2cr; 30hr lec, TE 2.00

120 Fundamentals of Cookery

Prereq: CULN 112 with grade C or better (or concurrent), or consent.

Introduces the fundamental concepts, skills, and techniques of food preparation. Includes the use of standardized recipes, basic cooking methods for meats, stocks, soups, sauces, seafood, vegetables, and starches. Students will learn to identify, use, and maintain all equipment, tools, and utensils in a safe and sanitary manner. (*Letter grade only.*)

5cr; 180hr lec-lab, TE 7.50

130 Intermediate Cookery

Prereq: CULN 112 and CULN 120, both with grade C or better, or consent.

Focuses on the application of basic concepts, skills, and techniques in fundamentals of cookery to short order cookery, including breakfast cookery, as found in coffee shops, snack bars, and other quick service outlets, with emphasis in American Regional Cuisine; to quantity food production with emphasis on menu development, recipe standardization and conversion, and quality control. Includes experience in both quantity food production and short-order cookery. (*Letter grade only.*)

5cr; 180hr lec-lab, TE 7.50

132 Batch Cookery

Prereq: CULN 112 and CULN 120, both with grade C or better, or consent.

Focuses on fundamental concepts, skills, and techniques of cookery. Includes the use of standardized recipes. Covers basic cooking methods for meats, poultry, seafood, vegetables, and starches. Teaches identification, use and maintenance of equipment, tools, and utensils in a safe and sanitary manner. Special focus on batch cookery, and larger production cooking, and just-in-time preparation as needed throughout the serving period in order to preserve food quality and prevent waste. (*Letter grade only.*)

5cr; 180hr lec-lab, TE 7.50

150 Fundamentals of Baking

Prereq: CULN 112 with grade C or better (or concurrent), or consent.

Introduces the fundamental concepts, skills, and techniques of basic baking. Special emphasis is placed on the study of ingredient functions, product identification, weights, measures, and proper use and maintenance of bakeshop tools and equipment. Students identify the basic baking concepts and techniques in preparing items such as quick breads, yeast breads, pies, cakes, cookies, dessert sauces, custards, and creams. (*Letter grade only.*)

5cr; 180hr lec-lab, TE 7.50

155 Intermediate Baking

Prereq: CULN 150 with grade C or better, or consent.

Studies international culinary terms, ingredient identification, and safety and sanitation practices. Examines science of lean and rich yeast dough products, flat breads, breakfast goods, and a wide variety of yeast breads, along with application in the production of laminated dough products such as classical French puff pastry dough, croissants, and Danish pastries. Introduces the theory of chocolate and emphasizes skills involved in chocolate tempering, bonbons, and decor. Provides instruction and demonstrations in beginning petit fours and confections. (*Letter grade only.*) 5cr; 180hr lec-lab, TE 7.50

160 Dining Room Operations

Prereq: CULN 112 with grade C or better (or concurrent), or consent.

Studies and applies a variety of service styles and techniques practiced by industry with special emphasis on the importance of the relationship coordination between the front and the back of the house. Includes the study of the principles, practices, responsibilities and liabilities associated with alcohol service. (*Letter grade only.*) 5cr; 180hr lec-lab, TE 7.50

191 Catering Field Experience

Prereq: CULN 112 with grade C or better (or concurrent), or consent.

Provides broad-based exposure to principles and practice of the fundamentals of catering within the food service industry. Utilizes practical hands-on experiences to teach the facets of sales, planning, preparation, and service of catered on and off-premise affairs covering: theme, receptions, buffets, and banquets. Also provides a means for experiencing a diversity of on-site food service through field trips. (*Letter grade only.*) 1cr; 75 hours per semester documented industry catering experience.

220 Advanced Cookery

Prereq: CULN 130 and 132, both with grade C or better, or consent.

Develops skills in the preparation of pates, terrines, galantines, canapes, hot and cold hors d'oeuvres, appetizers, mousses and gelatins. Also covered are the techniques of cold food decoration, cold platter design and presentation and the design and planning of buffets. (*Letter grade only.*) 5cr; 165hr lec-lab, TE 6.88

240 Garde Manger

Prereq: CULN 130 with grade C or better, or consent.

Provides instruction and demonstration in the preparation of hot and cold hors d'oeuvres, canapes, aspics, chaud-froids, mousses, pates and terrines, buffet centerpieces, and vegetable and ice carvings. Discusses buffet catering, set-up, and menu planning. (*Letter grade only.*) 3cr; 135hr lab, TE 5.63

250 Advanced Baking I

Prereq: CULN 155 and ENG 100, both with grade C or better, or consent.

Develops skills used in the production of more advanced baked pastry and confectionery products: especially chocolates, candies and decorated specialties which include, specialty cakes, wedding cakes, pastillage, gum paste, royal icing, and chocolate decor. Students will define, describe, and prepare various types of meringues and filling, and develop advanced decorating and finishing techniques for cakes. (*Letter grade only.*) 5cr; 180hr lec-lab, TE 7.50

251 Advanced Baking II

Prereq: CULN 250 with grade C or better, or consent.

Develops skills used in the production of more advanced baked pastry and confectionery products. Emphasizes the techniques required to produce items such as souffles, parfaits, ice creams, and sorbets, plated desserts, marzipan, decorated specialties, sugar and isomalt decoration, and pastillage. (*Letter grade only.*) 5cr; 180 hr lec-lab, TE 7.50

271 Purchasing and Cost Control

Prereq: CULN 120 and CULN 130, both with grade C or better, or consent.

Analyzes purchasing and food control systems in commercial food service operations. Practices cost and sales analysis, comparative buying, and inventory control. (*Letter grade only.*) 4cr; 165hr lec-lab, TE 6.88

291 Culinary Field Experience

Prereq: CULN 130 and CULN 132, both with grade C or better (or concurrent), or consent.

Offers flexible, customized, and supervised school to work experiences in all aspects of the culinary arts industry. Integrates and applies classroom theory to work situations via numerous field experiences. Infuses the "Culinarian's Code" into field experiences. (*Letter grade only.*) 2 cr; 150 hours per semester documented industry work.

 **Dental Hygiene (DH)****R. Vierra****150 Oral Histology & Embryology**

Prereq: Admission to Dental Hygiene program. Describes general and oral histology including an overview of oral embryology, a study of the fundamentals of cytology, and the normal microscopic anatomy of oral tissues. (*Letter grade only.*) 2cr; 30hr lec, TE 2.00

153 Assessment Procedures in Dental Hygiene

Prereq: Admission to Dental Hygiene program. Provides an orientation to dental hygiene practice. Focuses on the assessment techniques of the dental hygiene process of care model. Introduces infectious diseases important to dentistry, hazardous materials management, waste management, and rules of regulatory agencies (DCCA, OSHA, CDC and ADA). Teaches disinfection, instrument decontamination, sterilization procedures, tray set-up preparation and protocols, and emergency procedures for hazardous and biohazardous waste and materials. Focuses on dental hygiene assessment procedures including: review of health/dental history, vital signs, extra/intraoral examination, assessment of the dentition, and comprehensive periodontal examination. Discusses rationale for collection of assessment data and associated clinical procedures. (*Letter grade only.*) 2cr; 30hr lec, TE 2.00

155 Dental Emergencies

Prereq: Admission to Dental Hygiene program. Provides an overview of medical and dental emergencies including prevention of and preparedness for management of emergencies, client observation, and vital signs. Discusses basic principles of pharmacology related to emergencies including drug actions and interactions, toxicity and allergy, dental drugs in common use, and drugs used in the treatment of medical problems. Describes legal and ethical aspects of emergency procedures in dentistry. (*Letter grade only.*) 1cr; 15hr lec, TE 1.00

156 Pre-clinical Dental Hygiene

Prereq: Admission to Dental Hygiene program. Introduces clinical procedures and techniques of dental hygiene including prevention of disease transmission, health/dental history, extra/intraoral examination, gingival evaluation and description, comprehensive periodontal examination, suspicious caries examination, and classification of occlusion. Demonstrates operation of the dental unit, basic instrumentation techniques, and ergonomic practice. (*Letter grade only.*) 3cr; 15hr lec, 90hr lab, TE 4.38

158 Anatomical Sciences

Prereq: Admission to Dental Hygiene program.
Examines dental anatomy focusing on the development, morphology and functions of the teeth, head and neck including mastication. (Letter grade only.)
2cr; 30hr lec, TE 2.00

252 Dental Materials

Prereq: DH 158 with grade C or better.
Coreq: DH 252L.
Examines the study of materials utilized in the practice of dentistry and dental hygiene. Reviews properties of dental materials and presents ADA requirements. (Letter grade only.) 1cr; 15hr lec, TE 1.00

252L Dental Materials Lab

Prereq: DH 158 with grade C or better.
Coreq: DH 252.
Develops laboratory experience providing students with techniques in preparation and utilization of dental materials. (Letter grade only.) 2cr; 90hr lab, TE 3.75

254 Pathology in Dental Hygiene and Special Patient Populations

Prereq: Admission to Dental Hygiene program.
Introduces general pathology and specific pathologic processes, repair, healing, and regressive changes. Discusses social significance of pathology. Correlates pathology and diseases related to the dental hygiene client, including the indications and contraindications for care, modifications to treatment, and appointment planning for special patient/client populations. Uses client case studies. (Letter grade only.)
3cr; 45hr lec, TE 3.00

255 Oral Pathology in Dental Hygiene

Prereq: DH 254 with grade C or better, or consent.
Examines pathology of the head, neck, and oral structures. Differentiates developmental conditions, caries, diseases of bacterial, viral, and fungal origin. Describes neoplasms of the oral cavity. (Letter grade only.) 2cr; 30hr lec, TE 2.00

256 Applied Pharmacology in Dentistry

Prereq: PHRM 203 with grade C or better, or licensed dentist or dental hygienist.
Examines drugs by groups with special emphasis on those used in dentistry including their physical and chemical properties, dosage, and therapeutic effects. Describes implications for client dental hygiene care using case studies. (Letter grade only.)
2cr; 30hr lec, TE 2.00

**257 Periodontics 1 and Advanced Clinical Techniques**

Prereq: DH 156 with grade C or better.
Focuses on fundamental principles of periodontology including normal periodontium, etiology, and classification of periodontal disease and relationship of dental deposits to periodontal diseases. Correlates basic sciences with the clinical aspects of periodontal diseases. Describes etiology and pathogenesis of periodontal diseases. Identifies development of periodontal pocket, abscess, and process of bone loss. Demonstrates advanced instrumentation techniques, ultrasonic devices, root planning, curettage, subgingival irrigation, and hypersensitivity. (Letter grade only.)
2cr; 15hr lec, 45hr lab, TE 2.50

258 Periodontics 2 and Advanced Clinical Techniques

Prereq: DH 257 with grade C or better.
Focuses on diagnosis, treatment planning, and therapeutic procedures. Explains preventive and therapeutic measures within scope and responsibility of the dental hygienist. Utilizes advanced instrumentation in periodontal treatment. Compares types of periodontal surgery and therapies. Describes rationale and criteria for periodontal referral. (Letter grade only.)
2cr; 15hr lec, 45hr lab, TE 2.50

260 Clinical Dental Hygiene 1

Prereq: DH 156 with grade C or better.
Focuses on assessing, planning, implementing, and evaluating dental hygiene care on clinic clients. Develops clinical competency, skills, and performance with each successive academic semester. (Letter grade only.)
4cr; 15hr lec, 135hr lab, TE 6.25

261 Clinical Dental Hygiene 2

Prereq: DH 260 with grade C or better.
Focuses on assessing, planning, implementing, and evaluating dental hygiene care on clinic clients. Develops clinical competency, skills, and performance with each successive academic semester. (Letter grade only.)
2cr; 15hr lec, 45hr lab, TE 2.50

262 Clinical Dental Hygiene 3

Prereq: DH 261 with grade C or better.
Focuses on assessing, planning, implementing, and evaluating dental hygiene care on clinic clients. Develops clinical competency, skill, and performance. (Letter grade only.)
5cr; 15hr lec, 180hr lab, TE 8.13

263 Clinical Dental Hygiene 4

Prereq: DH 262 with grade C or better.
Focuses on assessing, planning, implementing, and evaluating dental hygiene care on clinic clients. Develops clinical competency and skills. (Letter grade only.)
5cr; 15hr lec, 180hr lab, TE 8.13

264 Community Dental Health

Prereq: Admission to Dental Hygiene Program.
Examines community dental health problems, school dental health programs, and epidemiology of dental disease, as well as assessment, development, implementation, and evaluation of a community dental health program. (Letter grade only.)
2cr; 30hr lec, TE 2.00

265 Law and Ethics in Dental Hygiene

Prereq: Admission to Dental Hygiene program. Describes ethics, jurisprudence, and practice aspects of dental hygiene practice. Discovers employment opportunities. Discusses resumes, interviewing, and office policies. (*Letter grade only.*)
1cr; 15hr lec, TE 1.00

266 Local Anesthesia and Pain Control

Prereq: DH 155 and DH 256, both with grade C or better. Reviews pharmacology, anatomy, physiology, and emergency procedures associated with local anesthesia and nitrous oxide/oxygen analgesia. Demonstrates preparation for and administration of conduction and infiltration anesthesia in dental procedures. Provides laboratory and clinical experience in administration of local anesthesia and nitrous oxide/oxygen analgesia. (*Letter grade only.*) 2cr; 15hr lec, 45hr lab, TE 2.50

267 Dental Radiology and Interpretation

Prereq: Admission to Dental Hygiene Program. Coreq: DH 158 Reviews the production, characteristics, and biological effects of radiation, functions, components, and operation of the x-ray unit. Includes radiation protection and monitoring, chemistry, and techniques associated with x-ray film and developing solutions. Reviews anatomic landmarks, intraoral, short-cone radiographic techniques in bitewing, periapical, full mouth, and occlusal surveys. Introduces and explains experience of radiographic identification, interpretation of radiographic caries, periodontal disease, endodontics, edentulous, trauma, and dental anomalies utilizing dental x-ray films, panoramic, cephalometric, and other extraoral radiographs. Explains forensic and legal considerations of dental radiology. Reviews traditional methods of x-ray exposure including digital technique. Includes clinical lab experience of exposing and interpreting radiographs on clients. (*Letter grade only.*)
3cr; 15hr lec, 90hr lab, TE 4.38

 **Digital Media (DMED)****193v Digital Media Internship I**

Prereq: ICS 161, and consent of instructor and Co-op coordinator.
Recommended: ICS 102 and ENG 100. Reflects student interest and the availability of job stations. Offers opportunity to upgrade workplace employability. *Student, instructor, and employment supervisor jointly develop learning outcomes; instructor and employment supervisor jointly evaluate student.*
1-3cr; 1.25hr seminar plus 75hr per credit documented field experience (e.g., 1cr-75hr, 2cr-150hr, 3cr-225hr)

293v Digital Media Internship II

Prereq: DMED 193v, ENG 100, and consent.
Recommended: MATH 100 or MATH 107, and BUS/COM 130. Reflects student interest area and the availability of job stations. Offers the opportunity to upgrade employment and problem-solving skills. *Student, instructor, and employment supervisor jointly develop learning outcomes; instructor and employment supervisor jointly evaluate student.*
1-3cr; 1.25hr seminar plus 75hr per credit documented field experience (e.g., 1cr-75hr, 2cr-150hr, 3cr-225hr)

 **Directed Study**

(*Alpha*) 99v, 199v, 299v, 399v, 499v
Prereq: Consent.
See Special Curricula section.

 **Drama (DRAM)**

(DRAMA course alpha was changed to THEATRE. See THEA 101, 221, 222).

 **Early Childhood Education (ECED)**

G. Medina, J. Powers

105 Introduction to Early Childhood Education

Prereq: ENG 22 with grade C or better, or placement at least ENG 100, or consent. Introduces and explores the nature of the field of early childhood education and care.
3cr; 45hr lec, TE 3.00

110 Developmentally Appropriate Practices

Introduces concepts of developmentally appropriate practice and the importance of play. Provides an overview of and experience with the knowledge and skills necessary for working with children birth through age eight, including children with special needs. 3cr; 45hr lec, TE 3.00

115 Health, Safety, and Nutrition for the Young Child

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Introduces theories and practices for creating and maintaining a safe, healthy learning environment for young children and adults in group settings. Introduces guidelines and practices for providing for the nutritional needs of young children and adults in group settings.
3cr; 45hr lec, TE 3.00

131 Early Childhood Development: Theory into Practice

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Introduces principles of human development from conception through age eight and how this informs practice. Focuses on the relationships between physical, cognitive, emotional and social aspects of the individual during this period.
3cr; 45hr lec, TE 3.00

140 Guiding Young Children in Group Settings

Pre-req: ENG 22 with grade C or better or placement in ENG 100 or consent.
Recommended: ECED 131. Addresses positive ways to support children's social-emotional development. Focuses on adult-child and child-child interactions and relationships. (*No longer crosslisted as FAMR 140, effective Spring 2020.*) 3cr; 45hr lec, TE 3.00

170 Introduction to Working with Infants and Toddlers

Prereq: ENG 22 with grade C or better, or placement at least ENG 100, or consent. Provides an overview of the basic skills needed for working with infants and toddlers and their families in group care settings. Focuses on interactive aspects of child development. Introduces infant-toddler caregiving routines and environments, and caregiver roles. 3cr; 45hr lec, TE 3.00

175B Introduction to Home Visiting

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Explores child growth and development from birth to five with emphasis on establishing a partnership with families to encourage their involvement in enhancement of the child's self-esteem; self-discipline; intellectual development; and physical, social, and emotional competence. Introduces principles of adult learning and effective communication skills.

1cr; 15hr lec, TE 1.00

175C Home Visiting: Assessment & Recordkeeping

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Introduces and explores assessment, record keeping, and case-management skills required for home visitor programs. Examines action plans based on identification of the child and adult needs and progress.

1cr; 15hr lec, TE 1.00

175D Home Visiting: Professionalism

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Explores community resources, professional ethics, personal boundaries, confidentiality, and professional development for the home visitor to meet the needs of community agencies that employ home visitors.

1cr; 15hr lec, TE 1.00

193 Early Childhood Field Experience IA

Prereq: Permission of instructor; and ECED 110 and ECED 131, both with grade C or better, and ENG 22 or placement at ENG 100. Recommended: ECED 105.

Note: Students may be required to obtain a physical or doctor's note and to be fingerprinted, all at the student's expense.

Provides a supervised work experience in an early childhood education and care setting. Supports students in integrating content knowledge with practice. Designed for those who have little or no experience in early childhood programs. Students take ECED 193 or ECED 194 as their first field experience course. Students should consult with program coordinator to determine which course to take. *(Cannot be audited.) (Formerly ECED 190)*

4 cr, 8 hr field experience/2 hr seminar, TE 4.00. **(IN)**

194 Early Childhood Field Experience IB

Prereq: Permission of instructor; and ECED 110 and ECED 131, both with grade C or better; and ENG 22 with grade C or better or placement at ENG 100. Recommended: ECED 105.

Note: Students may be required to obtain a physical or doctor's note and to be fingerprinted all at the student's expense.

Provides a supervised work experience in an early childhood education and care setting. Supports students in integrating content knowledge with practice. Designed for those already working in an early childhood program. Students take 193 or 194 as their first field experience course. Students should consult with program coordinator to determine which course to take. *(Cannot be audited.)*

4cr; 15 hr field experience/1 hr discussion per week or 2 hrs discussion every other week.

245 Child, Family, and Community

Prereq: ENG 100 with grade C or better, or consent. Recommended preparation: ECED 105.

Develops communication skills and other strategies for building effective relationships with diverse families and relevant community members. Introduces students to the local resources available for family referral. *(No longer Crosslisted as FAMR 235, effective Spring 2020.)*

3cr; 45hr lec, TE 3 .00

263 Language and Creative Expression Curriculum

Prereq: ECED 110, ECED 131, and ENG 100, all with grade C or better, or consent.

Addresses creative and language disciplines, stages of development for each, and how these relate to appropriate early childhood curriculum. Includes designing curriculum for language, literacy, literature, and creative expression (art, music, & creative movement/dance) based on observation of children. *Students must have contact with preschool children in a formal setting for observation and implementation of course assignments.* 3cr; 45hr lec, TE 3 .00

264 Inquiry and Physical Curriculum

Prereq: ECED 110, ECED 131, and ENG 100, all with grade C or better, or consent.

Addresses physical development and inquiry disciplines, stages of development for each, and how these relate to appropriate early childhood curriculum. Includes designing curriculum for physical development, and inquiry (math, science, and social studies) based on observation of children. Introduces integrated curriculum based on science and social studies topics. *Students must have contact with preschool children in a formal setting for observation and implementation of course assignments.* 3cr; 45hr lec, TE 3.00

275 Inclusion of Children with Special Needs

Prereq: ECED 131 and ENG 100, both with grade C or better, or consent.

Introduces legal, historical, and research information about serving young children with special needs in inclusive environments. Introduces issues and practices associated with establishing partnerships with families and understanding collaborative relationships that contribute to meeting diverse needs of young children in inclusive settings. Facilitates development of skills to adapt and modify the learning environment in line with developmentally appropriate practice. Introduces traditional and alternative assessment and identifies skills necessary to facilitate successful transitions. 3cr; 45hr lec, TE 3.00

281B Early Childhood Program**Admin: Licensing & Overview**

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines licensing and its role; organizations; and roles and responsibilities of the early childhood program administrator. Looks at and evaluates present vision and mission statements, and gives tools to develop vision and mission statements.

1cr; 15hr lec *(scheduled in 5 weeks)*, TE 1.00

281C Early Childhood Program**Admin: Staff Development**

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines hiring, grievance, and firing policies of early childhood programs. Examines and lets student develop a staff development framework for their program.

1cr; 15hr lec *(scheduled in 5 weeks)*, TE 1.00

281D Early Childhood Program Admin: Curriculum and Environment

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines and analyzes early childhood curriculum and physical environments. Lets students develop plans to improve curriculum and physical environments of individual programs.

1cr; 15hr lec *(scheduled in 5 weeks)*, TE 1.00

282B Early Childhood Program Admin: Budgets & Financial Management

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 82 with grade C or better or placement at least MATH 100, or consent.

Examines principles of profit and non-profit management, budgeting, and financial planning. Gives students tools to develop budgets and short- and long-term financial plans for early childhood programs.

1cr; 15hr lec *(scheduled 5wks)*, TE 1.00



282C Early Childhood Program Admin: Recordkeeping

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines and analyzes operating policies, recordkeeping practices, and staff and child evaluation procedures of early childhood programs.

1cr; 15hr lec (scheduled 5wks), TE 1.00

282D Early Childhood Program Admin: Advocacy

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines the various ways an administrator can be an advocate for the profession. Looks at programs, accreditation, and understanding and utilizing decision-making processes at the county, state, and federal levels.

1cr; 15hr lec (scheduled 5wks), TE 1.00

295 Early Childhood Field Experience II

Prereq: Permission of instructor; and ECED 105, ECED 140, ECED193 or 194, ECED 245, ECED 263 or 264 (or concurrent) and ENG 100, all with grade C or better. Recommended: ECED 115. Note: Students may be required to obtain a physical or doctor's note and to be fingerprinted, all at student's expense. Provides a culminating supervised work experience in an early childhood education and care setting. Supports students in integrating content knowledge with practice. (Cannot be audited.)

4 cr, 15 hour practicum/1 hr discussion per week or 2hrs discussion every other week.

Economics (ECON)

120 Introduction to Economics

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces the way economic systems operate. Contrasts the American economy with other systems. Studies the operation of business. Analyzes national policies in solving the economic problems of inflation, unemployment, and foreign trade. *One semester course for non-majors in economics.*

3cr; 45hr lec, TE 3.00 (DS)

130 Principles of Economics: Microeconomics*

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 82 with grade C or better or placement at least MATH 103, or consent.

Analyzes the market mechanism, prices, competition, and the efficient allocation of scarce resources. Formulates possible solutions to contemporary economic and social issues such as world food problems, poverty and distribution of income, market power of business including multi-nationals, role of labor unions, energy crises, environmental pollution, consumerism, and welfare.

3cr; 45hr lec, TE 3.00 (DS)

131 Principles of Economics: Macroeconomics*

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 82 with grade C or better or placement at least MATH 103, or consent.

Analyzes the forces determining national and international economic performance in such areas as employment, inflation, production, money supply, and trade. Presents, in historical context, the modern economic situation. Describes the relative roles of major economic institutions such as businesses, labor unions, government agencies, international organizations, and the banks.

3cr; 45hr lec, TE 3.00 (DS)

**Note: ECON 130 and 131 are both required for Economics majors and for admission to UH Mānoa College of Business Administration. ECON 120, 130, or 131 may be used to meet Social Science core requirements. UH Mānoa students cannot receive more than 6 credits for ECON 120, 130, and 131.*

150 Personal Finance

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces financial planning, money management and tax planning. Includes financing real and personal property, purchasing insurance and managing investments. (Crosslisted as BUS 150.)

3cr; 45hr lec, TE 3.00 (DS)

Electrical Engineering (EE)

E. Dubuit

160 Programming for Engineers

Prereq: MATH 140 (or concurrent), or placement at least MATH 241, or consent.

Introduces computer programming and modern computing environments with an emphasis on algorithm and program design, implementation, and debugging. Designed for engineering students. This course includes a hands-on laboratory to develop and practice programming skills. 4cr; 45hr lecture, 45 hr lab TE 5.50 (DP)

211 Basic Circuit Analysis I

Prereq: MATH 243 and PHYS 272, both with grade C or better (or concurrent), or consent.

Covers the study of linear circuits, time domain analysis, transient and steady state response; phasors impedance, and admittance; network of system functions, frequency responses, and filtering; and resonance.

4cr; 45hr lecture, 45 hr lab TE 5.50 (DP)

Electricity (ELEC)

C. Rutherford

100 Survey of Electrical Math and Physics

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Studies current, voltage, resistance, and Ohm's Law. Discusses magnetism, electrical safety and measurements, AC and DC circuits, induction, and capacitance as applicable to residential, commercial, appliance, and industrial wiring systems. (Formerly ELEC 20)

3cr; 45hr lec, TE 3.00

110 Residential and Light Commercial Wiring

Prereq: ELEC 100, or consent.

Introduces electrical principles and National Electric Code (NEC) requirements for residential and light commercial building structures, equipment and appliances. Develops skills in practical applications. (Formerly ELEC 23)

2cr; 60hr lec-lab, TE 2.50

Electronics (ETRO)

E. Dubuit, M. Hoffman, J. Park

105 Circuit Analysis I

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 103 with grade C or better or placement at least MATH 119/135; or consent.

Develops step-by-step problem solving methods and hands-on laboratory applications. Utilizes electronics measurement instrumentation and software for data analysis. Studies fundamental topics including resistance, networks with DC voltage sources, and circuit analysis. Demonstrates Ohm's law, Kirchoff's laws, Thevenin's theorem, and maximum power theorems. 4cr; 120hr lec-lab, TE 6.67

106 Circuit Analysis II

Prereq: ETRO 105 with grade C or better, or consent.

Studies Ohm's law, Kirchoff's laws, Thevenin's theorem, and maximum power theorems as applied to AC circuits and waveforms. Reinforces troubleshooting and circuit analysis skills. Introduces magnitude and phase, rectangular and polar forms for sinusoids, impedance, and power vectors. Studies time domain and frequency domain solutions for capacitive and inductive circuits. Demonstrates high pass, low pass, band pass, and band stop filter circuits. 4cr; 120hr lec-lab, TE 6.67

140 Fundamentals of Computer Networking

Prereq: ETRO 105 and MATH 119, both with grade C or better, or consent. Recommended: ICS 111 and MATH 115.

Introduces the OSI and TCP/IP models for network communication, discusses industry standards, commonly used network topologies, IPv4 and IPv6 addressing, routing and switching concepts, ACLs, DHCP, NAT; queuing models, network architecture design and troubleshooting. Introduces wireless networking and Virtual-LANs. Prepares students for the Cisco Certified Entry Networking Technician (CCENT) exam. 4cr; 120hr lec-lab, TE 6.67

161 Intro Optics & Photonics

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 103 with grade C or better or placement at least MATH 119/135, or consent.

Introduces the physics of light, geometric optics, lenses, and mirrors. Studies interference, diffraction, and polarization phenomena. Applies theory to laser physics, optical imaging, and bio-photonics. Provides lab experiments and projects to reinforce the theory. 3cr; 90hr lec-lab, TE 5.00

193v Internship I

Prereq: ETRO 105 with grade C or better, or consent.

Introduces the student to the work place, the student's major interest area, and the availability of job stations. Upgrades opportunities for specific skills dependent upon the job station. Requires a work-related project during which the student will demonstrate competency in acquired employability skills. *Note: Student, instructor, and employment supervisor jointly develop learning outcomes. Instructor and employment supervisor jointly evaluate student. (May be repeated for a maximum of 3 credits.)* 1-3cr; 75hrs/cr

201 Digital Computer Technology I

Prereq: ETRO 105 with grade C or better, or consent.

Introduces digital computer technology. Studies binary and hex number systems and codes, Boolean algebra, logic circuits, and data circuits including flip-flops. Designs, analyzes, builds, models, and troubleshoots digital circuits. Characterizes counter circuit input and output waveforms. Utilizes LED display circuits, phototransistors, transistors, and operational amplifiers.

4cr; 120hr lec-lab, TE 6.67

205 Digital Computer Technology II

Prereq: ETRO 201 and MATH 119 or 135 (or higher), both with grade C or better; or consent.

Introduces microprocessor technology. Studies microprocessor architecture and programming. Investigates addressing modes, stack operations, subroutines, input and output operations, microcomputer subsystems and interfacing. Designs, builds, analyzes, and troubleshoots oscillators, counter circuits, decoders, display drivers, digital to analog and analog to digital converters. Programs INTEL microprocessors using emulators and embedded systems. Calibrates and characterizes digital systems and specifications.

4cr; 120hr lec-lab, TE 6.67

210 Electronic Technology I

Prereq: ETRO 105 and MATH 119 or 135 (or higher), both with grade C or better; or consent.

Investigates amplifiers including audio, radio, and infrared sensing applications. Introduces topics including basic theory and operations of solid-state devices. Applies to diodes, bipolar transistors, field effect transistors, and Zener diodes. Studies electronic circuits performing rectifying and amplification.

3cr; 90hr lec-lab, TE 5.00

212 Electronic Technology II

Prereq: ETRO 210 with grade C or better, or consent.

Presents concepts of electronic devices and circuits including modeling of semiconductor devices, analysis and design of transistor biasing circuits and linear amplifiers. Applies to the design of amplifiers, cascade amplifiers, power amps, operational amplifiers, IC oscillators, and timing circuits. Offers an introduction to Printing Circuit Board Design tools using LPKF.
3cr; 90hr lec-lab, TE 5.00

240 Computer Networking II

Prereq: ETRO 140 with grade C or better, or consent.

Develops intermediate level computer networking skills. Introduces Ethernet switching and intermediate routing skills including variable length subnet masking, routing protocols, and WAN technologies topics. Designs, builds, and troubleshoots local area networks. *Prepares students for the Cisco Certified Networking Associate (CCNA) certificate examination.*
4cr; 120hr lec-lab, TE 6.67

293v Internship II

Prereq: ETRO 193v with grade C or better, or consent.

Reinforces workplace skills and protocols. Develops abilities to work independently and cooperatively as part of a team. Develops project goals and milestones. Utilizes project management techniques and software. Demonstrates technical oral and written communication. *(May be repeated for a maximum of 6 credits.)* 1-3cr; 75hr/cr

296 Special Projects in ECET

Prereq: ETRO 140, ETRO 201, and MATH 119 or 135 (or higher), all with grade C or better; or consent.

Develops special topics in electronic and digital computer technology. Creates, designs, and builds an electronics and computer engineering technology capstone student project. Investigates required schematics, components, and devices for the project. Includes programming, testing, troubleshooting, and characterization. Demonstrates, explains, and presents project goals, milestones, and results.
3cr; 90hr lec-lab, TE 5.00

305 Engineering Computing

Prereq: ETRO 212 and ICS 111, both with grade C or better, or consent.

Coreq: ETRO 310.

Studies computer programming to solve electronics and optical system problems. Uses software programming applications, technical databases, image processing, and other scientific and engineering software tools. Reinforces mathematical concepts useful in the study of engineering technology. Utilizes the capabilities of software such as MATLAB and its applications to visualize solutions to technical and engineering problems. Includes hands-on engineering computing examples to demonstrate programming skills.
4cr; 45hr lec, 45hr lab, TE 5.00

310 Applied Robotics

Prereq: ETRO 212 and ICS 111, both with grade C or better, or consent.

Coreq: ETRO 305.

Introduces robotics programming and includes robotic applications for multifunction part manipulation and motion with stepper and servo-motors. Studies topics related to robotic design including robotic vision, motion planning, sensing and sensors, actuators, navigation systems, mobility, and forward and inverse kinematics. Provides laboratory hands-on applications of concepts and theories.
3cr; 30hr lec, 45hr lab, TE 4.17

315 Project Management

Prereq: ETRO 305 with grade C or better, or consent.

Emphasizes organization, project requirements, risk mitigation, planning, problem solving, implementation, comparisons, and budgeting. Overviews effective methods for interfacing individual outputs within larger projects. Utilizes project management software tools. Applies laboratory practices in the context of typical workplaces as related to engineering technology. Develops a career plan within potential project types, structures and funding opportunities in the Hawai'i workforce. *Supports specific applications to the Capstone project.* 3cr; 30hr lec, 45hr lab, TE 4.17

320 Intermediate Optics

Prereq: ETRO 161 and PHYS 219, both with grade C or better, or consent.

Investigates fundamentals of geometrical and physical optics useful in the study of modern optical systems. Focuses on geometric and ray optics and introduces one-dimensional wave optics to describe and demonstrate the mechanisms and properties involved in optical systems. Exposes students to phenomena related to the field of optics, and offers examples of modern optical engineering. Prepares students at the intermediate level for understanding field of optics.
4cr; 45hr lec, 45hr lab, TE 5.00

340 System Integration

Prereq: ETRO 140 and ICS 111, both with grade C or better; or ICS 352 with grade C or better; or consent.

Provides hands-on experience with integrating information technologies (i.e., database, Web, computing, and visualization services) into systems that support scientific and engineering applications.
4cr; 45hr lec, 45hr lab, TE 5.00

350 Power Systems

Prereq: ETRO 212 with grade C or better, or consent.

Studies the basic principles of electro-mechanical energy conversion: single and three-phase circuits, transformers, three-phase induction and synchronous machine, DC machine, AC including magnetic circuits, and poly-phase circuits. Demonstrates energy management systems and efficiency concepts from engineering technology. Studies power generation and transmission system. Utilizes computer programming and modeling. Includes laboratory exercises and inquiries.
3cr; 30hr lec, 45hr lab, TE 4.17

360 Signals and Systems

Prereq: ETRO 305 and MATH 205->241, both with grade C or better, or consent.

Studies signal and system classifications, operations on signals, time-domain analysis, impulse response, and stability. Introduces frequency-domain response using Fourier series, Fourier transform, and Laplace transform; discrete Fourier series and transform; and sampling. Develops the analytical tools and techniques needed for the design and analysis of discrete-time and continuous-time linear systems. Provides laboratory hands-on applications of concepts and theories.
4cr; 45hr lec, 45hr lab, TE 5.00

450 Signal Processing

Prereq: ETRO 360 with grade C or better, or consent.

Introduces digital signal processing, discrete-time signals and systems, z-transform, linear shift-invariant systems, discrete Fourier transform (DFT) and fast Fourier transform (FFT) algorithms, and design of digital filters. Provides laboratory hands-on applications of concepts and theories.

4cr; 45hr lec, 45hr lab, TE 5.00

455 Remote Sensing

Prereq: ETRO 450 with grade C or better, or consent.

Applies radiometric and photometric measurement concepts: propagation, irradiance, radiance, radiant intensity, luminance, radiant exitance. Calibrates and characterizes remote sensing data and data analysis techniques. Covers the interaction between electromagnetic radiation and matter. Investigates the effects of the atmosphere on light propagation and remote sensing experiments. Includes laboratory exercises and inquiries to build teamwork, presentation skills, and practical experiences of the technical workplace. Utilizes technologies and analysis techniques relevant to the Hawai'i high-tech industry. (Formerly ETRO 440.)

4cr; 45hr lec, 45hr lab, TE 5.00

460 Control Systems

Prereq: ETRO 450 with grade C or better, or consent.

Focuses on the modeling of dynamic systems and circuits, dynamic response, basic properties of feedback, PID control, root-locus, and frequency response. Introduces state-space modeling and design method. Studies phenomena related to the field of control systems. Offers practical examples of modern electro-mechanical control systems. Provides laboratory hands-on applications of concepts and theories.

3cr; 90hr lec-lab, TE 5.00

470 Introduction to Communication Systems

Prereq: ETRO 450 with grade C or better, or consent.

Introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques (AM, FM, PM), characteristics of transmitters and receivers, and digital communications. (Letter grade only.)

3cr; 30hr lec, 45hr lab, TE 4.17

497 Capstone Project I

Prereq: ETRO 315 with grade C or better, or consent.

Utilizes and demonstrates the tools, skills, and understanding developed during the engineering technology program. Focuses on planning and development of an engineering project which includes project documentation, formal project report writing, oral defense of the project, and project demonstration. Includes analyzing, designing, prototyping, synthesizing, troubleshooting, and testing a device, subsystem, or complete system to create a useful product or service.

3cr; 45hr lec, TE 3.00

498 Capstone Project II

Prereq: ETRO 497 with grade C or better, or consent.

Continues Capstone Project I, leading to completion of the project. Includes review of project definition and refining project plans. Continues development, testing, and evaluation. Requires a written formal report and oral presentation of the project.

3cr; 45hr lec, TE 3.00

 **Energy (ENRG)****C. Rutherford****101 Introduction to Sustainable Technology**

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and MATH 75X or placement at least MATH 82, or consent. Recommended: ICS 101 or BUSN 150, and placement at ENG 100.

Introduces alternative methods for meeting long term energy needs, identifies and explores local resources including demand-side management of conventional gas and electric power and sustainable energy resources such as solar, wind, biomass, small hydroelectricity, geothermal, ocean thermal energy conversion, and alternative transportation fuel options.

3cr; 45hr lec, TE 3.00

103 Energy Production Systems

Prereq: ENRG 101 (or concurrent), or consent. Recommended: ENG 100.

Introduces theoretical concepts and practical applications of sustainable energy systems. Develops knowledge of photovoltaic, thermal, wind, hydro, ocean thermal, fossil, ocean wave, and absorption systems, with emphasis on solutions for residential and commercial applications in Hawai'i.

3cr; 45hr lec, TE 3.00

193v Internship in Sustainable Technology

Prereq or coreq: ENRG 101, 102, 103, 104, or 105, and consent. Recommended: ENG 100, and ICS 101 or BUSN 150.

Introduces student to the workplace on a job within the student's area of interest and preparation. Student and instructor jointly develop learning outcomes, and the instructor and the employment supervisor jointly perform evaluation. (May be repeated for a maximum of 8 credits.)

1-4cr; 75hr/cr supervised work

 **English (ENG)**

A. Andaluz, E. Engh, T. Marmack, D. Snyder, N. Stotts, E. White

10 Reading & Writing Fundamentals

Prereq: Placement for English language fundamentals, or consent.

Develops fundamental writing, reading, and study skills. (A-F, N, W grades only.)

3cr; 45hr lec, TE 3.00

19 Writing Essentials

Prereq: ENG 10, or placement at ENG 19, or consent.

Develops essential writing skills for college and the workplace. Students engage in writing as a process, applying basic rhetorical strategies to produce focused, well-supported paragraphs and other short compositions that meet the needs of specific audiences and purposes. Students study the grammar and mechanics of Standard English, applying knowledge to recognize and correct errors in their writing. Students also practice effective reading strategies, developing skill in summarizing ideas from courses. (A-F, N, W grades only.)

21 Intro to College Reading

Prereq: ENG 19 with grade C or better, or placement at ENG 21, or consent.

Develops college-level reading skills, improving reading speed, comprehension, and retention of information in written texts. Students build college-level vocabulary and learn to distinguish between main ideas and supporting details and examples. Students practice drawing inferences through critical analysis of written materials and demonstrate understanding of reading material through writing accurate summaries and paraphrases. (A-F, N, W grades only.)

3cr; 45hr lec, TE 3.00

252 Major Works of British Literature after 1800

Prereq: ENG 100 with grade C or better, or consent.

Studies major works of British fiction, non-fiction, drama, and poetry from 1800 to the present. 3cr; 45hr lec, TE 3.00 (DL)

254 World Literature (Western)

Prereq: ENG 100 with grade C or better, or consent.

Studies and analyzes literary works of Western cultures from ancient times to present. 3cr; 45hr lec, TE 3.00 (DL)

255 Types of Literature

Prereq: ENG 100 with grade C or better, or consent.

Studies, analyzes, and critiques major European and American short stories and novels. 3cr; 45hr lec, TE 3.00 (DL)

257 Themes in Literature: Special Topics

Prereq: ENG 100 with grade C or better, or consent.

Studies and analyzes universal problems in selected literary works of various types, cultures, and periods. Presents topics, which will vary with student interest and availability of faculty.

3cr; 45hr lec, TE 3.00 (DL)

257E Themes in Literature: Literature of Hawai'i

Prereq: ENG 100 with grade C or better, or consent.

Focuses on selected poems, legends, biographies, short stories, and novels by people of present-day Hawaiian, Polynesian, American, European, and Oriental heritage, drawn from ancient, transitional, and modern Hawaiian literature. Studies and analyzes universal problems in selected literary works.

3cr; 45hr lec, TE 3.00 (HI, DL)

316 Advanced Research Writing

Prereq: ENG 209 or 210 or 225, any with grade of C or better; or consent.

Recommended: ENG 210 or 225 preferred.

Provides advanced knowledge in planning, developing, organizing, and editing writing projects with clarity and precision. Emphasizes critical thinking skills; social, ethical, and political argument; and the ability to write a variety of work, including research projects in specific fields of study, using appropriate documentation styles.

3cr; 45hr lec, TE 3.00 (DL)

Facilities Management (FMGT)

C. Rutherford

100 Introduction to Building Maintenance and Construction

Introduces tools, materials, and safety for building maintenance and construction trades. Explores fundamentals of building systems and operations of the maintenance department. (Formerly MAIN 20)

2cr; 60hr lec-lab, TE 2.50

120 Introduction to Project Management

Prereq: ENG 100 with grade C or better, and MATH 75X with grade C or better or placement at least MATH 100, or consent.

Introduces concepts and principles for the planning and management of major facility operations, renovation, and construction projects. Develops project management skills and explores best practices for planning and implementation processes to include: stakeholder engagement, budget and risk assessment and controls, scheduling, resource allocation and acquisition, and project closing. 3cr; 45hr lec, TE 3.00

200 Mechanical Systems Design and Construction

Prereq: ENG 100 with grade C or better, and MATH 75X with grade C or better or placement at least MATH 100, or consent.

Explores commercial building mechanical and environmental systems and their relationship to occupant comfort and satisfaction. Focuses on building systems operation, diagnostics, and optimization of comfort and convenience features to manage and reduce energy consumption.

3cr; 45hr lec, TE 3.00

201 Facilities Operations and Leadership

Prereq: FMGT 120, or consent.

Examines the key principles of management in the facilities engineering industry. Focuses on leadership skill building and decision-making processes within the managerial levels of a commercial facility. Explores management concepts, strategies, and tools essential for organizational effectiveness. 2cr; 30hr lec, TE 2.00

Fashion Technology (FT)

C. Maeda

25 Ready-to-Wear Clothing Production

Explores efficient and economical techniques in fabric layout, cutting, and sewing. Offers practice in aloha shirt and blouse construction.

3cr; 30hr lec, 45hr lab, TE 3.13

40 Fabric Analysis

Analyzes the latest fabrics on the market. Explores how fiber content, fabric development, and color application affect fabric care. 3cr; 45hr lec, TE 3.00

90v, 190v, 290v

(May be repeated without limit for credit.)

Topic: Advanced Fashion Illustration

Prereq: FT 216, or consent.

Studies advanced illustration techniques for drawing the fashion figure. Stresses development of each student's individual style of fashion illustration.

3cr; 45hr lec, TE 3.00

Topic: Sewing Activewear

Prereq: FT 113 and FT 115, or consent.

Provides specialized training in the design and construction techniques used in the development of active sportswear. Stresses ready-to-wear production techniques.

3cr; 30hr lec, 45 hr lab, TE 3.13

Topic: Home Furnishings

Prereq: FT 25, or consent.

Provides specialized training in design, measurement and construction techniques used in the production of draperies, pillows, table linens, bed linens, slipcovers, and other home furnishings.

3cr; 30hr lec, 45hr lab, TE 3.13

Topic: Draping

Prereq: FT 215, or consent.

Introduces the fundamentals of draping on the standard dress form. Practices interpretation of design details through draping. 3cr; 30hr lec, 45 hr lab, TE 3.13

111 Art and Design in Fashion

Surveys fashion as it relates to art and design. Line, color, balance, and proportion are studied providing guidelines to understanding fashion and how it communicates personal image to society.

3cr; 45hr lec, TE 3.00



113 Clothing Construction Methods I

Introduces sewing tools and equipment. Treats selection and adjustment of basic commercial patterns and construction of clothes from these patterns to fit figures. 3cr; 30hr lec, 45hr lab, TE 3.13

115 Clothing Construction Methods II

Prereq or coreq: FT 113, or consent.

Explores custom sewing techniques using various kinds of fabrics. Emphasizes accuracy and neatness in pattern alteration and garment construction. 3cr; 30hr lec, 45hr lab, TE 3.13

125 Fashion Show Production

Provides basic information and practical experience in the preparation and production of a fashion show. (May be repeated for a maximum of 9 credits.). 1cr; 30hr lec-lab, TE 1.25

215 Flat Pattern Making I

Prereq: FT 113, or consent. Coreq: FT 217. Introduces principles of pattern making for women's apparel through the manipulation of basic slopers. Covers the development of bodices, skirts, sleeves, and collars. 3cr; 30hr lec, 45hr lab, TE 3.13

216 Fashion Design & Sketching

Prereq: FT 111, or consent.

Introduces basic techniques for drawing fashion figures. Treats use of pen and ink, and water colors. Explains sketching the design. 3cr; 45hr lec, TE 3.00

217 Flat Pattern Making II

Prereq: FT 113, or consent. Coreq: FT 215. Explores garment development using the flat pattern method. 3cr; 30hr lec, 45hr lab, TE 3.13 (HE)

👉 Filipino (FIL)

101 Beginning Filipino I

Introduces speaking, listening, reading, and writing skills of basic Tagalog. Includes basic structures of Tagalog, language commonly used in daily situations, and different aspects of Philippine cultures. 4cr; 60hr lec, TE 4.00 (HSL)

102 Beginning Filipino II

Prereq: FIL 101, or consent.

Continues FIL 101. Includes speaking, listening, reading, and writing skills of basic Tagalog. 4cr; 60hr lec, TE 4.00 (HSL)

261 Philippine Literature

Prereq: ENG 100 with grade C or better, or consent.

Surveys Philippine/Filipino literature from the early period to contemporary times. It will introduce canonical works and authors as well as major literary forms of the period. Selected literary pieces in English and in English translation are studied. 3cr; 45hr lec, TE 3.00 (DL)

👉 Finance (FIN)

G. Logan

311 Investments

Prereq: BUS 310 and 318 both with grade C or better, or consent.

Introduces various investment media and capital markets. Topics include the analysis of security returns using techniques such as beta, filter rules, and portfolio theory. 3cr; 45hr lec, TE 3.00

👉 Food Science & Human Nutrition (FSHN)

185 Food Science and Human Nutrition

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Integrates natural science concepts basic to the study of human nutrition. Emphasizes nutrient requirements of healthy individuals, nutrient categories and characteristics, physiological functions, and food sources. Includes review and adaptation of dietary practices to reflect current nutritional issues. 3cr; 45hr lec, TE 3.00 (DB)

285 The Science of Human Nutrition

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Provides an overview of the principles of nutritional science. Includes descriptions and functions of nutrients, digestion and absorption, effects of deficiencies and toxicities, requirements throughout the life cycle, food sources, nutrient interactions, dietary assessment, cultural sensitivity, sports nutrition, eating disorders, global health issues, drug interactions, and nutrition as it pertains to dental health. Required for UHMC Dental Hygiene program. 3cr; 45hr lec, TE 3.00 (DB)

👉 Geographic Information Systems (GIS)

T. Botkin

150 Introduction to GIS/GPS

Prereq: ICS 101 or BUSN 150, either with grade C or better, or consent. Recommended: Familiarity with computer databases.

Introduces applications of geographic information systems (GIS) with a special emphasis on using ArcView GIS. Includes database construction and techniques for spatial data manipulation, analysis, and display. Teaches use of global positioning system (GPS).

Explores cross-disciplinary applications in the natural and social sciences. (Crosslisted as ICS 150.) 4cr; 60hr lec, TE 4.00

180 GIS in Ecosystem Management

Prereq: GIS/ICS 150 with grade C or better, or consent.

Uses global positioning system (GPS) technologies and advanced geographic information system (GIS) principles for data collection and analysis. Applies GIS techniques to develop geodatabases and computer-generated map layers for specific sites. Evaluates resource management decisions for natural ecosystem conservation and habitat restoration projects. 4cr; 60hr lec, TE 4.00

👉 Geography (GEOG)

101 The Natural Environment

Surveys the natural environment: weather, climate, soil, vegetation, and landforms, with emphasis on Hawai'i. *Lab optional.* 3cr; 45hr lec, TE 3.00 (DP)

101L The Natural Environment Laboratory

Prereq: GEOG 101 (or concurrent), or consent. Introduces the geographer's tools: globes, atlases, maps, and aerial photographs. Uses laboratory investigation techniques to understand concepts of physical geography. Special emphasis on Hawai'i and on human modification of the environment. 1cr; 45hr lab, TE 2.50 (DY)

102 World Regional Geography

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Surveys the world's major cultural regions. Explores economic, environmental, social, and political conditions from a geographical perspective. 3cr; 45hr lec, TE 3.00 (FGB)

👉 Geology & Geophysics (GG)

101 Introduction to Geology

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent. Presents principles of physical geology including the composition and structure of the earth, its evolution over geologic time, and processes shaping the earth's crust including continental drift, volcanism, earthquakes, and erosion. 3cr; 45hr lec, TE 3.00 (DP)

101L Introduction to Geology Lab

Prereq: GG 101 or GG 103 (or concurrent); ENG 22 with grade C or better or placement at ENG 100, and at least MATH 75X with grade C or better or placement at least MATH 82, or consent. Laboratory to accompany GG101 or GG103. 1cr; 45hr lab, TE 2.50 (DY)

103 Geology of Hawaiian Islands

Surveys Hawaiian geology and geologic processes. Includes origin of the Hawaiian Islands, volcanism, rocks and minerals, landforms, stream and coastal processes, landslides, earthquakes and tsunamis, groundwater, and geologic and environmental hazards. 3cr; 45hr lec, TE 3.00 (HI, DP)



👉 Hawaiian (HAW)

K. Ka'eo

101 Elementary Hawaiian I

Introduces speaking, reading, and writing elementary Hawaiian. Treats structural points inductively. *Devotes four out of five hours to drill and practice. Daily lab work determined by individual need.* 4cr; 45hr lec, 30hr lec-lab, TE 4.17 (HI)

102 Elementary Hawaiian II

Prereq: HAW 101, or consent. Continues HAW 101 instruction to write, speak, and read Hawaiian. *Devotes four out of five hours to drill and practice. Daily lab work determined by individual need.* 4cr; 45hr lec, 30hr lec-lab, TE 4.17 (HI)

104 Hawai'i: Language Through Hula

Introduces conversational Hawaiian language through the medium of dance (hula) and song. Requires study, memorization, and close examination of Hawaiian vocabulary and simple sentence structure. 3cr; 45hr lec, TE 3.00 (HI, DA)

201 Intermediate Hawaiian I

Prereq: HAW 102, or consent. Continues HAW 102. Uses advanced Hawaiian grammatical structure with emphasis placed on speaking Hawaiian. Practices translation of materials from classical Hawaiian literature. *Devotes two out of five hours to drill and practice. Daily lab work determined by individual need.* 4cr; 45hr lec, 30hr lec-lab, TE 4.17 (HI)

202 Intermediate Hawaiian II

Prereq: HAW 201, or consent. Introduces further advanced Hawaiian grammatical structures with emphasis placed on speaking Hawaiian. Drills translating materials from classical Hawaiian literature. *Devotes two out of five hours to drill and practice. Daily lab work determined by individual needs.* 4cr; 45hr lec, 30hr lec-lab, TE 4.17 (HI)

221 Hawaiian Conversation

Prereq: HAW 202, or consent. Practices systematic control of spoken Hawaiian. Further develops vocabulary for accurate, mature expression. 3cr; 45hr lec, TE 3.00 (HI)

261 Hawaiian Literature in Translation

Prereq: ENG 100 with grade C or better, or consent. Surveys Hawaiian literature, including prose narration and poetry with reference to Polynesian and world themes and forms from pre-contact to discovery. Introduces a full range of Hawaiian stories, chants, poems, songs, and sayings which have been translated into English. 3cr; 45hr lec, TE 3.00 (HI, DL)

👉 Hawaiian Studies (HWST)

K. Ka'eo

100B Intro to Hawaiian Culture: Communication-Basic Language and Phrases

Develops correct pronunciation and usage of basic Hawaiian language and phrases. 1cr; 15hr lec, TE 1.00 (HI, DH)

100C Intro to Hawaiian Culture: Worldwide-Values, Folklore, and Cultural Practices

Provides an orientation to traditional and contemporary Hawaiian practices and values. 1cr; 15hr lec, TE 1.00 (HI, DH)

100D Intro to Hawaiian Culture: Landscape-Historical Events, Physical Features, and Unique Flora & Fauna of Maui and Hawai'i

Explains important historical events of Maui and Hawai'i and identifies their unique flora and fauna, physical features, and scenes. 1cr; 15hr lec, TE 1.00 (HI, DH)

107 Hawai'i: Center of the Pacific

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces the unique aspects of Hawai'i and Hawaiian culture in relation to the larger Pacific, including geography, origins, language, religion, land, art, and history. 3cr; 45hr lec, TE 3.00 (HI, DH)

111 The Hawaiian 'Ohana

Prereq: HWST 107 with grade C or better, or consent.

Examines culture of Hawaiian people as expressed in home and family. Provides understanding of the family as the basis of larger Hawaiian society. Compares and contrasts both ancient and modern aspects of the Hawaiian family. Uses Hawaiian terminology. 3cr; 45hr lec, TE 3.00 (HI, DH)

132 Hula 'Olapa (Foundational Hawaiian Dance)

Prereq: HAW104 with grade C or better, or instructor consent.

Studies foundational hula and chant from pre-contact, post-contact, Monarchy era and contemporary Hawai'i. Students will be introduced to hula instruments, costuming and adornments, the kuahu hula and beginning choreography. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (HI, DH)

176 History and Development of Hawaiian Music

Prereq: HAW 101 and HWST 107, both with a grade C or better, or consent.

Focuses on the history and development of traditional and acculturated vocal and instrumental Hawaiian music. Discusses Hawaiian dance genres related to the music. Examines Hawaiian music and dance as an organization of sound and movement and as a product of culture and people. Uses sound recordings, video presentations, and live performances of the various music genres discussed. (Crosslisted as MUS 176.) 3cr; 45hr lec, TE 3.00 (HI, DH)

205 Hawaiian Music in Action**A Mele 'Aina****E Mele Pili Kanaka****I Other**

Prereq: HAW 102, or consent.

Teaches Hawaiian songs as a means of strengthening knowledge of language, poetry, and culture. Conducted primarily in Hawaiian. (May be repeated for credit if subletters are different.) 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (HI, DA)

207 Malama Ahupua'a: Resource Management

Prereq: HWST 107 with grade C or better, or consent.

Examines the ahupua'a system: its mythologies, place names, history, poetry, and early documents of the Hawaiian nation as it was conceptualized by the ancient Hawaiians. Explores the relevance of the ahupua'a system in modern society. 3cr; 45hr lec, TE 3.00 (DH, HI)

211 Hawaiian Ethnobotany

Identifies endemic, indigenous, and Polynesian introduced flora of Hawai'i. Examines the many uses of Hawai'i's flora by the indigenous people. Reveals the relationship of gods/plants/man, and connects belief and practices with the intentional migration of specific plants. (Crosslisted as BOT 105). Meets Social Science requirement, not Natural Science requirement. 3cr; 45hr lec, TE 3.00 (HI, DS)

211L Hawaiian Ethnobotany Lab

Prereq: HWST 211 or BOT 105, either with a C or better (or concurrent).

Studies the interactions between the Hawaiian culture and plants/plant environments. Considers different levels and types of interactions and patterns of interactions between people and plants. Places emphasis on the importance of cultural upbringing. Includes field trips in lieu of lab. (Crosslisted as BOT 105L.) 1cr; 45hr lab, TE 2.50 (DY)

213 Hawaiian Ethnozoology

Prereq: HAW 101, or consent.

Surveys and identifies Hawaiian fishes, birds, and other creatures, and their place in Hawaiian culture. Explores traditional methods of capture, practical uses, and conservation techniques. Uses Hawaiian terminology. 3cr; 45hr lec, TE 3.00 (HI, DH)

222 Ma'awe: Hawaiian Fiber Arts

Prereq: HWST 211 or BOT 105, either with grade B or better, or consent.

Examines Hawaiian cultural fiber arts. Develops advanced fiber arts projects of Hawaiian cultural significance or ceremonial use. Practices proper protocols used in the procurement of materials needed to complete various fiber arts projects. Explores related protocol and methods for gathering, Native Hawaiian gathering rights, and the type of environments in which specific materials grow and can be gathered. (May be repeated for unlimited credit.) 3cr; 45hr lec, TE 3.00 (HI, DA)

231 Native Perspectives on Hawaiian Culture

Prereq: HWST 101, or HWST 100BCD, or HWST 107, any with grade C or better, or consent.

Explores Native Hawaiian culture from traditional times to present. Examines values, social relationships, religion, traditional practices and arts. 3cr; 45hr lec, TE 3.00 (HI, DH)

262 Pana Maui: Maui's Sacred Hawaiian Places

Prereq: HWST 107 or 111 or 270; and HAW 102; or consent.

Examines the sacred Hawaiian places of Maui, including accounts of mythical heroes, heiau, fishponds, wind and rain names, and their metaphoric value to ancient and modern Hawaiian culture. Uses Hawaiian terminology. 3cr; 45hr lec, TE 3.00 (HI, DH)

270 Hawaiian Mythology

Prereq: HWST 107 or HAW 102, or consent. Surveys the gods, 'aumakua, kupua, mythical heroes, heroines, and their kinolau as the basis of traditional Hawaiian metaphor. 3cr; 45hr lec, TE 3.00 (HI, DH)

286 Kahoolawe: Aloha 'Aina

Prereq: HWST 107 or 231, either with grade C or better, or consent

Develops and expands students' consciousness towards Kaho'olawe and the practice of Aloha 'Aina. Employs a native Hawaiian worldview in studying the cultural history of Kaho'olawe. Provides hands-on opportunities to practice Aloha 'Aina. Empowers students to become stewards and participate in the protection, restoration, and revitalization of Hawai'i Nei. Requires access and volunteer work on Kaho'olawe. 3cr; 45hr lec, TE 3.00 (HI, DH)

291 Modern Issues in Hawai'i

Prereq: HWST 107 and ENG 100, both with grade C or better, or consent.

Introduces contemporary, domestic and international Hawaiian issues within historical, social, cultural and political contexts. Engages students in research, question, critique, and development of their own critical analysis and commentary on diverse issues. 3cr; 45hr lec, TE 3.00 (HI, DH)

Health (HLTH)

A. Scharnhorst

122 Introduction to Physical Therapy Support Skills

Prereq: Certificate of Competence for Therapeutic Activity Aide I, or consent.

Provides theoretical understanding of working with adults and children with disabilities or neuropathologies in home and community settings; supports families, parents and caregivers. Students learn to perform scenarios of therapeutic interventions and to work with therapists and allied health professionals who provide assessment, planning, and delivery of appropriate related services. Values promoted include family-centered care, cultural sensitivity, age-appropriate activities, functional skills, and collaborative teamwork. *Prepares Therapeutic Activity Aides to work under supervision of a registered Physical Therapist.* 3cr; 45hr lec, TE 3.00

125 Survey of Medical Terminology

Prereq: ENG 19 with grade C or better or placement at least ENG 22, or consent.

Surveys medical terminology including: prefixes, suffixes, and word roots; pronunciation, spelling and definition of selected medical words dealing with all human body systems; commonly used abbreviations; and use of the medical dictionary. 1cr; 15hr lec, TE 1.00

129 Terminology for Health Careers

Prereq or coreq: BIOL 100 and NURS 100, both with grade C or better, or consent.

Develops knowledge of medical terminology, abbreviations, diagnostic tests and procedures commonly used in medical settings. Material will address all systems of the body in depth with an emphasis on increasing professional vocabulary and proficiency in spelling medical terms. 3cr; 45hr lec, TE 3.00

150 Introduction to the Study of Disease

Prereq: ENG 19 with grade C or better or placement at least ENG 22, or consent.

Introduces basic concepts and characteristics of the disease processes. Discusses diseases related to specific body systems. 1cr; 15hr lec, TE 1.00

History (HIST)

L. Horowitz, M. Ryan

151 World History to 1500

Prereq: ENG 22 with grade C or better, or placement at ENG 100; or consent.

A global and historical survey focusing on human societies and cross-cultural interactions to 1500 CE.

3cr; 45hr lec, TE 3.00 (FGA)

152 World History Since 1500

Prereq: ENG 22 with grade C or better, or placement at ENG 100; or consent.

A global and historical survey focusing on human societies and cross-cultural interactions since 1500 CE.

3cr; 45hr lec, TE 3.00 (FGB)

241 Civilizations of Asia I

Prereq: ENG 100 (or concurrent), or consent.

Interprets and compares the development and interaction of the political, economic, and cultural elements in the major civilizations of Asia from earliest times to contact with the West. 3cr; 45hr lec, TE 3.00

(DH)

242 Civilizations of Asia II

Prereq: ENG 100 (or concurrent), or consent.

Surveys the impact of Western civilization upon major civilizations of Asia and the Asian response to this impact.

3cr; 45hr lec, TE 3.00 (DH)

253 Contemporary World History

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: HIST 152.

Examines the political, cultural, economic, and technological history of the world from the end of WWII to the present.

3cr; 45hr lec, TE 3.00 (DH)

281 Introduction to American History

Prereq: ENG 100 (or concurrent), or consent.

Develops understanding of the progress of American culture up to the Civil War, an insight into America's heritage, and a sensitivity to its ideals and realities.

3cr; 45hr lec, TE 3.00 (DH)

282 Introduction to American History

Prereq: ENG 100 (or concurrent), or consent.

Develops understanding of the progress of American culture since the Civil War, an insight into America's heritage, and sensitivity to its ideals and realities.

3cr; 45hr lec, TE 3.00 (DH)

284 History of the Hawaiian Islands

Prereq: ENG 22 with grade C or better, or placement at ENG 100; or consent.

Surveys the history of the Hawaiian Islands from Polynesian chiefdoms to Hawaiian Kingdom to American territory and state.

3cr; 45hr lec, TE 3.00 (HI, DH)

288 History of the Pacific Islands

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: HIST 152 or ANTH 200.

Surveys the cultural areas of the Pacific from pre-contact to present day. Covers prehistoric migration patterns, historical movements, and present day distributions, including western colonization and current problems. (*Crosslisted as ANTH 235.*) 3cr;

45hr lec, TE 3.00 (DH)

Hospitality & Tourism (HOST)

L. Liu, L. Peros

100 Career and Customer Service Skills

Recommended: Placement at ENG 100.

Focuses on the strategies and skills related to career success and customer satisfaction in the Hospitality & Tourism industry. 3cr; 45hr lec, TE 3.00

101 Introduction to Hospitality and Tourism

Provides an overview of the travel industry and related major business components. Analysis of links between hotel, food, transportation, recreation, and other tourism-related industries will be addressed. 3cr; 45hr lec, TE 3.00

150 Housekeeping Operations

Recommended: HOST 101 with grade C or better.

Studies the professional management of housekeeping operations including practical applications and management skills required to ensure quality, service and effective performance. 3cr; 45hr lec, TE 3.00

152 Front Office Operations

Recommended: HOST 101 with grade C or better.

Studies the philosophy, theory, equipment, and current operating procedures of a hotel front office. Concentrates on the human relation skills necessary for effective guests and employee relations and the technical skills necessary to operate a manual, mechanical or computerized front office operation. 3cr; 45hr lec, TE 3.00

154 Food & Beverage Operations

Recommended: HOST 101 with grade C or better.

Introduces the basic principles of marketing, menu planning, service styles, nutrition, sanitation and safety, purchasing, and control systems as they apply to food and beverage management in an operational setting. Provides practical applications for effectively managing resources for food and beverage industry operations. 3cr; 45hr lec, TE 3.00



258 Hospitality Marketing

Prereq: HOST 101 with grade C or better, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Provides students with essential knowledge and practical experience to develop strategic and operating marketing plans for hospitality properties. Emphasizes the marketing orientation as a management philosophy that guides the design and delivery of guest services. Examines the dynamic relationship between hospitality marketing and daily operations. 3cr; 45hr lec, TE 3.00

260 Hospitality Law

Prereq: HOST 101 with grade C or better, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Focuses on legal aspects of the hospitality industry with emphasis on compliance and prevention of liabilities. Examines possible consequences of failure to satisfy legal obligations and provides specific perspectives on managing risk. 3cr; 45hr lec, TE 3.00

261 Events Management

Prereq: HOST 101 with grade C or better, or consent. Recommended: Placement at ENG 100.

Prepares students to plan and administer successful functions, special events, meetings, and conventions. Students explore topics such as venue selection, event goals and assessment, catering needs, sales, service, technology, programming and event staffing. 3cr; 45hr lec, TE 3.00

280 Hospitality Management

Prereq: HOST 101 with grade C or better, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Examines the key principles of management in the hospitality industry. Focuses on leadership skillbuilding and decision-making processes within the various management levels of a hospitality organization. Explores management concepts, strategies, and tools essential for organizational effectiveness. (Formerly HOST 270) 3cr; 45hr lec, TE 3.00

293 Hospitality & Tourism Internship

Prereq: HOST major; HOST 100 with grade C or better, or consent.

Provides a supervised field experience that is related to the student's major or career goals. The experience will enable the student to apply knowledge and skills learned in coursework to the work environment. (Letter grade only). (Formerly HOST 200) 3cr; 225hrs/semester documented industry work

294 Hospitality and Tourism Internship Abroad

Prereq: HOST major; HOST 101 with grade C or better; or consent.

Provides a supervised field experience abroad that is related to the student's major or career goals. The experience will enable the student to apply knowledge and skills learned in coursework to the work environment. (Letter grade only) 3cr; 225 hrs/ semester documented industry work.

394v Hospitality and Tourism International Internship

Prereq: Consent.

Provides an international work practicum experience in the hospitality industry. Requires students to demonstrate proficiency in job performance in a hospitality-related organization abroad. Students complete a comprehensive work-based project and outline professional goals, assess workplace issues, and prepare recommendations to solve issues. Synthesizes management theories learned in class with actual practices in the hospitality industry and formulation of a comprehensive report. (Credit/No Credit only). May be repeated for a maximum of 6 credits.)

1-3cr; 200hr/cr supervised work

Human Development & Family Studies (HDFS)

T. Schlather

230 Human Development

Prereq: ENG 22 or higher, or consent.

Studies concepts, issues, and theories of human growth and development from conception to death. Explores systems approaches to inquiry into factors affecting growth and development. (Formerly FAMR230) 3cr; 45hr lec, TE 3.00 (DS)

Human Services (HSER)

S. LeGare, T. Schlather

101 Community Health Worker Fundamentals

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Identifies the roles Community Health Workers play in Hawai'i and the broader public health system. Introduces the attitudes, skills, and knowledge of the profession. 3cr; 45hr lec, TE 3.00

110 Introduction to Human Services

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Introduces the nature of human service programs from the person-in-environment and strengths perspectives. Studies federal, state and local human service responsibilities. Includes talks by agency representatives and field trips to agencies. 3cr; 45hr lec, TE 3.00

111 Community Action

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Develops a concept of human needs and examines how social institutions and communities provide for such needs. Views selected social problems in community settings and how communities, agencies, and organizational structures function to deal with them. Introduces social-cultural considerations and community action strategies. Participants will identify a community problem/need and develop and implement a proposal for action. 3cr; 45hr lec, TE 3.00

130 Introduction to Youth Practitioner

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Introduces the core skills needed by youth practitioners. Focuses on basic communication skills, growth and development of adolescents, family and cultures and their roles in development, and youth with special needs. Develops teamwork and basic workforce skills. 3cr; 45hr lec, TE 3.00

140 Introduction to Counseling & Interviewing

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: HSER 101 or HSER 110.

Offers a basic introduction to counseling theory and practice for those interested in working in helping professions. Provides opportunities to practice skills through role-playing. 3cr; 45hr lec, TE 3.00

145 Working with Older Adults

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: HSER 101 or 110.

Introduces students to the experience of aging and the issues affecting the elderly. Examines aging from developmental and person-in-environment perspectives. Identifies the social service needs of the elderly, local and federal programs, and implications for the "soon-to-be-elderly". 3cr; 45hr lec, TE 3.00

194 Seminar & Fieldwork I

Prereq: Permission of instructor; HSER 140 with grade C or better, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Provides individualized in-service training in community services and supervised work experience. *Includes weekly seminar giving students opportunity to discuss practicum experiences.* 3cr; 45hr lec, TE 3.00

240 Introduction to Motivational Interviewing

Prereq: HSER 140 with grade C or better, or consent.

Introduces the theoretical and practical skills of Motivational Interviewing including the identification and development of skills and strategies across diverse practice contexts and populations. 3cr; 45hr lec, TE 3.00 (DS)

245 Group Counseling

Prereq: HSER 140 with grade C or better, or consent. *Recommended:* HSER 110.

Provides theoretical and experiential training in facilitating self-exploration and growth groups. Designed to provide understanding and experience in selecting group members, establishing group norms and goals, setting group climates, developing group activities, promoting group and individual growth, and making appropriate group interventions. 3cr; 45hr lec, TE 3.00

248 Case Management

Prereq: HSER 140 with grade C or better, or consent.

Provides knowledge and practical skills to become competent case managers in health and human services agencies. Students apply the Ecological Model, Strengths Perspective and effective interviewing skills to case management tasks including intake, assessment, service planning, care coordination, discharge planning and referral. Explores individual and community capacity building, cultural competence, professional ethics and boundaries. 3cr; 45hr lec, TE 3.00

256 Dynamics of Family Violence

Prereq: ENG 100 with grade C or better, or consent. *Recommended:* HSER 110.

Provides an in-depth study of the problems, dynamics, and effects of family violence and examines current societal responses. Includes the history of domestic violence, contributing cultural and socialization factors. Reviews partner, child, and elder abuse within the family and multi-generational effects. Examines legal and ethical issues, and best-practices for intervention nationally and in our community. 3cr; 45hr lec, TE 3.00

268 Alcohol & Drug Education

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines drug use, misuse, abuse, and addiction including the impact of drug actions on the body, brain, mind and spirit. Emphasizes historical and psychosocial factors that may contribute to drug use and policies and interventions to address the problem. 3cr; 45hr lec, TE 3.00

270 Substance Abuse Counseling

Prereq: HSER 140 with grade C or better, or consent.

Provides theoretical and experiential training in the prevention, intervention, and treatment applicable to a diverse substance abuse population. Identifies ethical and legal issues of working with this population. 3cr; 45hr lec, TE 3.00

294 Seminar & Fieldwork II

Prereq: Permission of instructor; and HSER 194 with grade C or better, and consent.

Provides advanced, individualized, in-service training in community-based human services agencies. *Includes weekly seminar giving students the opportunity to discuss practicum experiences.* 3cr; 45hr lec, TE 3.00

345 Diversity in Aging

Prereq: HSER 145 and ENG 100, both with grade C or better, or consent.

Examines social and cultural diversity in the aging process. Identifies impacts of socioeconomic status, race/ethnicity, gender, sexual orientation, and religion/spirituality. Explores health disparities, cumulative advantage and disadvantage across the life course, and access to government services and programs. 3cr; 45hr lec, TE 3.00

350 Women & Addiction: Why Gender Matters

Prereq: HSER 268, HSER 270, and ENG 100, all with grade C or better, or consent.

Examines girl's and women's substance misuse/abuse/dependence in a socio-cultural context through the Person-In-Environment and Strengths perspectives. Evaluates common pathways to addiction. Compares and contrasts physiological and psychological gender differences, impacts, and consequences in the addiction process. Assesses the unique treatment needs of this population and gender-responsive strategies to meet those needs. Includes gender specific and culturally competent treatment trends in Hawai'i. 3cr; 45hr lec, TE 3.00

360 Trauma Informed Care

Prereq: HSER 248, HSER 270, and ENG 100, all with grade C or better, or consent.

Examines trauma experiences across the life span through the person-in-environment perspective, including individual reactions, resiliencies and community responses. Compares trauma informed care with traditional helping paradigms via exploration of best practice models and local programs. 3cr; 45hr lec, TE 3.00

365 Motivational Interviewing

Prereq: HSER 140 and ENG 100, both with grade C or better, or consent.

Introduces the theoretical basis of Motivational Interviewing. Focuses on developing skills and strategies for using the model in diverse contexts (community agency settings, mental health and health care clinics) and across diverse behavioral issues (addictions and mental health, healthy lifestyle behaviors, chronic disease). 3cr; 45hr lec, TE 3.00

 **Humanities (HUM)****100 Themes in Humanities**

Gives the student a start toward viewing the arts as an expression of the meaning of life. Interweaves interpretations of history and a variety of works of poetry, drama, novel, painting, sculpture, music, and philosophy to illustrate mankind's changing awareness. 3cr; 45hr lec, TE 3.00 (DH)

400 Changes & Choices

Prereq: ENG 316, or consent.

Explores ways in which the humanities can contribute to personal and work lives, especially as individuals face change and make decisions. Analyzes how individuals worldwide examine circumstances including the changing landscape of living among people of various beliefs and cultures, making decisions, and dealing with consequences of such decisions. Examines the onset of other choices presented to us as a result of the original decisions made, or alternatively, made for us by our choosing not to engage in the process. 3cr; 45hr lec, TE 3.00 (DH)

 **Ilokano (ILO)****101 Beginning Ilokano I**

Introduces speaking, listening, reading, and writing skills of basic Ilokano. Includes basic structures of Ilokano, language commonly used in daily situations, and different aspects of Philippine cultures. 4cr; 60hr lec, TE 4.00

102 Beginning Ilokano II

Prereq: ILO 101, or consent.

Continues ILO 101. Includes speaking, listening, reading, and writing skills of basic Ilokano. 4cr; 60hr lec, TE 4.00

 **Information and Computer Science (ICS)**

D. Bhattacharya, T. Chiasson, B. Kohne, D. Kruse, F. Mabie

101 Digital Tools for the Information World

Emphasizes production of professional level documents, spreadsheets, presentations, databases, and web pages for problem solving. Includes concepts, terminology, and a contemporary operating system. *Meets requirements for UH Mānoa and UH Hilo College of Business and UH Mānoa Biology program and Botany Department.* 3cr; 45hr lec, TE 3.00

110 Intro to Computer Programming

Prereq or coreq: ICS 101 or BUSN 150, either with grade C or better, or consent.

Teaches fundamental programming concepts including sequential, selection, and repetition flow; variables and types; syntax; error types; compilation; linking; loading; and debugging. Introduces algorithms, flow charts, UML, and other analytic tools. Explains and practices problem solving and critical thinking methods. 3cr; 45hr lec, TE 3.00

111 Intro to Computer Science I

Prereq: ICS 110 with grade C or better; and MATH 82 with grade C or better or placement at least MATH 103; and ENG 19 with grade C or better or placement at least ENG 22; or consent.

Introduces problem solving using computers. Provides a background for students entering computer science, engineering, or other fields that require a background in computer programming. Teaches the basics of the computer hardware/software interfaces. Includes programs, applications, and compilers. Introduces programming concepts, algorithms, and problem solving techniques using high-level object-oriented programming languages. *Meets ACM CS 1 course standards.* 4cr; 60hr lec, TE 4.00

141 Discrete Mathematics for Computer Science I

Prereq: MATH 103 with grade C or better; or consent.

Provides instruction for logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting techniques, and probability theory. 3cr; 45hr lec, TE 3.00

150 Introduction to GIS/GPS

Prereq: ICS 101 or BUSN 150, either with grade C or better, or consent. Recommended: Familiarity with computer databases.

Introduces applications of geographic information systems (GIS) with a special emphasis on using ArcView GIS. Includes database construction and techniques for spatial data manipulation, analysis, and display. Teaches use of global positioning system (GPS.) Explores cross-disciplinary applications in the natural and social sciences. *(Crosslisted as GIS 150.)* 4cr; 60hr lec, TE 4.00

161 Introduction to Computer Graphics

Prereq: ICS 101 or BUSN 150, or consent. Introduces computer graphics tools and concepts in digital image editing, illustration graphics, print and web design, and 2D and 3D animation. (Crosslisted as ART 161.) 3cr; 45hr lec, TE 3.00 (DA)

169 Introduction to Information Security

Prereq: ICS 101 with grade C or better, or consent. Provides the basic foundation to information security, including identifying threats, planning for business continuity, and preparing for various security attacks. Focus will be given to threats to financial security such as attacks on banking and other related financial information. Special emphasis on ethics and legal issues that covers hacking and other cybersecurity techniques and tactics. 3cr; 45hr lec, TE 3.00

171 Introduction to Computer Security

Prereq: ICS 184 or ETRO 140, either with grade C or better (or concurrent), and ICS 169 with grade C or better, or consent. Examines the essentials of computer security, including risk management, use of encryption, activity monitoring, intrusion detection; and the creation and implementation of security policies and procedures to aid in security administration. 3cr; 45hr lec, TE 3.00

173 Introduction to Data Science

Prereq: MATH 115 with grade C or better, or consent. Introduces the fundamentals of data science, using Python, R or similar programming languages, for the analysis of real-world datasets. Topics include writing scripts and programs in Python or similar languages, and using tools for cleaning, manipulating, and visualizing data. Introduction to intelligent analysis techniques. Properties of domain-specific datasets. No prior programming experience required but basic statistical knowledge is required. 3cr; 45hr lec, TE 3.00

184 Introduction to Networking

Prereq: ICS 101 with grade C or better, or consent. Provides the student with the knowledge and skills to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure, as well as to describe networking technologies, basic design principles, and adhere to wiring standards and use testing tools. 3cr; 45hr lec, TE 3.00

193v Computer Science Internship I

Prereq: ICS 111, and consent of both instructor and Co-op coordinator. *Coreq:* Enrollment in ECET program and one or more ECET or ETRO courses. *Recommended:* ETRO 105, and ENG 100. Reflects student interest area and availability of job stations. Offers opportunity to upgrade workplace employability. *Student, instructor, and employment supervisor jointly develop learning outcomes; instructor and employment supervisor jointly evaluate student.* (May be repeated for a maximum of 3 credits.) 1-3cr; 75hr/cr supervised work

200 Web Technology

Prereq: ICS 110 with grade C or better, or consent. Introduces web page authoring. Creates client-side web pages using web authoring language and style sheets. Uses graphical design elements, validation, browser capability, and accessibility. Uses scripting language to add dynamic elements to web pages, client-side scripting, regular expressions, event handling, input validation, selection, repetition, and parameter passing. 3cr; 45hr lec, TE 3.00

205 Photoshop and Illustrator

Prereq: ICS 101 or BUSN 150, or consent. Introduces the basic tools and features of digital image editing, photo retouching, and color correction of images. Focuses on the fundamental drawing techniques of illustration graphics including pen tool paths, objects, and type. (Crosslisted as ART 205.) 3cr; 45hr lec, TE 3.00 (DA)

211 Introduction to Computer Science II

Prereq: ICS 111 with grade C or better, or consent. *Recommended:* MATH 135. Reinforces and strengthens problem-solving skills using more advanced features of programming languages and algorithms, such as recursion, pointers, and memory management. Emphasizes use of data structures, such as arrays, lists, stacks, and queues. *Meets ACM CS2 course standards.* 3cr; 45hr lec, TE 3.00

212 Program Structure

Prereq: ICS 211 with grade C or better, or consent. Focuses on organization paradigms, programming environments, implementation of a module from specifications, the C and C++ programming languages. 3cr; 45hr lec, TE 3.00

214 Fundamentals of Design for Print and Web

Prereq: ICS 101 or BUSN 150, or consent. Introduces development principles related to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images, and other design elements, developing computer skills in industry standard computer programs, and study of design development pertaining to color theories, publications, and advertising. Projects will emphasize relating form to content through selection, creation and integration of typographic, digital imaging, illustrative, and design elements in print and web environments. (Crosslisted as ART 221.) 3cr; 45hr lec, TE 3.00 (DA)

225 Introduction to Blockchain Technology

Prereq: ICS 110 or ICS 111, either with grade C or better, or consent. Provides an introduction to cryptocurrencies, blockchain technology, smart contracts and distributed applications (DApps). Topics include the origins of the Bitcoin cryptocurrency and its evolution over the past decade, the rise of the Ethereum Virtual Machine (EVM) and Blockchain, the proliferation of Smart Contracts using Solidity, and the emergence of DApps that use Blockchain for a variety of applications. Basic understanding of any computer programming language is required. 3cr; 45hr lec, TE 3.00

241 Discrete Mathematics for Computer Science II

Prereq: ICS 141 with grade C or better, or consent. Provides instruction for program correctness, recurrence relations and their solutions, divide and conquer relations, graph theory, trees and their applications, Boolean algebra, introduction to formal languages, and automata theory. 3cr; 45hr lec, TE 3.00

251 Introduction to Unix/Linux

Prereq: ICS 101 with grade C or better, or consent. Introduces the Unix/Linux operating system with emphasis on the Red Hat Linux release. Covers the history and structure of Unix/Linux, basic functions, and fundamental commands. Explores advanced topics unique to Unix/Linux system administration. Stresses the ethics and responsibilities incumbent with Super User privileges. 4cr; 60hr lec, TE 4.00



252 Unix/Linux System Administration

Prereq: ICS 251 with grade C or better, or consent.

Continues exploration of the Unix/Linux operating system with an examination of the tasks and responsibilities of system administration. Examines and explores the Unix group and user hierarchy, system security, networking fundamentals, network administration, system logs, troubleshooting, application installation, and system installation and maintenance. Emphasizes the ethics and responsibilities of Unix System Administration and root user privileges. 4cr; 60hr lec, TE 4.00

261 Intermediate Computer Graphics

Prereq or Coreq: ICS 161, 205, or 214, or consent.

Provides instruction with the tools and concepts of computer graphics utilizing digital media technology. Offers experience that integrates digital image editing, illustration graphics, print publishing, web authoring, 2D, and 3D animation. (Crosslisted as ART 218.)

3cr; 45hr lec, TE 3.00 (DA)

272 Digital Imaging & Animation

Prereq: ICS 261 or ART 218, or consent.

Develops 2D computer graphics as elements for 3D projects. Compiles digital imaging and illustration using natural media tools, filters, compositing, templates for 3D project scenes, texture-mapping, and source files. Outlines 3D modeling and animation concepts, tools, and techniques for project development.

3cr; 45hr lec, TE 3.00

281 Ethical Hacking

Prereq: Either ICS 184 or ETRO 140, and ICS 169, both with grade C or better, or consent.

Studies the basic ethical hacking techniques also known as white hat hacking. It stresses the moral and legal issues about hacking and how these techniques can be used to defend against attacks as well as to perform authorized system security evaluation testing. 3cr; 45hr lec, TE 3.00

282 Computer Forensics

Prereq: Either ICS 184 or ETRO 140, and ICS 169, both with grade C or better, or consent.

Studies the basic computer forensics including operating system diagnostics, the use of forensic toolkits to examine and validate computer activity and techniques for the proper collection, examination and preservation of forensic evidence.

3cr; 45hr lec, TE 3.00

283 Advanced Computer Graphics Design

Prereq: ICS 261 or ART 218, or consent.

Reviews history, development, technology, and creative approaches of digital tools. Summarizes design theory. Employs graphics software to achieve concepts, content, and distinctive project solutions. Originates and manages the preproduction, production, postproduction of projects in print, web, digital imaging, illustration, and animation. Assembles projects into traditional, content, and digital portfolios. Analyzes professional issues for careers in digital media: resume, portfolio, exhibiting, personal web site, employment, and professional organization.

3cr; 45hr lec, TE 3.00

285 Digital Media Capstone

Prereq: ICS 283 and approval of DM faculty.

Provides an opportunity to integrate and employ tools and knowledge developed during the Digital Media program. Evaluates design and technical skills in digital media publishing projects. Assesses internship experiences and job market research for employment strategies. A comprehensive professional digital media publishing portfolio is required as a capstone project.

3cr; 45hr lec, TE 3.00

293v Computer Science Internship II

Prereq: ICS 193v, or consent.

Reflects student interest area and the availability of job stations. Offers the opportunity to upgrade employment and problem-solving skills. *Student, instructor, and employment supervisor develop learning outcomes; instructor and employment supervisor jointly evaluate student. (May be repeated for a maximum of 6 credits.)*

1-3cr; 75hr/cr

319 Operating Systems

Prereq: ICS 111, ICS 200, and MATH 203/205, all with grade C or better, or consent.

Covers concepts, issues, and design of modern operating systems. Analyzes processes and state, concurrency, resource management algorithms for memory, processors and I/O devices, protection, and security. Develops case studies of popular desktop and server operating systems. Conducts lab projects and teaches OS installation and administration techniques.

3cr; 45hr lec, TE 3.00

320 Introduction to Information Systems & E-Commerce

Prereq: ICS 101 or BUSN 150, either with grade C or better, or consent.

Introduces general concepts of information systems and e-commerce. Includes key business applications, e-commerce, and the Internet, system development, outsourcing, networking, and data communications, data and databases, and security. Includes relevant projects. 3cr; 45hr lec, TE 3.00

352 Networks and Security

Prereq: ICS 111, ICS 200, and MATH 203/205, all with grade C or better, or consent.
Provides detailed knowledge of the internet and its capabilities. Explains details of HTTP, TCP/IP, ethernet, and wireless 802.11 router, switches, and NAT; network and wireless security; practical experience in designing and implementing networks. Laboratory projects teach network design and administration. Discusses intermediate level topics on computer security. Examines legal, ethical, and technology issues in computer access, confidentiality, authentication, privacy, and intellectual property. 3cr; 45hr lec, TE 3.00

360 Database Design & Development

Prereq: ICS 320 with grade C or better, or consent.
Provides detailed knowledge of database design and development. Explains data models, both relational and object oriented. Examines relational database management systems. Demonstrates database design and development using SQL. Explains client/server systems and web access to databases. 3cr; 45hr lec, TE 3.00

385 Web Development and Administration

Prereq: ICS 320 with grade C or better, or consent.
Provides detailed knowledge of web page authoring. Demonstrates scripting in operating systems, web pages, server-side application integration, regular expressions, event handling, input validation, selection, repetition, parameter passing. Develops an e-commerce web site that uses a standard browser to accept user input, processes the user input with business logic, and connects to a back-end SQL database. Discusses topics in web site administration. Covers site management (operating system, web server and database installation and administration); security (cryptography, authentication, digital certificates); and content (site design, ethical and business considerations). 3cr; 45hr lec, TE 3.00

418 Systems Analysis & Designs

Prereq: ICS 360 and ICS 385, both with grade C or better, or consent.
Provides detailed knowledge of system specification, modeling and analysis, prototyping, hierarchical design, program design methods, cost estimation, project management, computer-aided software design. Emphasizes planning, analysis, and design phases of the Software Development Life Cycle with one model of the SDLC covered. Demonstrates learning tools and techniques for sound requirement assessment and, working as a team, produces a verified design of a web-based software product. 3cr; 45hr lec, TE 3.00

435 Machine Learning Fundamentals

Prereq: ICS 173, ICS 320, BUS 310, and MATH 115, all with grade C or better, or consent.
Provides detailed knowledge of machine learning concepts with a focus on relevant ideas from business and industry. Studies information processing and learning from real-world business scenarios. Describes neural networks, supervised and unsupervised learning. Focuses on the basics of statistical learning theory. 3cr; 45hr lec, TE 3.00

463 Human Computer Interaction

Prereq: ICS 320 and MATH 115, or consent.
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. 3cr; 45hr lec, TE 3.00

 **Interdisciplinary Studies (IS)****J. Patao****103S Building College Strengths through Culture**

Teaches, infuses, and uses culture to help students successfully transition into post-secondary education by developing an understanding of personal strengths for student success. 1cr; 15hr lec, TE 1.00

104B Transitions: Personal

Introduces students to college level work, strategic reasoning, communicating, and academic strategies. Helps students to develop an understanding of personal learning strengths, needs, time and resource management, and the use of relevant resources. Develops skills necessary to monitor progress and resolve problems. Introduces the creation of an individual learning portfolio and plan to support the successful transition to college. 1cr; 15hr lec, TE 1.00

104C Transitions: Community

Focuses on developing the understanding that it is essential for human beings to work together. Teaches how to work as a productive member of a successful team. Develops critical thinking and problem solving skills. Teaches and practices taking responsibility in implementing a solution, and recognizing and producing quality performance and quality products. 1cr; 15hr lec, TE 1.00

105 Career/Life Exploration & Planning

Prepares student for effective career/life exploration, planning and decisions. Emphasizes self-assessment, world of work information, survey of occupational clusters and related academic preparation relevant to self-assessed interests, and values and decision-making. *Students cannot take both IS 105 and IS 105B for credit toward a degree.* 3cr; 45hr lec, TE 3.00

105B Personal Assessment

Assists students in evaluating their interests, values, abilities, lifestyles, and other factors relating to career choice. Provides students with an opportunity to develop career decision-making skills. *Students cannot take both IS 105 and IS 105B for credit toward a degree.* 1cr; 15hr lec, TE 1.00

105C Professional Employment Preparation

Facilitates employment search by emphasizing professional techniques and standards in the preparation of application forms, resumes, cover letters, and employment interviews. (*Crosslisted as BUSN 166.*) 1cr; 15hr lec, TE 1.00

106 College Orientation I

Develops knowledge, skills, and attitudes associated with personal, academic, and career success. Provides overviews of college policies, procedures, and curricular offerings. Develops communication and teamwork skills. Encourages contacts with students and staff. *Strongly recommended for entering students.* 2cr; 30hr lec, TE 2.00

107 College Orientation II

Prereq or coreq: IS 106, or consent.
Integrates, practices, and applies knowledge, skills, and attitudes associated with personal, academic, and career success. Integrates and applies communication and teamwork skills. Encourages contacts with students and staff as well as community and campus service. *Strongly recommended for entering students.* 1cr; 15hr lec, TE 1.00

 **Japanese (JPNS)****101 Elementary Japanese I**

Introduces speaking, listening, reading, and writing skills of beginning Japanese. Includes basic sentence structures. *Daily practice highly recommended.* 4cr; 60hr lec, TE 4.00

102 Elementary Japanese II

Prereq: JPNS 101, or consent.

Continues 101. Introduces additional basic Japanese speaking, listening, reading, and writing sentence structures. *Daily practice highly recommended.*

4cr; 60hr lec, TE 4.00

201 Intermediate Japanese I

Prereq: JPNS 102, or consent.

Second level course in Japanese listening, reading, speaking, and writing. Introduces more advanced grammatical patterns and vocabulary words. *Daily practice highly recommended.* 4cr; 60hr lec, TE 4.00

202 Intermediate Japanese II

Prereq: JPNS 201, or consent.

Continues JPNS 201. Completes introduction of major grammatical patterns of standard Japanese. *Daily practice highly recommended.* 4cr; 60hr lec, TE 4.00

 **Journalism (JOUR)****205 News Writing**

Prereq: Basic keyboarding skills of 15 wpm and ENG 100, or consent.

Introduces the fundamentals of news style, reporting and ethics. Provides practical experience in news gathering and writing. 3cr; 45hr lec, TE 3.00

250 Media Writing

Prereq: ENG 100 with grade C or better, or consent.

Introduces the fundamentals of journalism including media ethics, fact gathering, and interviewing to produce written material for varied media. 3cr; 45hr lec, TE 3.00

 **Learning Skills (LSK)****E. Eng****30 Study Skills**

Recommended: ENG 10 or placement at ENG 19.

Develops effective learning skills for success in career and technical as well as general education classes. Focuses on organization, time management, note-taking, test-taking, and communication, including reading, writing, listening, and speaking. Includes use of library and Learning Center for individual improvement. (A-F, N, W grades only.) 3cr; 45hr lec, TE 3.00

110 College Learning Skills

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Enhances students' abilities to succeed academically. Investigates communication and organizational skills, methods of inquiry, creative thinking skills, cognitive learning styles, and academic and community resources. 3cr; 45hr lec, TE 3.00

 **Linguistics (LING)****102 Introduction to the Study of Language**

Prereq: ENG 100 or 102, or placement at ENG 100, or consent.

Investigates the nature and workings of language: its composition (sound system, grammatical structure, and lexicon), representation (oral and written), and divergence (relationships between languages of the world). General linguistic principles applicable to all languages will be covered. 3cr; 45hr lec, TE 3.00 (DH)

 **Maintenance (MAIN)****C. Rutherford****130 Masonry**

Introduces materials and explains techniques used in installing and repairing concrete, hollow tile, and related masonry construction. (Formerly MAIN 30) 2cr; 60hr lec-lab, TE 2.50

140 Painting & Decorating

Introduces materials and explains techniques used in applying and maintaining paints, wallpaper, and plaster. (Formerly MAIN 40) 2cr; 60hr lec-lab, TE 2.50

150 Plumbing I

Introduces materials and explains techniques used to install and maintain plumbing lines, fixtures, and controls. Emphasizes effective maintenance procedures for commercial structures. (Formerly MAIN 50) 2cr; 60hr lec-lab, TE 2.50

155 Plumbing II

Prereq: MAIN 150, or consent.

Studies the plumbing system of the typical single-family residential dwelling. Examines how local and national codes apply to residential units. (Formerly MAIN 55) 2cr; 30hr lec, TE 2.00

160 Small Equipment Repair

Introduces the repair and maintenance of small engines, appliances, garden equipment, and power tools. Examines troubleshooting techniques and emphasizes repair fundamentals. (Formerly MAIN 60) 2cr; 60hr lec-lab, TE 2.50

165 Air Conditioning and Refrigeration

Studies air conditioning systems of residential and commercial buildings. Explores the servicing of small appliances (Type I), and servicing or disposing of high or very high-pressure appliances (Type II), except motor vehicle ACs. Introduces skills and concepts of planning, testing, troubleshooting, and balancing such systems. (Formerly MAIN 65) 2cr; 60hr lec-lab, TE 2.50

166 Heating, Venting, Air Conditioning and Refrigeration (HVACR) Refrigerant Recovery

Covers laws and regulations for the recovery, reclamation, and recycle of refrigerants used in small appliances (Type I), high or very high-pressure appliances (Type II), and low-pressure appliances (Type III), except motor vehicle ACs. Prepares students to take the Environmental Protection Agency (EPA) Section 608 Universal Technician Exam. 1 cr; 15hr lec, 1.00 TE

167 Heating, Venting, Air Conditioning and Refrigeration (HVACR) System Design and Controls

Prerequisite: Permission of instructor.

Explores components, controls, balancing, preventive maintenance procedures, and efficiency measures for commercial HVACR and chilled water systems. Covers low-pressure refrigerant (EPA Section 608 Type III) cooling and heating systems. 2 cr, 60hr lec-lab, 2.50 TE

170 Preventive Maintenance

Explores principles of preventive maintenance: records maintenance, replacement schedules, rust prevention, and equipment maintenance and servicing. (Formerly MAIN 70) 2cr; 60hr lec-lab, TE 2.50

Management (MGT)

G. Logan, F. Mabie

120 Principles of Management

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Introduces the principles and concepts of management including managerial functions, motivation, leadership, and decision-making. 3cr; 45hr lec, TE 3.00

122 Human Relations in Management

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: ENG 22 with grade C or better, or placement at ENG 100.

Introduces the basic concepts of individual, group, and organizational human behavior as they affect human relations, performance, and productivity within the workplace. 3cr; 45hr lec, TE 3.00

124 Human Resources Management

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: ENG 22 with grade C or better, or placement at ENG 100.

Introduces the principles, organizations and techniques of personnel administration including procurement and placement, improvement of performance, management and labor relations, remuneration and security and other human resource functions. 3cr; 45hr lec, TE 3.00

310 Principles of Management

Prereq: PSY 100 or SOC 100, either with grade C or better, or consent.

Introduces activities and skills needed to successfully manage both domestic and international organizations with an emphasis on decision-making. Includes communication, work motivation, group dynamics, leadership and organizational change, conflict, personality, and teamwork. Relates these concepts to performance, job satisfaction, and organizational commitment. 3cr; 45hr lec, TE 3.00

322 Organizational Leadership and Management of Change

Prereq: PSY 100 or SOC 100, either with grade C or better, or consent.

Prepares managers to influence the human side of developing and implementing changes in organizations. Theory, cases, and exercises help managers to understand the socio-technical aspects of change; to see leadership as motivating organizational members; to understand their own ability to influence others; and to understand the leadership successes of noted leaders from all walks of life. 3cr; 45hr lec, TE 3.00

Marketing (MKT)

G. Logan, F. Mabie

120 Principles of Marketing

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: ENG 22 with grade C or better, or placement at ENG 100.

Introduces marketing concepts and the application to the process of marketing products, services, and ideas to provide value and benefits to both for-profit and non-profit organizations. Students will develop an understanding of the marketing process, analyze marketing opportunities, and develop strategies to fulfill the needs of target markets. 3cr; 45hr lec, TE 3.00

160 Advertising & Promotion

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Recommended: MKT 120.

Introduces the principles of advertising and promotion, including sales promotion, publicity, public relations, and selling, and their relationship to the marketing system. Stresses strategies of informing, persuading, and integrating information to create a positive image. 3cr; 45hr lec, TE 3.00

285 Internet/Social Media Marketing

Prereq: BUS 150 or ICS 101, and MKT 120, both with grade C or better, or consent.

Recommended: MKT 160.

Examines the use of internet as an effective marketing tool to enhance customer relationships and strengthen brand awareness. Examines how continually emerging internet technologies and social media are increasing marketing effectiveness and efficiency. Covers development of an internet marketing plan. 3cr; 45hr lec, TE 3.00

300 Principles of Marketing

Prereq: ECON 130 and ECON 131, both with grade C or better, or consent.

Applies the fundamental principles of successful marketing including segmentation, targeting, product development, positioning, packaging, placement, pricing, promotion, service and relationship building to development of marketing plans. Explores the impact of marketing of goods and services using the Internet, the World Wide Web, and other technologies as they emerge. 3cr; 45hr lec, TE 3.00

400 Marketing for a Digital Age

Prereq: MKT 300 with grade C or better, or consent.

Examines how startup and small/medium companies reach the marketplace and sustain their businesses within highly competitive industries. Recognizes the need of management to operate flexibly, making maximum effective use of scarce resources in terms of people, equipment, funds, and the opportunities that exist within new and established market niches. 3cr; 45hr lec, TE 3.00

Mathematics (MATH)

T. Blamey, S. Bowe, T. Evangelista, D. Harbin, N. Okamoto

Mathematics courses numbered below 100 do not count toward UHMC degrees (AA, AS, AAS, ATS, BAS).

To progress to more advanced mathematics courses, students should have grade C or better in prerequisite courses. The prerequisite course is most beneficial when completed during the prior 12 months.

Math placement testing or alternate placement measures are required of all students who are taking mathematics at UH Maui College. *(For more info, see English and Math Placement section, or the Math Routes for Specific Majors chart.)*

75X Introduction to Mathematical Reasoning

Prepares students for MATH 100, MATH 111, and MATH 115. Course topics include ratio and percent, unit conversion, graphs, data interpretation, basic algebra, solving linear equations, working with formulas with special emphasis on pattern recognition and problem solving, financial formulas, money management, exponential growth, and geometry, *(A-F, N, W grades only.)*

4cr; 60hr lec, TE 4.00

82 Accelerated Algebra

Prereq: MATH 75X with grade C or better, or placement at MATH 82, or consent. Recommended: Reading placement at least ENG 21.

Covers elementary algebra topics. Topics include operations with real numbers; linear equations and inequalities; graphing; linear systems, properties of exponents; operations and polynomials; factoring; rational expressions and equations; roots and radicals; quadratic equations; and applications. *(A-F, N, W grades only.)* 4cr; 60hr lec, TE 4.00

88 College Algebra Companion

Prereq: Placement at MATH 88, or consent.

Coreq: MATH 103.

Provides students with supplemental algebra instruction as a corequisite that supports topics covered in MATH 103. *Credit/No Credit grade only.*

2cr; 30hr lec, TE 2.00

100 Survey of Mathematics

Prereq: MATH 75X with grade C or better or placement at least MATH 100, and ENG 100 with grade C or better (or concurrent), or consent. *Recommended:* At least 11th grade reading skills.

Acquaints the non-specialist with examples of mathematical reasoning. Explores selected topics such as numeration systems, consumer math, linear and exponential growth, inductive patterns, mathematical art, probability, statistics, set theory, and logic.

3cr; 45hr lec, TE 3.00 (FQ)

103 College Algebra

Prereq: MATH 82 with grade C or better or placement at least MATH 103, and ENG 22 with grade C or better or placement at ENG 100, or consent. *Recommended:* At least 11th grade reading skills.

Analyzes and interprets the behavior and nature of functions including linear, polynomial, exponential, log, absolute value, and piecewise-defined functions; solves systems of equations; solves application problems.

3cr; 45hr lec, TE 3.00 (FQ)

111 Mathematics for Elementary Teachers I

Prereq: MATH 75X with grade C or better or placement at least MATH 100, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Explores mathematical ideas, problem solving, quantitative and symbolic reasoning. Focuses on operations and their properties, sets, counting, patterns, and algebra.

3cr; 45hr lec, TE 3.00

112 Mathematics for Elementary Teachers II

Prereq: MATH 111 with grade C or better, or consent.

Demonstrates operations and develops the properties of the natural numbers, integers, rational numbers, and real numbers. Explores the use of mathematical operations to solve problems, including geometry, probability, and physical rates.

3cr; 45hr lec, TE 3.00 (FQ)

115 Introduction to Statistics and Probability

Prereq: MATH 75X with grade C or better, or placement at MATH 115, and ENG 22 with grade C or better or placement at ENG 100, or consent.

Utilizes basic statistical topics including measures of central tendency and dispersion, classification of variables, sampling techniques, elementary probability, normal and binomial probability distributions, tests of hypothesis, linear regression and correlation in order to solve problems.

3cr; 45hr lec, TE 3.00 (FQ)

119 Engineering Precalculus

Prereq: MATH 103 with grade C or better, or placement at MATH 135, and consent.

Studies linear, polynomial, rational, exponential, logarithmic, and trigonometric functions, matrices and determinants, polar coordinates, vectors, complex numbers, ratio and proportion, sequences and series and related topics with emphasis on applications in electronics and computer engineering technology.

4cr; 60hr lec, TE 4.00 (FQ)

135 Pre-Calculus: Elementary Functions

Prereq: MATH 103 with grade C or better or placement at MATH 135, or consent.

Investigates linear, quadratic, polynomial, rational, exponential, and logarithmic functions and related topics. This course is the first part of the precalculus sequence.

3cr; 45hr lec, TE 3.00 (FQ)

140 Pre-Calculus: Trigonometry and Analytic Geometry

Prereq: MATH 135 with grade C or better or placement at MATH 140, or consent.

Studies the trigonometric functions, analytic geometry, polar coordinates, vectors, and related topics. This course is the second part of the precalculus sequence.

3cr; 45hr lec, TE 3.00 (FQ)

203 Calculus for Business & Social Sciences

Prereq: MATH 135 with grade C or better or placement at MATH 140, and ENG 100 with grade C or better (or concurrent), or consent.

Studies the basic concepts of differentiation and integration and their applications in the areas of finance, management, economics, and social sciences.

3cr; 45hr lec, TE 3.00 (FQ)

241 Calculus I

Prereq: MATH 119 or 140 either with grade C or better or placement at MATH 241, or consent.

Explores basic concepts of differential and integral calculus. Reviews functions, focuses on differentiation and its applications. Introduces integration. (Formerly MATH 205.)

4cr; 60hr lec, TE 4.00 (FQ)

242 Calculus II

Prereq: MATH 241 with grade C or better, or consent.

Extends and completes the calculus on a single real variable with the differentiation and integration of transcendental functions, techniques of integration, applications, and infinite series. (Formerly MATH 206.)

4cr; 60hr lec, TE 4.00 (FQ)

243 Calculus III

Prereq: MATH 242 with grade C or better, or consent.

Studies functions of several variables including vectors, vector functions, the calculus on these functions, and 3-dimensional analytic geometry. (Formerly MATH 231.)

3cr; 45hr lec, TE 3.00 (FQ)

244 Calculus IV

Prereq: MATH 243 with grade C or better, or consent.

Extends the study of functions of several variables with multiple integrals and vector analysis. Studies the solutions of elementary differential equations. (Formerly MATH 232.)

3cr; 45hr lec, TE 3.00 (FQ)

 **Microbiology (MICR)**

S. Calder, S. Irwin

130 General Microbiology

Prereq: ENG 100 with grade C or better, and MATH 82 with grade C or better (or concurrent) or placement at least MATH 100, or consent.

Introduces fundamentals of microbiology. Explains role of microorganisms and how they affect humans. Emphasizes medical and public health aspects, bacterial and viral diseases, and epidemiology.

3cr; 45hr lec, TE 3.00 (DB)

140 General Microbiology Lab

Prereq or coreq: MICR 130.

Laboratory to accompany MICR 130.

2cr; 60hr lec-lab, TE 3.33 (DY)

Music (MUS)

K. Donaghy

106 Introduction to Music Literature

Treats styles and forms of Western music. Develops skills in listening to and appreciating music. Introduces music styles in their historical and social contexts. 3cr; 45hr lec, TE 3.00 (DH)

107 Music in World Cultures

Analyzes folk, popular, and art music from major regions of the world, with emphasis on Asia and the Pacific. Develops a knowledge of representative styles and regional characteristics in world music. 3cr; 45hr lec, TE 3.00 (FGC)

108 Music Fundamentals

Recommended coreq: MUS 121C.

Introduces basic musical concepts to enable students to express themselves as budding composers, performers, listeners and teachers. Develops skills in listening to and writing down examples, clapping out rhythms, melodies and chords. *Designed for the beginner with no previous musical training.* 3cr; 45hr lec, TE 3.00 (DA)

114 College Chorus

Recommended coreq: MUS 123 or 124. *No previous choral experience required.*

Introduces performance of choral literature from the Renaissance to the present. Includes fundamentals of music and voice training. *(May be repeated without limit for credit.)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

114H Hawaiian Chorus

Recommended: Previous vocal experience may be helpful.

Introduces basic vocal group performance. Studies ancient to modern Hawaiian songs. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (HI, DA)

121B Voice 1

Recommended: Previous musical training.

Introduces principles of voice production as related to problems of voice literature, both technical and interpretive, at an elementary level. *(Formerly MUS 123)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

121C Piano 1

Prereq: Must have access to piano or keyboard.

Develops basic keyboard skills established during the first semester, including both reading and playing by ear. Repertoire expands to a variety of styles, including classical, pop, jazz, and rock. *(Cannot be audited.)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

121D Guitar 1

Prereq: Guitar in playable condition.

Introduces classroom instruction in guitar playing. Develops basic guitar technique by covering hand positions, fingering, scales, chords, and arpeggios. Teaches music reading. Applies reading skills to performance. Introduces a variety of guitar literature. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

121F Slack Key Guitar 1

Prereq: Regular access to a steel or nylon string guitar in adequate condition for class use and practice.

Recommended: Prior musical performance experience, preferably with guitar, 'ukulele or a similar stringed instrument.

Examines the history, development, and influential performers of Hawaiian slack key guitar, and introduces repertoire, tunings, and performance techniques that students will demonstrate during in-class and outside performances. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

121G Hawaiian Steel Guitar 1

Prereq: Regular access to a steel guitar in adequate condition for class use and practice.

Recommended: Prior musical performance experience and an understanding of basic music theory and harmony.

Examines the history, development, and influential performers of Hawaiian steel guitar, and introduces repertoire, tunings, and performance techniques that students will demonstrate during in-class and outside performances. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

121Z 'Ukulele 1

Recommended: Students must provide their own 'ukulele in good playable condition and have internet access.

Introduces Hawaiian-style ukulele playing. Students learn to play the ukulele through a selection of traditional and contemporary American and Hawaiian songs. An introduction to ukulele history in Hawai'i is included. *No prior experience necessary.* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

122B Voice 2

Prereq: MUS 121B with grade C or better, or consent. *Recommended:* Previous musical training.

Develops principles of voice production as related to problems of voice literature, both technical and interpretive, at an elementary level. *(Formerly MUS 124)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

122C Piano 2

Prereq: MUS 121C with grade C or better, or consent. *Must have access to piano or keyboard.*

Develops basic keyboard skills established during the first semester, including both reading and playing by ear. Repertoire expands to a variety of styles, including classical, pop, jazz, and rock. *(Cannot be audited.)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

122D Guitar 2

Prereq: MUS 121D, or consent.

Requires a guitar in playable condition.

Investigates further guitar techniques, ensemble and solo playing. Introduces sight reading. Develops skill in interpretation. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

122G Hawaiian Steel Guitar 2

Prereq: MUS 121G with grade C or better, or consent. *Students must own or have regular access to a steel guitar in adequate condition for class use and practice.* *Recommended:* Prior musical performance experience and an understanding of basic music theory and harmony.

Expands the study of performance in melody and vocal accompaniment playing styles demonstrated during in-class and outside performances. Continues the examination of styles of influential Hawaiian steel guitar performers, repertoire, and technique. 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

122Z 'Ukulele 2

Prereq: MUS 121Z with grade C or better, or consent. *Students must own or have regular access to an 'ukulele in adequate condition for class use and practice.*

Expands 'ukulele performance techniques in ensemble and solo contexts. Further develops skills in interpretation and development of style. 2cr; 15hr lec, 30hr lec-lab, TE 2.14 (DA)

132 Applied Hawaiian Music

Prereq: Accepted into the Institute of Hawaiian Music; access to a guitar, 'ukulele, bass guitar, keyboard, or upright bass in acceptable working condition, and bring instrument to each class. *If instrument requires electronic amplification, student must bring necessary equipment to each class.*

Develops a Hawaiian music repertoire and performance skills. Students will be assigned to a group that will be mentored by faculty and established guest musicians, and will perform both in-class and outside the classroom. *(Letter grade only. May be repeated once for credit.)* 2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

167 Evolution of American Popular Music

Traces the history of American popular music, including soul, blues, rhythm and blues, country and western, Dixieland, gospel, folk, and rock.

3cr; 45hr lec, TE 3.00 (DH)

176 History and Development of Hawaiian Music

Prereq: HAW 101 and HWST 107, both with a grade C or better, or consent.

Focuses on the history and development of traditional and acculturated vocal and instrumental Hawaiian music. Discusses Hawaiian dance genres related to music. Examines Hawaiian music and dance as an organization of sound and movement and as a product of culture and people.

Uses sound recordings, video presentations, and live performances of the various music genres discussed. (Crosslisted as HWST 176.)
3cr; 45hr lec, TE 3.00 (HI, DH)

180 Basic Theory and Aural Skills

Recommended: MUS 108.

Teaches basic concepts of music theory, notation, and reading applied to dictation and sight-singing. Introduces reading and sight-singing to students with limited skills in music. Develops listening and writing skills necessary to compose music.

2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

203 Instrumental Ensemble

Prereq: Consent by audition.

Rehearsal and performance group for instrumentalists. Repertoire ranges from the Renaissance and Baroque to contemporary music, including major works for chorus and opera. (May be repeated without limit for credit.)

1cr; 30hr lec-lab, TE 1.67 (DA)

221C Piano 3

Prereq: MUS 122C with grade C or better, or consent.

Further develops basic keyboard skills established during the first two semesters, including both reading and playing by ear. Expands repertoire to a variety of styles, including classical, pop, jazz, and rock. Provides experience playing a solo in a recital. (Formerly MUS 216)

2cr; 15hr lec, 30hr lec-lab, TE 2.50 (DA)

253 Elementary Music in Action

Introduces components of music, specifically time, pitch, media, musical expression, and form. Demonstrates how these interact with each other to comprise a musical experience. Presents correlation between music and brain development in early childhood.

Intended for education majors.

3cr; 45hr lec, TE 3.00 (DA)

271 Intro to Music Technology

Recommended: MUS 108, 121C, or 121D.

Develops an understanding of history and application of electronics in musical composition and performance. Facilitates the creative process in music through the application of technology.

3cr; 45hr lec, TE 3.00 (DH)

272 Digital Recording Techniques

Prereq: MUS 271, or consent.

Recommended: MUS 108, 121C, 121D, or ICS 161, or TCOM 261.

Continues MUS 271. Focuses specifically on digital audio recording and processing techniques on the Pro Tools HD platform as they apply to the audio arts and sciences. Explores the roles of engineer and producer in the digital audio studio environment.

3cr; 45hr lec, TE 3.00 (DH)

273 Applied Recording and Performance

Prereq: MUS 271 with grade C or better, or consent. Students should be able to play guitar, ukulele, bass, keyboard, percussion, or other instrument (at instructor discretion) or sing with elementary ability. Students should own and bring to class their own instrument unless other arrangement is made with instructor.

Collaborate on recording projects, take a variety of roles as musician, producer, and audio engineer according to individual interest. Perform on the musical instrument(s) of the student's choice, including voice, and operate modern audio technology during the recording and mixing of performances.

3cr; 30hr lec, 30hr lec-lab, TE 3.33 (DA)

295 Hawaiian Music Capstone

Prereq: MUS 132 and MUS/HWST 176, both with grade C or better, or consent; enrollment is restricted to students accepted into the ASC in Hawaiian Music.

Students must own or have access to a guitar, ukulele, bass guitar, keyboard, or upright bass in acceptable working condition, and bring instrument to each class. If instrument requires electronic amplification, student must bring necessary equipment to each class. Develops a comprehensive Hawaiian music repertoire and advanced performance skills through mentoring with established musicians, regular rehearsals, recording sessions, and public performances. *Student must be available to rehearse, perform, and attend recording sessions outside of normal class hours.*

2cr; 15hr lec, 30hr lec-lab, TE 2.50

Nursing (NURS)

D. Cohen, M. Farmer, K. Hagan, V. Ho, N. Johnson, J. Potter-Dunlop, C. Robell, K. Rose, A. Scharnhorst, F. Sales, C. Williams

12 ARCH: Diseases, Special Diets, Medications

Recommended prereq or coreq: NURS 100.

Prepares the adult residential care home operator to observe the resident for signs and symptoms of common diseases, make medications available, and prepare for special diets. 1cr; 15hr lec, TE 1.00

13 ARCH: Helping Therapies & Behavior Management

Recommended prereq or coreq: NURS 100.

Prepares the adult residential care home operator to assist in the provision of occupational, physical, recreational, and diversional therapy. Identifies the operator's role in fostering mental health and care of the mentally ill and mentally retarded.

1cr; 15hr lec, TE 1.00

14 ARCH: Regulations, Accounts, Community Resources

Recommended prereq or coreq: NURS 100.

Prepares adult residential care home operator to implement specified regulations of Chapter 100, prepare simple accounting records, and identify community resources available to resident operators.

1cr; 15hr lec, TE 1.00

100 Nurse Assistant

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Prepares nurse assistants to care for acute, semi-acute, or convalescent clients in the hospital, long-term care, or home setting. Prepares nurse assistant to work under the supervision of a registered or practical nurse. Serves as a beginning level health care course for those interested in the health care field. Prepares nurse assistants for national certification.

6cr; 60hr lec, 90hr lab, TE 6.20

210 Health Promotion Across the Life Span

Prereq: Admission to the Nursing Program.

Focuses on identifying needs of the total person across the life-span in a wellness/health promotion model of care. Introduces the role of the nurse, nursing code of ethics, and the nursing process with emphasis on learning self-health and client health practices. To support self and client health practices, students learn to access research evidence about healthy lifestyle patterns and risk factors for disease/illness, apply growth and development theory, interview clients in a culturally sensitive manner, and work as members of a multi-disciplinary team utilizing reflective thinking and self-analysis. Nursing Professional Fee required. (*Letter grade only.*) 9cr; 45hr lec, 270hr lab, TE 13.13

211 Professionalism in Nursing I

Prereq: Admission to the Nursing Program.

Focuses on the history of nursing practice and education. Emphasizes the ethical and legal aspects of nursing and the professional responsibilities in the practice of nursing. (*Letter grade only.*) 1cr; 15hr lec, TE 1.00

212 Pathophysiology

Prereq: Admission to the Nursing Program.

Introduces nursing students to pathophysiologic concepts which serve as a foundation to understanding the basis of illness and injury and their corresponding spectrum of human response. These concepts will serve as a foundation for the formulation of clinical decisions and care planning. (*Letter grade only.*) 3cr; 45hr lec, TE 3.0

220 Health and Illness I

Prereq: NURS 210, 211, and 212, all with grade C or better, or consent.

Introduces assessment and common interventions (including technical skills) for clients with illnesses common across the life span, as well as those prevalent in Hawai'i. The client and family understanding and acceptance of their illnesses, coupled with clinical practice guidelines and evidenced based research, are used to guide clinical judgements in nursing care. Roles of the interdisciplinary team, legal aspects of delegation, cultural issues, ethical issues, health policy, and health care delivery systems are explored in the context of nursing care. Nursing Professional Fee required. (*Letter grade only.*) 10cr; 60hr lec, 270hr lab, TE 13.75

220A Health and Illness I A

Prereq: NURS 210, 211, and 212, all with grade C or better, or consent.

Introduces assessment and common interventions (including technical skills) for clients with illnesses common across the life span, as well as those prevalent in Hawai'i. The client and family's understanding and acceptance of their illnesses, coupled with clinical practice guidelines and evidence-based research, are used to guide clinical judgments in nursing care. Roles of the interdisciplinary team, legal aspects of delegation, cultural issues, ethical issues, health policy, and health care delivery systems are explored in the context of nursing care. Nursing Professional Fee required. (*Letter grade only.*) 5cr; 30hr lec, 135hr lab, TE 6.88

220B Health and Illness I B

Prereq: NURS 220A with grade C or better (or concurrent), or consent.

Introduces assessment and common interventions (including technical skills) for clients with illnesses common across the life span, as well as those prevalent in Hawai'i. The client and family's understanding and acceptance of their illnesses, coupled with clinical practice guidelines and evidence-based research are used to guide clinical judgments in nursing care. Roles of the interdisciplinary team, legal aspects of delegation, cultural issues, ethical issues, health policy, and health care delivery systems are explored in the context of nursing care. Nursing Professional Fee required. (*Letter grade only.*) 5cr; 30hr lec, 135hr lab, TE 6.88

230 Clinical Immersion I

Prereq: NURS 220B with grade C or better.

Focuses on monitoring a variety of subjective and objective data, identifying obvious patterns and deviations, and developing prioritized intervention plans for specific populations. Implements new nursing skills with supervision. Develops own beginning leadership abilities and acknowledges delegation as needed modality to improve client care. Nursing Professional Fee required. (*Letter grade only.*) 4cr; 15hr lec, 135hr lab, TE 6.25

261 Advanced Electro-Cardiogram Interpretation

Prereq: Licensed RN or LPN, or consent.

Develops advanced nursing theory related to interpretation of 12-lead EKG. Focuses on EKG changes that occur with myocardial infraction, axis deviation, artificial pacemaker, defibrillation, and cardioversion. 1cr; 15hr lec, TE 1.00

301 Introduction to Evidence-Based Practice & Health Promotion

Prereq: Registered Nurse Licensure, or consent.

Introduces the Hawai'i Statewide Nursing Consortium (HSNC) competencies and spiraling of concepts and is based on the assumption of student responsibility for learning. Places emphasis on research evidence to support nursing care. 3cr; 45hr lec, TE 3.00

320 Health & Illness II: Family Health

Prereq: NURS 230 with grade B or better.

Introduces the learner to assessment and common interventions (including relevant technical procedures) for care of clients across the lifespan, including pregnancy and childbirth. In this course the family is the client and is viewed in both health and illness. Nursing practice is guided by combinations of family theories and associated assessment tools. Clinical practice guidelines and/or standardized procedures in normal developmental processes of the family and in disease and illness are considered in relationship to their impact on providing culturally sensitive, client-centered care. Nursing Professional Fee required. (*Letter grade only.*) 10cr; 60hr lec, 270hr lab, TE 13.75

360 Health & Illness III

Prereq: NURS 320 with grade B or better.

Builds on Health & Illness I & II, focusing on more complex and/or unstable client care situations some of which require strong recognition skills and rapid decision-making. The evidence base supporting appropriate focused assessment and effective, efficient nursing intervention is explored. Life span and developmental factors, cultural variables, and legal aspects of care frame the ethical decision-making employed in client choices for treatment or palliative care within the acute care, psychiatric, and home health settings. Case scenarios incorporate prioritizing care needs, delegation and supervision, family & client teaching for discharge planning, home health care and/or end of life care. Nursing Professional Fee required. (*Letter grade only.*) 9cr; 45hr lec, 270hr lab, TE 13.13

362 Professionalism in Nursing II

Prereq: NURS 320 with grade B or better.

Focuses on nursing responsibility with regard to current issues in nursing and health care. Included is the nurse's role as a contributing member of the profession and the community. The theoretical basis for designing and implementing systems of nursing at the beginning level of patient management in an institutional setting will be explored. Principles of organizational structure, leadership, decision-making, priority setting, and change will be discussed. (*Letter grade only.*) 1cr; 15hr lec, TE 1.00

363 Introduction to Nursing Research

Prereq: MATH 115 with grade C or better; or AS in Nursing, or consent.

Introduces the research process and provides an understanding of the applicability of the scientific approach to nursing. (*Letter grade only.*) 3cr; 45hr lec, TE 3.00 (ETH)

366 Advanced Cardio-Pulmonary Theory

Prereq: NURS 230 with grade B or better, or licensed RN, or consent.

Develops advanced nursing theory related to the care of clients and the support of significant others for clients with cardiopulmonary dysfunction. Focuses on anatomy, physiology and physical assessment of the cardiac and respiratory system. Application of the nursing process to specific cardiac and respiratory disorders. (*Letter grade only.*) 3cr; 45hr lec, TE 3.00

Occupational Safety & Health (OSH)**C. Rutherford****100 First Aid, CPR, and Automated External Defibrillator (AED)**

Introduces standard first aid procedures. Describes immediate care given in case of an accident, sudden illness, or other medical emergency. Explains procedures to stop bleeding, treat poisoning, restore breathing, immobilize broken bones, and administer CPR. Successful students will receive a certificate for Adult First Aid/CPR/AED valid for two years. (*Formerly HLTH 31*)

1cr; 15hr lec, TE 1.00

110 Occupational Safety & Health for Construction

Introduces construction industry workers to their rights employer responsibilities, and how to file a complaint as well as how to identify, abate, avoid, and prevent job related hazards. Students will receive OSHA 10 Hour Training for Construction card upon completion of this course with grade C or better. (*Formerly OSH 10*)

1cr; 15hr lec, TE 1.00

120 Occupational Safety & Health for General Industry

Introduces general industry workers to their rights, employer responsibilities, and how to file a complaint as well as how to identify, abate, avoid, and prevent job related hazards. Students will receive OSHA 10 Hour Training for General Industry card upon completion of this course with grade C or better. (*Formerly OSH 20*)

1cr; 15hr lec, TE 1.00

Oceanography (OCN)**64 Hawaiian Marine Life Identification**

Recommended: Enrollment in Marine Option Program.

Teaches field identification of fishes, invertebrates, and marine algae. Studies ecology of coral reef species. Requires memorization of scientific names. Practices identification in the classroom and in the ocean for field research purposes. *Course does not fulfill Natural Science core requirements. This course does fulfill requirements for acceptance into Quantitative Underwater Ecological Surveying Techniques (QUEST).* 3cr; 45hr lec, TE 3.00

101 Intro to Marine Option Program

Explores the University of Hawai'i system wide Marine Option Program through HITS interactive television, discussions, and field trips. *Course does not fulfill Natural Science core requirements.*

1cr; 15hr lec, TE 1.00

140 Open Water SCUBA Certification

Covers the full spectrum of diving activities. Discusses equipment and its maintenance, dive physiology and physics, safety procedures, dive planning, dive tables, and environmental conditions. Teaches skills for safe diving by means of classroom lectures and open-water sessions, including seven ocean dives. Students successfully completing the course receive an Open Water Certification card from an internationally recognized SCUBA training organization. *Total cost of \$145 includes equipment rental, textbook, workbook, diving logbook and tables, and certification. (Credit/No-Credit only.)* 2cr; 48hr/semester

191v Field Experience in Marine Naturalist Training

Prereq: Enrollment in Certificate of Competence Marine Naturalist I or II program or Marine Option Program, or consent.

Provides internship experiences in marine-related agencies and businesses. *Does not fulfill Natural Science core requirement. (May be repeated for a maximum of 9 credits.)* 1-3cr; 1-3hr lect/lab

201 Science of the Sea

Prereq: ENG 22 with grade C or better or placement at ENG 100, and MATH 75X with grade C or better or placement at least MATH 82, or consent.

Introduces basic concepts of geological, physical, chemical, and biological oceanography. Emphasizes relationships between land-based and marine-based sciences. 3cr; 45hr lec, TE 3.00 (DP)

201L Science of the Sea Lab

Prereq: OCN 201 with grade C or better (or concurrent); and MATH 82 with grade C or better, or placement at least MATH 100, or consent.

Introduces instrumentation and methods used in oceanographic observations and research. Demonstrates oceanographic principles through laboratory and field data collection and analysis.

1cr; 45hr lab, TE 2.50 (DY)

270 Communicating Ocean Sciences

Prereq: OCN 201 or ZOOL 200, either with grade C or better, or enrollment in Marine Option Program, or consent.

Combines instruction on effective ways of communicating scientific knowledge with direct experiences in K-12 classrooms or informal education sites. Emphasizes and demonstrates inquiry-based teaching methods and learning pedagogy.

3cr; 45hr lec, TE 3.00

293v Ocean Internships & Research

Prereq: Enrolled in Marine Option Program. Prereq or coreq: OCN 201 and ZOOL 200. With faculty guidance, students design and carry out marine-related internships, practical research projects, or field experiences on or off campus. *This course does not fulfill Natural Science core requirements. (May be repeated for a maximum of 9 credits.)* 1-3cr; 1-3hr lect or lab

351 Coastal Methods and Analysis

Prereq: OCN 201, OCN 201L, ZOOL 200, ZOOL 200L, and MATH 115, all with grade C or better; or consent.

Recommended: CHEM 161 and 161L.

Includes planning of field and laboratory data collection and experimentation in the coastal environment. Covers hypothesis development, experimental design, statistical analysis of data, data interpretation, scientific writing, and presentations.

2cr; 30hr lec, TE 2.00 (DP)

351L Coastal Methods & Analysis Lab

Prereq: OCN 201, OCN 201L, ZOOL 200, ZOOL 200L, and MATH 115, all with grade C or better; or consent.

Coreq: OCN 351. Recommended: CHEM 161 and 161L.

Laboratory to accompany OCN 351.

1cr; 45hr lab, TE 2.50 (DY)

Pacific Island Studies (PACS)

108 Pacific Worlds: Introduction to Pacific Island Studies

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Introduces students to the geography, societies, histories, cultures, contemporary issues, and the arts of Oceania, including Hawai'i. Combines lecture and discussion that emphasizes Pacific Islander perspectives and experiences.

3cr; 45hr lec, TE 3.00 (HI, DS)

Pharmacology (PHRM)

A. Scharnhorst

105 Administration of Medications

Prereq or coreq: PHRM 107 with grade C or better, or consent.

Recommended: NURS 100 with grade C or better.

Applies basic concepts required for medication administration as a delegated task in community-based settings such as assisted living, day care, or care homes. Includes choice of equipment, proper technique, hazards, complications, and patient care. Includes subcutaneous and intradermal injections, preparation and administration of oral medications, and immunizations.

1cr; 15hr lec, TE 1.00

106 Introduction to Pharmacy Technology

Prereq: BIOL 100, and BUSN 189 or at least MATH 75X with grade C or better, or consent.

Introduces students to the role and responsibilities of the pharmacy technician in the current health care environment. Describes basic pharmacy functions in retail, institutional, home health, and ambulatory care settings. (*Letter grade only.*)

3cr; 45hr lec, TE 3.00

107 Pharmacology and Treatment of Diseases

Prereq: BIOL 100 with grade C or better, or consent.

Introduces basic pharmacological concepts and pharmacological treatment of common disease states. Discusses selected drug classifications with emphasis on pharmacokinetics and dynamics and mechanisms of action. Focuses on therapeutic effects of specific groups of drugs, their side effects, interactions, adverse reactions, and drug/food interactions. Addresses the role drugs play in the prevention, diagnosis, and treatment of disease. (*Letter grade only.*)

3cr; 45hr lec, TE 3.00

109 Pharmacology Calculations

Prereq: MATH 75X with grade C or better, or placement at least MATH 82, or consent.

Recommended: PHRM 106 with grade C or better (or concurrent).

Develops computational skills for pharmaceutical measurements in order to properly calculate and provide the correct oral and parenteral dosages of drugs using information from prescriptions or medication orders. (*Letter grade only.*)

1cr; 15hr lec, TE 1.00

192v Work Practicum

Prereq: PHRM 106, 107, and 109, all with grade C or better.

Builds clinical skills as a Pharmacy Technician and prepares students for the national Pharmacy Technician Certification Examination. Provides students a hands-on work experience in a retail community pharmacy or institutional/hospital pharmacy under the supervision of a licensed Pharmacist preceptor. Provides opportunity to discuss and critique work experience in the pharmacy while completing a directed study program designed to assist students in preparing for the certification exam under direction of a Certified Pharmacy Technician (Instructor). (*Credit/No Credit only.*)

2cr; 15hr lect, 45hr lab, TE 3.33

203 General Pharmacology

Prereq: PHYL 141 and 141L, or BIOL 141 (HawCC), or BIOL 243 (UH-Hilo), or ZOO 240 (LCC), or consent.

Discusses drugs with emphasis on sites and mechanism of action, toxicity, fate, and uses of major therapeutic agents.

3cr; 45hr lec, TE 3.00 (DB)

Philosophy (PHIL)

B. Clark

100 Introduction to Philosophy: Survey of Problems

Introduces the great philosophical issues, theories, and controversies.

3cr; 45hr lec, TE 3.00 (DH)

102 Introduction to Philosophy: Asian Traditions

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Explores universal philosophical themes and problems from the Asian perspective. Focuses on Indian, Chinese, and Japanese traditions. 3cr; 45hr lec, TE 3.00 (DH)

109 Reasoning and Critical Thinking

Recommended: ENG 100, and either ENG 102 or 210.

Studies informal logic, practical reasoning, argument, and the use and misuse of language. Emphasizes the development of critical thinking skills.

3cr; 45hr lec, TE 3.00 (DH)

110 Introduction to Logic

Prereq: ENG 100 with grade C or better, or consent.

Develops the basic technique of logical analysis. Emphasizes symbolic logic, truth, validity, formal and informal fallacies. Examines inductive and deductive reasoning, and the criteria of evidence for reliable beliefs. *Students who seek to apply PHIL 110 to fulfill the AA up to the 2007 catalog (and appropriate AS and AAS) degree requirements in Quantitative Reasoning must place into at least MATH 100.*

3cr; 45hr lec, TE 3.00

301 Ethical Theory

Prereq: ENG 100, and ENG 210 or 316 or PHIL 100, 101, 102, or 110, both with grade C or better, or consent.

Investigates problems and methods in theory of moral conduct and decision-making. Discusses primary source materials, meta-ethics, and normative theories as well as applied ethics.

3cr; 45hr lec, TE 3.00 (DH, ETH)

323 Professional Ethics

Prereq: ENG 100, or consent.

Examines major ethical theories and principles relevant to decision-making in professional situations. Includes experiential and self reflective methodologies as well as theoretical perspectives.

3cr; 45hr lec, TE 3.00 (DH)

Physiology (PHYL)

S. Calder, T. Niemi

141 Human Anatomy & Physiology I

Prereq: BIOL 100, ZOO 101, BIOC 241 →141 (, BIOL 101, SCI 121, or high school biology, any with grade B or better; and ENG 22 with grade C or better or placement at ENG 100, or consent.

Covers anatomy, physiology, and biochemistry of humans including terminology, cell structure, tissues, skin, and the skeletal, muscular, and nervous systems. (*Formerly ZOO 141.*)

3cr; 45hr lec, TE 3.00 (DB)

141L Human Anatomy & Physiology I Lab

Prereq: BIOL 100, ZOOL 101, BIOC 241 →141, BIOL 101, SCI 121, or high school Advanced Placement biology, any with grade B or better; and placement at ENG 100; or consent. *Coreq:* PHYL 141.

Laboratory to accompany PHYL 141. (Formerly ZOOL 141L.)

1cr; 45hr lab, TE 2.50 (DY)

142 Human Anatomy & Physiology II

Prereq: PHYL 141, or consent.

Covers anatomy, physiology, and biochemistry of humans including metabolism, genetics, and the cardiovascular, respiratory, digestive, excretory, endocrine, and reproductive systems. (Formerly ZOOL 142.)

3cr; 45hr lec, TE 3.00 (DB)

142L Human Anatomy & Physiology II Lab

Prereq: PHYL 141, or consent.

Coreq: PHYL 142.

Lab to accompany PHYL 142. (Formerly ZOOL 142L.)

1cr; 45hr lab, TE 2.50 (DY)

 **Physics (PHYS)****B. Rai****101 Technical Automotive Physics**

Prereq: QM 107C with grade C or better, or consent.

Introduces Newton's laws of motion, physical work and energy, fluids, heat, electric circuits, and transformers with emphasis on practical applications and laboratory exercises involving the principles of physics as related to automotive and mechanical trades. 3cr; 45hr lec, TE 3.00

105 Principles of Technology

Prereq: MATH 119 with grade C or better, or consent.

Introduces students to the fundamental theories and problem solving methods of physics as they relate to electronics & computer engineering technology. The content of the course includes mechanical motion, conservation laws, work-energy theorem, and thermodynamics. Emphasizes electromagnetic theory and its applications to electronics, electric circuits, and optics. Students are also introduced to basic atomic and nuclear theories. 3cr; 45hr lec, TE 3.00 (DP)

105L Principles of Technology Lab

Prereq: MATH 119 with grade C or better, or consent. *Coreq:* PHYS 105.

Lab to accompany PHYS 105.

1cr; 45hr lab, TE 2.50 (DY)

151 College Physics I

Prereq: MATH 140, or placement at least MATH 241

Presents fundamental theories and problem solving methods in mechanics, heat, and sound. Emphasizes applications of physical principles. Introduces experimental methods in mechanics, heat, and sound. 3cr; 45hr lec, TE 3.00 (DP)

151L College Physics I Lab

Prereq: MATH 140, or placement at least MATH 241.

Coreq: PHYS 151.

Lab to accompany PHYS 151.

1cr; 45hr lab, TE 2.50 (DY)

152 College Physics II

Prereq: PHYS 151.

Discusses electricity, magnetism, optics, and modern physics. Introduces experimental methods in electricity, magnetism, and optics. *The second of a two-semester course in college physics.*

3cr; 45hr lec, TE 3.00 (DP)

152L College Physics II Lab

Prereq: PHYS 151. *Coreq:* PHYS 152.

Lab to accompany PHYS 152.

1cr; 45hr lab, TE 2.50 (DY)

170 General Physics I

Prereq: MATH 241 (or concurrent).

Presents fundamental principles in classical mechanics, thermodynamics and wave motion. Emphasizes the mathematical techniques used in the explanation of physical phenomena. Introduces experimental methods in mechanics, heat, and sound with the emphasis on error analysis, measurement techniques, and report writing. *For students majoring in the physical sciences, engineering, or mathematics.*

4cr; 60hr lec, TE 4.00 (DP)

170L General Physics I Lab

Prereq: MATH 241 (or concurrent).

Coreq: PHYS 170.

Lab to accompany PHYS 170.

1cr; 45hr lab, TE 2.50 (DY)

219 Physics for Engineering Technology

Prereq: Admission to ENGT program; PHYS 105 and MATH 241, both with grade C or better; or consent.

Applies graphical simulations, computational analysis, and computer modeling in the study of electromagnetic systems. Studies electric charges and electromagnetic field theory. Investigates Maxwell's equations by utilizing applied graphical simulations and computational analysis. Includes hands-on exercises and inquiries using scientific method of experimentation, emphasizing applications in engineering technology. 2cr; 30hr lec, TE 2.00 (DP)

219L Physics for Engineering Technology Lab

Prereq: Admission to ENGT program; PHYS 105 and MATH 241, both with grade C or better; or consent.

Coreq: PHYS 219.

Lab to accompany PHYS 219.

1cr; 45hr lab, TE 2.50 (DY)

272 General Physics II

Prereq: PHYS 170 with grade C or better, and MATH 242 (or concurrent).

Presents fundamental principles in electricity, magnetism, and geometrical optics. Introduces experimental methods in electricity, magnetism, electronics, and optics with emphasis on error analysis, measurement techniques, and report writing. *For students majoring in the physical sciences, engineering, or mathematics.*

3cr; 45hr lec, TE 3.00 (DP)

272L General Physics II Lab

Prereq: PHYS 170 with grade C or better, and MATH 242 (or concurrent).

Coreq: PHYS 272.

Lab to accompany PHYS 272.

1cr; 45hr lab, TE 2.50 (DY)

 **Political Science (POLS)****110 Introduction to Political Science**

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Studies political institutions, systems, behavior, and issues. Analyzes American national government. Includes study of presidency, interest groups, elections, and general theories of the American political system. 3cr; 45hr lec, TE 3.00 (DS)

180 Intro to Hawaiian Politics

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Examines contemporary Hawai'i political institutions, processes, issues, and personalities at the State and County levels, Hawai'i's place in the national and international political arenas, and the future of politics in Hawai'i. Emphasis is placed on citizen roles and responsibilities in local politics. 3cr; 45hr lec, TE 3.00 (HI, DS)

Psychology (PSY)

R. Azman, P. Thornton

100 Survey of Psychology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Surveys the major areas in the field of psychology. Analyzes the major perspectives in the field and how these perspectives apply to human behavior. Studies memory, learning, personality, therapy, and abnormal behavior.

3cr; 45hr lec, TE 3.00 (DS)

170 Psychology of Adjustment

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Explores the application of psychology to the understanding, management, and enhancement of one's life.

3cr; 45hr lec, TE 3.00 (DS)

202 Psychology of Gender

Prereq: PSY 100 with grade C or better, or consent. Recommended: ENG 100 with grade C or better.

Surveys topics in psychology relevant to gender and its impact on the lives of women and men: socialization of gender, mental health, racial identity, majority-minority status, sexual orientation, life-span issues and violence. 3cr; 45hr lec, TE 3.00 (DS)

212 Survey of Research Methods

Prereq: PSY 100 with grade C or better; and ENG 22 with grade C or better or placement at ENG 100; and MATH 75X with grade C or better or placement at least MATH 82; or consent.

Provides an overview of research design strategies used in psychological research. It covers the basic descriptive statistics and concepts within inferential statistics that are necessary for appreciation and comprehension of research findings. The course presents the student with the fundamentals of research that all psychology majors should know. Emphasis is placed on the critical evaluation of psychological research. 3cr; 45hr lec, TE 3.00 (DS)

225 Statistical Techniques

Prereq: PSY 100 and MATH 100, 103, 115 or higher, both with grade C or better, or consent.

Uses statistical reasoning in the analysis of psychology data. Topics covered include descriptive statistics, probability, hypothesis testing, test for independent and dependent measures, analysis of variance, correlation and regression, and nonparametric measures. (Formerly PSY 213.)

3cr; 45hr lec, TE 3.00 (DS)

240 Developmental Psychology

Prereq: PSY 100 with grade C or better, or consent. Recommended: ENG 100 with grade C or better.

Examines the principle features of each life stage from prenatal through aging and death. Considers emotional, cognitive, physical, and social development at each stage. 3cr; 45hr lec, TE 3.00 (DS)

250 Social Psychology

Prereq: PSY 100 with grade C or better, or consent. Recommended: ENG 100 with grade C or better.

Surveys the major theories, research methods, and applications of social psychology, the scientific study of the way in which people's thoughts, feelings, and behaviors are influenced by others. Topics may include social perception and cognition, the self, attitudes and attitude change, conformity, group processes, interpersonal attraction, altruism, aggression, and prejudice. 3cr; 45hr lec, TE 3.00 (DS)

253 Conflict Resolution & Mediation

Prereq: PSY 100 or BUS/COM 130 or COM 145, any with grade C or better, or consent. Recommended: ENG 100 with grade C or better.

Explores the reasons for conflict and the different approaches for seeking resolution for conflict. Studies personal and societal value systems, the psychology of how people respond to conflict, the impact of culture on conflict styles, communication skills useful in dealing with conflict, and alternative resolution strategies. Practices mediation skills as a third party intervention method. (Crosslisted as COM 215.)

3cr; 45hr lec, TE 3.00 (DS)

260 Psychology of Personality

Prereq: PSY 100 with grade C or better, or consent. Recommended: ENG 100 with grade C or better.

Surveys major theoretical approaches to the scientific study of personality. Topics include development, assessment, change, and cultural-social determinants, current research issues are emphasized.

3cr; 45hr lec, TE 3.00 (DS)

352 Psychology of Human Sexuality

Prereq: PSY 100 and ENG 100, both with grade C or better, or consent. Recommended: PSY 250.

Psychosocial aspects of human sexual relationships. Social psychology of emotional and physiological arousal, interpersonal attraction, and societal regulation of intimate relationships. (Formerly PSY 251.)

3cr; 45hr lec, TE 3.00 (DS)

353 Conflict Management & Resolution

Prereq: Either PSY 100 or SOC 100 with grade C or better, and one (with grade C or better): BUS/COM 130, COM 145, COM 210, or PSY 253/COM 215; or consent.

Examines human communication in relational conflict. Analyzes the relationships among personal history, culture, gender, power, and communication. Applies practices of Alternative Dispute Resolution (ADR) processes in assessing and intervening in conflict situations using mediation and negotiation techniques in both personal and professional contexts. Includes Western, Eastern, and Hawaiian approaches to conflict management and resolution. (Crosslisted as COM 353)

3cr; 45hr lec, TE 3.00 (DS)

Quantitative Methods (QM)

D. Harbin

107C Quantitative Methods in Automotive Technology

Prereq: MATH 75X with a grade of C or better or placement at least MATH 82, and ENG 19 with grade C or better or placement at least ENG 22, or consent.

Applies the quantitative methods, reasoning, and applications necessary to perform tasks and solve problems encountered by automotive technologists. Quantitative methods covered include computational operations; ratio, proportion, and percent; statistics and probability; and trigonometry. Applications include major automotive systems such as engines, drive train, chassis, and suspension. (Designed for AMT degree and certificates, but does not satisfy FS requirement for AA degrees.)

3cr; 45hr lec, TE 3.00

Religion (REL)

B. Clark

150 Intro to the World's Major Religions

Prereq: ENG 19 with grade C or better, or placement at least ENG 22, or consent.

Introduces basic elements of the world's major religions: Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity, and Islam. Emphasizes themes in the great Asian traditions.

3cr; 45hr lec, TE 3.00 (FGC)

Science (SCI)

S. Calder, S. Irwin

114 Introduction to Scientific Method and Laboratory

Prereq: Admitted to the UH Upward Bound Math Science (UBMS) summer program.

Exposes students to the scientific method and reasoning through an intensive summer experience for Upward Bound high school participants rooted in Problem-based Learning (PBL) focused on a real-world STEM-Industry partner problem following the scientific method. Infuses a primarily PBL experience with a local STEM-Industry partner question to catalyze learning. Introduces logic, problem-solving, evaluation process, lab methods, literature review, and technical writing. (*May be repeated twice for credit.*)

3cr; 15hr lec, 60hr lec-lab, TE 4.17 (DP)

121 Introduction to Science: Biological Science

Prereq: ENG 22 with grade C or better, or placement at ENG 100.

Introduces characteristics of science, historical development of scientific concepts, and interactions of society with science, illustrated by topics from biological sciences. (*Crosslisted as BIOL 101.*)

3cr; 45hr lec, TE 3.00 (DB)

121L Introduction to Science: Biological Science Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100. Coreq: SCI 121.

Lab to accompany SCI 121. (*Crosslisted as BIOL 101L*) 1cr; 45hr lab, TE 2.50 (DY)

122 Intro to Science: Physical Science

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: MATH 75X with grade C or better, or placement at least MATH 82.

Introduces characteristics of science, historical development of scientific concepts, and interactions of society with science, illustrated by topics from physical sciences.

3cr; 45hr lec, TE 3.00 (DP)

122L Intro to Science: Physical Science Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. Recommended: MATH 75X with grade C or better, or placement at least MATH 82.

Coreq: SCI 122.

Lab to accompany SCI 122 .

1cr; 45hr lab, TE 2.50 (DY)

165L Introduction to Science Laboratory Techniques

Prereq: BIOL 101 with grade C or better, and MATH 82 with grade C or better or placement at least MATH 100, or consent. Recommended: CHEM 151 and 151L.

Introduces students to lab safety and record keeping, scientific measurements, scientific instrumentation, solution chemistry, media preparation, basic cell biology, microbial biochemistry, and water quality testing and analysis.

1cr; 45hr, TE 2.50 (DY)

214 Problem-based Learning in STEM

Prereq: DOE STEM teacher, or consent.

Exposes student to the idea of Problem-based learning (PBL): an instructional approach that has been used successfully for over 30 years, and continues to gain acceptance in multiple disciplines. Trains and prepares STEM teachers to adopt and/or design a curriculum using PBL. Consists of two face-to-face sessions team-taught by a group of STEM faculty at the University of Hawai'i Maui College.

3cr; 15hr lec, 60hr lec-lab, TE 4.17

265L Environmental Testing Lab

Prereq: SCI 165L with grade C or better, or consent. Recommended: ENG 100 and MATH 103.

Introduces students to water quality regulations and monitoring procedures as it applies to the ocean, streams, and agriculture. Develop an understanding for the major water quality parameters, and why they are important to environmental and human health. Learn how to collect, prepare, and run environmental samples for laboratory analysis.

1cr; 45hr, TE 2.50 (DY)

295v STEM Research Experience

Prereq: Instructor consent. Recommended: Completion of a lab science course as stipulated by the instructor.

Offers a research experience in science, technology, engineering and/or mathematics, emphasizing the application of the scientific method to a specific project. (May be repeated for a maximum of 6 credits.) (*Letter grade only.*)

1-3 cr; 45hr/cr, 0.2 TE per student (DY)

Social Work (SW)

S. LeGare

SW 200 The Field of Social Work

Prereq: ENG 100 with grade C or better, or consent.

Recommended: HSER 110.

Orientation to the profession of social work; historical development, values and philosophy, scope and aims. 3cr., 45hr. lec. TE 3.00 (DS)

Sociology (SOC)

R. Daniels

100 Survey of General Sociology

Introduces study of basic social relationships. Treats socialization, concept of culture, social stratification, prejudice, cultural change, and trends in modern society.

3cr; 45hr lec, TE 3.00 (DS)

215 Sociology Through Film

Explores sociological concepts and issues through film as a visual text. Highlights the role of cinema as a means of socialization and provides a lens to view culture and the social world.

3cr; 45hr lec, TE 3.00 (DS)

218 Introduction to Social Problems

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Discusses and analyzes a number of modern social problems. Evaluates proposed solutions to problems.

3cr; 45hr lec, TE 3.00 (DS)

231 Introduction to Juvenile Delinquency

Studies principles and procedures of arrest, detention, petition, summons, records, and adjudication of juvenile offenders.

Introduces organization and function of the police juvenile unit, community diversion practices, and organization of Family Court. Reviews Hawai'i statutes and United States Supreme Court decisions affecting juvenile rights of due process. Considers societal context of juvenile problems, delinquency prevention, and treatment. (*Crosslisted as AJ 210.*)

3cr; 45hr lec, TE 3.00 (DS)

251 Introduction to Sociology of the Family

Analyzes family patterns, mate selection, parent-child interaction, socialization of roles, functions, family trends, and a cross-cultural look at the contemporary family.

3cr; 45hr lec, TE 3.00 (DS)

Spanish (SPAN)

101 Elementary Spanish I

Introduces speaking, listening, reading, and writing skills of basic Spanish. Includes basic sentence structures. *Designed for students with little or no Spanish background.* 4cr; 60hr lec, TE 4.00

102 Elementary Spanish II

Prereq: SPAN 101, or consent.

Continues SPAN 101. Introduces additional verb tenses and continues to expand Spanish speaking, listening, reading, and writing. 4cr; 60hr lec, TE 4.00

180v Spanish-English Language Exchange

Prereq: SPAN 102 or consent.

Provides opportunities for students to engage in authentic conversation with native speakers of Spanish for the purpose of improving speaking and listening skills. Expands students' multicultural awareness through facilitated interaction with native speakers from a variety of countries, selected readings and reflective writings. 1-2cr; 1hr. lect/cr (DH)

201 Intermediate Spanish I

Prereq: SPAN 102, or consent.

Second level course in Spanish listening, reading, speaking, and writing. Introduces more advanced patterns and vocabulary words. Introduces basic literature. 3cr; 45hr lec, TE 3.00

202 Intermediate Spanish II

Prereq: SPAN 201, or consent.

Continues SPAN 201. Completes introduction of major grammatical patterns of standard Spanish in reading, listening, writing, and speaking. Continues to explore different literary forms. 3cr; 45hr lec, TE 3.00

272 Hispanic Culture

Prereq: SPAN 201 with grade C or better, or consent.

Acquaints students with a variety of Hispanic countries and their culture, using film, short story, poetry, CD-ROM, and guest speakers. Uses previously acquired Spanish language skills to explore and appreciate Hispanic culture. *Taught in Spanish and English.* 3cr; 45hr lec, TE 3.00

Speech (SP)

R. St. John

151 Personal & Public Speech

Recommended: Placement at ENG 100.

Introduces the major elements of speech. Develops competence in two-person, small group, and public speaking situations. 3cr; 45hr lec, TE 3.00 (DA)

251 Principles of Effective Public Speaking

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Recommended: ENG 100.

Develops speech composition and delivery skills by providing extensive practice in preparing and presenting effective public speeches. Emphasizes critical thinking, clear reasoning, appropriate support, organization, outlining, audience analysis, and lively delivery skills. 3cr; 45hr lec, TE 3.00 (DA)

Sustainable Science Management (SSM)

T. Botkin, M. Jones

101 Sustainability in a Changing World

Prereq: ENG 19 with grade C or better or placement at least ENG 22, and at MATH 75X with grade C or better or placement at least MATH 82, or consent.

Identifies sustainability concepts which have become evident from early human movement toward Industrialization in the 1500s to present. Examines diverse approaches in resource use including water, energy, waste, land use, economies, and oceans. Introduces fundamental systems approaches to recognize interconnections and ramifications of practices. Identifies global sustainability issues and uses Hawai'i and island case studies as a means of better understanding their applied relevance. 3cr; 45hr lec, TE 3.00 (FGB)

201 Sustainable Building Design

Prereq: SSM 101 with grade C or better, or consent.

Examines principles of green building, design and operations; including site planning and zoning, construction practices, energy efficiency, economics of green building, benefits and barriers, and the LEED rating system. 3cr; 45hr lec, TE 3.00 (DP)

202 Sustainable Island Communities

Prereq: SSM 101, HWST 107, HWST 207, or HIST 284, any with grade C or better, or consent.

Introduces concepts of sustainability on islands, specifically Hawai'i. Examines unique aspects of islands as related to sustainable management of limited resources, including land use planning, waste management, water, sustainable tourism, renewable energy resources, and natural resource management. Compares island communities to sustainable urban environments. 3cr; 45hr lec, TE 3.00 (DP)

275 Basic Energy Production

Prereq: SSM 101 and ENG 100, both with grade C or better, and MATH 103 with grade C or better or placement at least MATH 135, or consent.

Introduces basic energy concepts including gravitational and kinetic energy, heat, electromagnetism, chemical energy and the transducers used to convert from one form of energy to another. Transitions from the electric power grid to integrating renewable energy sources into contemporary grids and distributed systems. 3cr; 45hr lec, TE 3.00 (DP)

301 Sustainable Assessments and Indicators

Prereq: SSM 202, MATH 115, and MATH 135, all with grade C or better, or consent.

Examines methods of assessing sustainability and distinguishing marketing claims from actual progress. Studies triple bottom line, cradle to cradle/grave, carbon neutrality, and carbon footprint; as well as life cycle assessment, energy analysis, and sustainability indicators that customize data collection and analysis. Final project develops a business case, adding indicators to demonstrate its integrity. 3cr; 45hr lec, TE 3.00 (DS)

302 Environmental Health

Prereq: SSM 202, BIOL 171/171L, CHEM 151 or 161/161L, and MATH 135, all with grade C or better, or consent.

Evaluates the impact that chemical, physical, and biological agents have on environmental ecosystems. Examines how political, economic, and demographic diversity affects the natural environment with particular emphasis on island settings. 3cr; 45hr lec, TE 3.00 (DB)

375 Renewable Energy Conversions and Processes

Prereq: SSM 201, SSM 275, and MATH 135, and either CHEM 151 or 161/161L, all with grade C or better, or consent.

Recommended: MATH 203 or 241.

Analyzes and demonstrates technologies and processes for the conversion of energy sources to power. Examines conventional fossil fuels and turbines, solar photovoltaic cells, wind turbines, wave technology, tidal technology, small and large scale hydro power technology, bio-mass, bio-fuel, waste to energy, and fuel cell technology.

3cr; 45hr lec, TE 3.00 (DP)

384 Sustaining the Globalized Ocean

Prereq: SSM 202 and ZOO 200, both with grade C or better, or consent.

Recommended: ENG 210 or ENG 225.

Examines the oceans as a life support system and the factors that increase pressure on marine sustainability. Explores the interactions between the marine environment and the economic, social, cultural and political features inherent to that system. Analyzes the effectiveness of the regulations and policies in place to ensure sustainable development in ocean environments. 3cr; 45hr lec, TE 3.00 (DB)

392v Sustainable Science Management Internship

Prereq: SSM major and at least one SSM upper division course with grade C or better.

Applies skills to workplace in an occupation within the student's area of interest in sustainable science management. Provides practical experience to develop knowledge and skills in the application of theory to actual problems in a non-classroom setting. Develops employment skills in the sustainable science management areas of energy, renewable energy, energy management, waste management, water and wastewater, policy, and related fields. Prepares students for the senior capstone project. (*May be repeated for a maximum of 6 credits.*)

1-3cr; seminar 1.25hrs/wk, documented field experience minimum 75hrs/cr (e.g., 1cr-75hrs, 2cr-150hrs, 3cr-225hrs)

401 Environmental Law, Policy, and Justice

Prereq: SSM 301, COM 215/PSY 253, and ENG 209, all with grade C or better; or consent.

Recommended: BLAW 200.

Introduces legal and policy issues of environmental protection and decision-making. Explores the history, processes, and politics in the formulation and implementation of U.S. federal, state, and local environmental policies. 3cr; 45hr lec, TE 3.00 (DS)

402 Water Resources Management

Prereq: SSM 202, BIOL 171/171L, CHEM 151 or 161/161L, and MATH 135, all with grade C or better, or consent.

Examines typical means of managing freshwater resources with emphasis on island water and wastewater management techniques. Introduces water quality techniques and parameters as well as advanced wastewater treatment processes. Discovers principles of sustainability from hydraulics, hydrology, and distribution systems. Discusses water reuse and recycling practices on Maui. 3cr; 45hr lec, TE 3.00 (DP)

403 Renewable Energy Integration

Prereq: SSM 301, SSM 375, MGT 310, and MATH 203 or MATH 241, all with grade C or better; or consent.

Analyzes and describes issues for integrating renewable energy onto a grid structure, the fundamentals of a smart grid, and energy storage technologies. Instructs students how to use software tools applicable to smart grid operation and maintenance. Explores different electrical energy storage technologies and their feasibility for intended applications.

3cr; 45hr lec, TE 3.00 (DP)

422 Sustainable Systems Thinking

Prereq: SSM 301, ENG 316, and MATH 135, all with grade C or better, or consent.

Recommended: MATH 203 or MATH 241.

Explores the theory and application of established systems thinking practices, models and programs, as applied historically and in a sustainability context. Examines complex, multi-discipline problems and proposed solutions in real world scenarios. Develops skills using modeling software for tracking, illustrating, and verifying systems analysis.

3cr; 45hr lec, TE 3.00

495 SSM Capstone I

Prereq: SSM 301, 302, 375, 401, 402, MGT 322, and ENG 316, all with grade C or better, or consent.

Provides an opportunity to demonstrate the techniques and understanding developed throughout the BAS Sustainable Science Management program in a final project. Includes energy auditing, computational analysis, sustainable strategic planning and financial assessment, water and resource conservation, impacts to human and ecosystem health, land use and transportation, policy and regulatory analysis, and social equity and ethical considerations. 3cr; 45hr lec, TE 3.00

496 SSM Capstone II

Prereq: SSM 495 with grade C or better, or consent.

Provides an opportunity to demonstrate the techniques and understanding developed throughout the BAS Sustainable Science Management program in a final project. Includes energy auditing, computational analysis, sustainable strategic planning and financial assessment, water and resource conservation, impacts to human and ecosystem health, land use and transportation, policy and regulatory analysis, and social equity and ethical consideration. 3cr; 45hr lec, TE 3.00

 **Telecommunications (TCOM)****261 Introduction to Studio Production**

Recommended: ENG 22 with grade C or better or placement at ENG 100, or consent.

Introduces the student to the world of TV studio production. Designed to give a working knowledge of video as it is utilized in broadcasting, cable operations, corporations, education, and independent production. Emphasizes video as a profession, video communications, and the proper use and understanding of studio equipment.

3cr; 90hr lec-lab, TE 5.00 (DA)

 **Theatre (THEA)****101 Intro to Drama and Theatre**

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Treats representative plays from Aeschylus' *Agamemnon* to Miller's *Death of a Salesman* as illustrative studies of changing forms in the theatre and dramatic literature. (*Formerly DRAM 101.*)

3cr; 45hr lec, TE 3.00 (DA)

221 Acting 1

Provides individual exercises and group rehearsals of beginning acting. Emphasizes voice, movement, and relaxation. Students must perform in direction of class scenes. (*Formerly DRAM 221.*)

3cr; 45hr lec, TE 3.00 (DA)

222 Acting 2

Prereq: THEA 221, or consent.

Continues THEA 221. Expands work on voice, movement, improvisation, and scene work. Requires performance of monologues and scenes from classic and contemporary plays. (*Formerly DRAM 222.*)

3cr; 45hr lec, TE 3.00 (DA)

Topics & Issues

(Alpha) 90v, 190v, 290v, 390v, 490v.

See section on Special Curricula for details.

Note: For 190v courses in the Humanities, up to three credits of different Topics may be used as general electives in the AA, AS, and AAS degrees; up to three additional credits may be used to satisfy a Humanities requirement, for a total of no more than six Topics credits.

Welding (WELD)

119C Welding for Automotive Applications

Introduces theory and practice of gas and arc welding of ferrous metals with automotive applications. Includes procedures in flat, horizontal, and overhead work for brazing, flame cutting, and welding of aluminum, stainless steel, and other metals.

Designed as a support course for trades.

(Formerly WELD 19C)

3cr; 90hr lec-lab, TE 3.75

119D Welding for Construction Applications

Introduces theory and practices of arc and gas welding of ferrous metals dealing with building construction applications.

Includes procedures in flat, horizontal, and overhead work for brazing, flame cutting, and welding of aluminum, stainless steel, and other metals. Designed as a support course for trades. (Formerly WELD 19D)

3cr; 90hr lec-lab, TE 3.75

Work Practicum

(Alpha) 151v

See section on Special Curricula for details.

Zoology (ZOOL)

S. Calder

101 Principles of Zoology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Surveys major animal groups with emphasis on structure, physiology, development, reproduction, evolution, ecology, behavior, and interactions with humans. (Crosslisted as BIOL 103.)

3cr; 45hr lec, TE 3.00 (DB)

101L Principles of Zoology Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: ZOOL 101.

Lab to accompany ZOOL 101. (Crosslisted as BIOL 103L.)

1cr; 45hr lab, TE 2.50 (DY)

200 Marine Biology

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent.

Coreq: ZOOL 200L

Surveys physical and biological characteristics of the marine environment. Discusses local marine flora and fauna. Surveys topics including fisheries, aquaculture, pollution, and marine resources.

3cr; 45hr lec, 3.00 (DB)

200L Marine Biology Lab

Prereq: ENG 22 with grade C or better, or placement at ENG 100, or consent. ZOOL 200.

Coreq: ZOOL200.

Lab to accompany ZOOL 200.

1cr; 45hr lab, TE 2.50 (DY)