### 2009–Fall Semester

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<td>Priority Deadline for Admissions Application</td>
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<tr>
<td>August 17</td>
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<tr>
<td>August 21</td>
<td>Holiday: Statehood Day</td>
</tr>
<tr>
<td>August 24</td>
<td>Fall Term Begins</td>
</tr>
<tr>
<td>August 24–28</td>
<td>Late Registration ($30 late fee) and Add/Drop Period ($5 in-person fee)</td>
</tr>
<tr>
<td>August 28</td>
<td>Last Day for 100% Tuition Refund¹</td>
</tr>
<tr>
<td>August 28</td>
<td>Last Day for 100% Student Fees Refund (complete withdrawal from ALL classes)</td>
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<tr>
<td>September 7</td>
<td>Holiday: Labor Day</td>
</tr>
<tr>
<td>September 14</td>
<td>Last Day to Withdraw Without &quot;W&quot; grade and 50% Refund¹</td>
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<tr>
<td>October 27</td>
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<td>October 27</td>
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</tr>
<tr>
<td>November 2</td>
<td>Spring 2010 Registration Begins</td>
</tr>
<tr>
<td>November 11</td>
<td>Holiday: Veterans' Day</td>
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<tr>
<td>November 26-27</td>
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<tr>
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<tr>
<td>December 14-17</td>
<td>Exam Period</td>
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<tr>
<td>December 18</td>
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<tr>
<td>March 5</td>
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<tr>
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<td>March 22-26</td>
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<tr>
<td>March 26</td>
<td>Holiday: Prince Kuhio Day</td>
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<tr>
<td>April 2</td>
<td>Holiday: Good Friday</td>
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<tr>
<td>April 12</td>
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<td>April 15</td>
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### 2010-Summer

(Please refer to the Summer Schedule of Classes, published separately)

### 2011-Summer

(Please refer to the Summer Schedule of Classes, published separately)

¹For non-semester length classes (e.g. 13, 8, 5-week), refer to the Schedule of Classes or go to MyUH portal and select Class Availability and click on the college/CRN for start/end dates, add/drop dates, and refund dates.

**On the cover:** WCC graduate Jake

**Photography:** Marc Schechter
This catalog provides general information about Windward Community College, its programs and services, and summarizes those major policies and procedures of relevance to the student. The information contained in this catalog is not necessarily complete. For further information, students should consult with the appropriate unit. This catalog was prepared to provide information and does not constitute a contract. The College reserves the right to, without prior notice, change or delete, supplement or otherwise amend at any time the information, requirements, and policies contained in this catalog or other documents.

Hearing impaired individuals desiring information may contact the College by using the Telecommunication Device for the Deaf (TTY) relay service at 808-643-8833.
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Aloha,

Welcome to the Windward community's own college, a campus of superlative beauty set before the backdrop of the majestic Ko'olau Mountain range. I believe you will find Windward Community College to be a friendly and engaging campus where faculty, staff and fellow students will get to know you. Its values, vision and purpose bespeak a campus community that will take you from where you are and place you on a path to where you want to be. Our faculty and staff will be dedicated, friendly and supportive as you proceed to your goals.

The range of credit and non-credit courses and programs, as well as the campus facilities and services to the community make this a gemstone of educational and cultural life for our Windward district communities. Our range of programs will prepare you to transfer to a four-year college, help you to accentuate a field of specialization and/or prepare you for immediate employment. Our campus and our facilities provide the space to learn, to grow, and to network in an atmosphere that invites intellectual, cultural and social growth.

We are close to your home with a deep and abiding respect for our environment and our cultural roots in Hawai‘i. I am confident that we will progress together in an educational atmosphere that emphasizes growth whether your destiny is here at home or beyond our immediate community.

Warmest Aloha,

Douglas Dykstra
Chancellor
Windward Community College is one of seven public community colleges in Hawai‘i governed by the Board of Regents of the University of Hawai‘i. The College is located in Kāne‘ohe on the island of O‘ahu. It opened in the fall of 1972 with an enrollment of 525 students and had a Fall 2008 enrollment of 1,958 students. The College offers both liberal arts and vocational education programs.

Accreditation
Windward Community College is accredited by the Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges.

The Mission, Core Values and Vision of Windward Community College

Mission of Windward Community College
Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

Windward Community College is further committed to the mission of the Community Colleges of the University of Hawai‘i:

- To broaden access to post-secondary education in Hawai‘i by providing open-door opportunities for students to enter quality educational programs within their own communities.
- To specialize in the effective teaching of remedial/developmental education, general education, and other introductory liberal arts, pre-professional, and selected baccalaureate courses and programs.
- To provide the trained workforce needed by the State, by offering occupational, technical, and professional courses and programs which both prepare students for immediate employment and career advancement.
- To provide opportunities for personal enrichment, occupational upgrading, and career mobility through credit and non-credit courses and activities.
- To contribute to and stimulate the cultural and intellectual life of the community by providing a forum for the discussion of ideas; by providing leadership, knowledge, problem-solving skills, and general informational services; and by providing opportunities for community members to develop their creativity and appreciate the creative endeavors of others. (University of Hawai‘i Community Colleges, Strategic Plan, 2002-2010, November 2002)
The College

Core Values of Windward Community College

- Learning and teaching
- Academic excellence
- Critical thinking
- Creativity and innovation
- Collegial and family or ‘ohana spirit
- Diversity
- Intellectual freedom
- Service
- Cooperation and collaboration
- Scholarly communication and research
- Global perspective
- Commitment to the use of technology

Vision for Windward Community College

Students and community members will be enriched and able to live full, productive lives in a quickly changing, technologically oriented society through the quality education, effective training, dedicated support services, and imaginative artistic productions provided by Windward Community College and its partners in the community.

Purpose

Windward Community College’s purpose is to serve the postsecondary educational needs of individuals residing in the communities served by the College. The College fulfills this purpose by the following offerings:

- a wide variety of liberal arts and science courses for individuals seeking to meet the first two-year requirements of a baccalaureate degree program or to further their knowledge of themselves and their social and physical environments;
- vocational courses in selected areas for individuals seeking to acquire preservice, entry-level skills, or those seeking to upgrade existing skills;
- a selection of developmental courses for persons needing to review the basic learning skills: reading, writing, speaking, listening, and arithmetic. Students who need remedial preparation are directed to Adult Education classes offered by the Department of Education. Students are notified of this option on their placement test scores.
- public service programs, non-credit courses, forums and cultural activities for those individuals seeking to develop leisure time skills, further their understanding of topics of current interest, or increase their awareness of the many ethnic heritages in the Islands.
- day, evening and weekend courses, both on and off campus.

The College also provides support services such as academic advising, financial aid, tutoring, library services, and career counseling.

Nondiscrimination and Affirmative Action

It is the policy of the University of Hawai‘i to comply with Federal and State laws which prohibit discrimination in University programs and activities, including but not necessarily limited to the following laws which cover students and applicants for admission to the University: Title VI of the Civil Rights Act of 1964 as amended (race, color, national origin); Age Discrimination Act of 1975 (age); Titles VII and VIII of the Public Health Service Act as amended (sex); Title IX of the Education Amendments of 1972 (sex, blindness, severely impaired vision); Section 504 of the Rehabilitation Act of 1973 (disability); and to comply with Federal and State laws which mandate affirmative action and/or prohibit discrimination in employment (including, but not limited to, hiring, firing, upgrading, salaries, benefits, training, and other terms, conditions, and privileges of employment): Title VII of the Civil Rights Act of 1964 as amended (race, color, national origin, religion, sex, pregnancy); Executive Order 11246 as amended (race, color, national origin, religion, sex); Equal Pay Act of 1963 as amended by Title IX of the Education Amendments of 1972 (sex); Age Discrimination in Employment Act of 1967 (ages 4070); Section 402 of the Vietnam Era Veteran’s Readjustment Assistance Act of 1974 (veteran’s status); Section 503 and 504 of the Rehabilitation Act of 1973 (disability); Hawai‘i Revised Statutes, Chapter 76, 78, 378 (race, sex, sexual orientation, age, religion, color, ancestry, political affiliation, disability, marital status, arrest and court record). The UH Community Colleges strive to promote full realization of equal opportunity through a positive, continuing program including Titles I-IV of the Americans with Disabilities Act (ADA) P.L.101336. Accordingly, vocational education opportunities will be offered without regard to race, color, national origin, sex or disability. American citizens or immigrants with limited English proficiency skills will not be denied admission to vocational education programs. In addition, employees and applicants for employment are protected under Title IX and Section 504.

As an integral part of its Policy on Nondiscrimination and Affirmative Action, the Office of the President, University of Hawai‘i hereby declares and reaffirms its commitment to the University’s pursuit of equal education and employment opportunity and further declares that any harassment of students or employees on the basis of sex is prohibited and will not be tolerated. Complaints of this nature will be handled by Ann Lemke, WCC’s Section 504 Coordinator.

Individuals designated to coordinate the University of Hawai‘i Community Colleges’ nondiscrimination and affirmative action programs are:

Ann Lemke, Section 504 Coordinator
808-235-7448

Karen Cho, EEO/AA Title IX Coordinator
808-235-7404

Windward Community College
45-720 Ke’ahala Road, Kāne‘ohe, HI 96744
**The College**

**Discrimination Complaints**

Students, employees, or applicants for admission or employment who believe that they have been discriminated against on the basis of race, sex, age, religion, color, ancestry, sexual orientation, national origin, disability, marital status, veteran’s status or arrest and court record may file a complaint with Karen Cho, 808-235-7404, Hale Alaka’i, Room 120, EEO/AA coordinator. The EEO/AA coordinator will explain the available avenues of recourse and direct the person to the appropriate person or office.

The process of addressing allegations of discrimination are described in the CCCM No. 2210, UH Community College Procedure and Guidelines, Relating to Complaints of Discrimination and in campus Section 504 /ADA Grievance Procedure.

Students may also file complaints of discrimination with the Office for Civil Rights, 915 Second Avenue, Room 3310, Seattle, WA 98174-1099. Phone: 206-220-7920 FAX: 206-220-7887.

**Federal Campus Sex Crimes Prevention Act**

“The release of relevant information that is necessary to protect the public shall be accomplished by public access to a file containing the relevant information on each registered sex offender, a copy of which shall be provided for inspection upon request at the Hawai’i criminal justice data center and at one or more designated police stations in each county, between the hours of 8:00 a.m. and 4:30 p.m. on weekdays excluding holidays. The chief of police and the attorney general shall provide the relevant information on sex offenders upon payment of reasonable fees. Relevant information on each registered sex offender may also be released from an electronic database maintained by the respective law enforcement agencies that is accessible to users through an interactive computer-based system.”

**Smoking**

In accordance with the State’s No Smoking Act, Act 108, SLH 1976 and Act 245, SLH 1987, Federal Drug-free Schools and Communities Act of 1989 and Drug Free Workplace Act of 1988, and the University smoking policy (effective January, 2003), smoking is prohibited in the following areas:

- All interior spaces, including courtyards, terraces, stairways, ramps, patios, and lanais.
- Within 20 feet of building entrances/exits, air intake vents, and windows not air-conditioned.
- Within 50 feet of designated pick-up and drop-off points.
- Any other area designated as a non-smoking area by the College’s administration.

**Illicit Drugs and Alcohol**

In conformance with the existing law, University faculty, staff and students are not permitted to manufacture, distribute, possess, use, dispense or be under the influence of illegal drugs and/or alcohol as prohibited by State and Federal law, at University sponsored or approved events or on University property or in buildings used by the University for education, research or recreational programs. Consistent with its mission, the University will cooperate with law enforcement agencies responsible for enforcing laws related to the use of illegal drugs and alcohol. Students found in violation shall be subject to the provisions of the student conduct code. Faculty and staff found in violation are subject to disciplinary action as provided in collective bargaining agreements, University policy, and other applicable State laws and rules.

The University recognizes that substance abuse is a complex problem that is not easily resolved solely by personal effort and may require professional assistance and/or treatment. Students, faculty and staff members with substance abuse problems are encouraged to take advantage of available diagnostic, referral, counseling and prevention services. The University will not excuse misconduct by employees and students whose judgment is impaired due to substance abuse.

The purchase, possession or consumption of alcoholic beverages is regulated by state law. Students are expected to know and abide by state law and by University rules and regulations governing the use and consumption of alcoholic beverages on campus. Students are referred to Board of Regents policy, executive policies and campus guidelines regulating the use and consumption of alcoholic beverages on campus.

Students are not permitted to be under the influence of, possess, manufacture, distribute, or sell illicit drugs, as prohibited by state law, at University sponsored or approved events, on University property or in buildings used by the University for its educational or recreational programs. Reasonable suspicion of possession or use of illegal drugs and substances on campus may subject the students involved to investigation.

Sanctions which may be imposed on violators of the alcohol and drug related sections of the Student Conduct Code include disciplinary warning, probation, suspension, expulsion, or rescission of grades or degree. Copies of the full text of the Code are available in the Office of the Dean of Student Services.

School sponsored activities on campus that involve either the serving or selling of alcoholic beverages must be in compliance with applicable College/University policies and State laws.

Copies of policies governing the possession, consumption, serving and sale of alcoholic beverages on the University of Hawai’i Windward Community College campus are available in the Office of Student Services.

**Lethal Weapons**

Firearms, spear guns, and bows and arrows are prohibited on campus except with specific prior permission of the Chancellor.
Sexual Assault Policy
As required by the Higher Education Amendments of 1992, the College has a Sexual Assault Prevention Policy which explains the College’s Sexual Assault Program presented to promote awareness of rape, acquaintance rape and other sex offenses and the procedures for reporting offenses. A copy of the Sexual Assault Policy can be obtained from the Office of Student Services, Hale 'Ākoakoa, Room 202.

Sexual Harassment Policy
It is the policy of the College to provide a safe and comfortable learning and working environment for students and employees. Sexual harassment is a form of discrimination that can undermine the foundation of trust and mutual respect that must prevail if the University is to fulfill its educational mission. Sexual harassment will not be tolerated in any part of the University’s programs and activities. Sanctions will be imposed on members of the University community who violate this policy. Disciplinary actions against employees will be subject to the collective bargaining agreements. For more information and/or copies of the procedure for the Sexual Assault Prevention Program, please contact the campus’ sexual harassment officers at the Office of Administrative Services in Hale Alaka'i, Room 120.

Academic Rights and Freedoms of Students
Windward Community College embraces those aspects of academic freedom that guarantee the freedom to teach and the freedom to learn. Free inquiry and free expression for both students and faculty are indispensable and inseparable. As members of the academic community, students are encouraged to develop a capacity for critical judgment and to engage in a sustained and independent search for truth.

Office of International Programs and Services
Windward Community College participates in a variety of international programs. The current faculty Chair of the International Education Committee, Professor Toshi Ikagawa, may be contacted for information concerning specific programs. Professor Ikagawa serves as liaison with foreign higher education institutions and with the UH and UHCC International Education Committees, provides information on study abroad programs, and supports and recruits international students.

Articulated Transfer Programs
WCC has a program-to-program articulation with UH Hilo for Astronomy and Geology, which spell out the requirements for WCC students who wish to earn a B.S. degree in either discipline from UH Hilo. For more information on which WCC classes will transfer directly into the Astronomy B.S. degree program at UH Hilo contact Dr. Joseph Ciotti at 808-236-9111 or the Office of University Partners at 808-235-7324. For more information on which WCC classes will transfer directly into the Geology B.A. and B.S. degree programs at UH Hilo contact Dr. Floyd McCoy at 808-236-9115 or the Office of University Partners at 808-235-7324.
Advisory Committees

Windward Community College has invited a number of community leaders in business, industry, and the professions to advise the staff in the development of curricula in accordance with requirements in their fields. Consultations with these leaders relate to course content, selection of training equipment, the nature and extent of employment needs, and evaluation of the effectiveness of the curriculum. New advisory committees are formed as new needs and programs are identified.

Agriculture Advisory Committee
- Daryl Cazinha
- Robert Lillie
- Al Kakazu

Hawaiian Studies Advisory Committee
- Robert de Loach
- Roy Fujimoto
- Mark Hamasaki
- Kelikokuailekai Hoe
- Rubellite Kawena Johnson
- Adrian Kealoha Keohokalole
- Emalia Keohokalole

Pacific Center for Environmental Studies Advisory Fund Raising Committee
- Todd Barnes
- Bruce Coppa
- Eric Guinther
- Hal Hammett

Veterinary Studies Advisory Committee
- Eric Ako, DVM
- Mark Caspers, DVM
- Shannon Nakamura
- Cathy Todd
- Lisel Coles
- Sam Craddock

Hawaiian Studies Advisory Committee
- Lani Ma’a Lapilio, Esq.
- Hirini Moko Mead, Ph.D.
- Fred Kalani Meinecke
- Meleanna Aloli Meyer
- Peter Kalawai’a Moore
- Pi’ilaniwaiima Smith
- Robert Suggs, Ph.D.

Non-Credit Vocational and Community Education (VCE)

Employment Training Center

The Employment Training Center (ETC) was established in 1964 as a Hawai‘i Manpower Training Office, reflecting the national initiative set by the Manpower Development and Training Act. It transferred to the University of Hawai‘i Community Colleges in 1968, and in 2002, merged with Windward Community College. ETC now operates within the division of WCC’s Office of Vocational & Community Education.

The mission of ETC is to serve the community by providing short-term, career-focused education and training in a flexible, learner-centered and supportive environment.

ETC offers the following education and training programs:

- Auto Body Repair and Finishing
- Culinary Arts at WCC and HCC
- Essential Skills Communication and Math
- Facilities Maintenance and Construction Occupations at WCC and Kalaeloa, Barbers Point
- Health Career Options – Nurse Aide
- Office Skills - Keyboarding, Electronic Calculator, Intro to Windows Vista, Intro to Word 2007, Intro to Excel 2007, Intro to PowerPoint 2007, Intro to Access 2007, Intro to Navigating the Internet and E-mail
- Office Administration and Technology
- Workforce Development – Internships and Career Planning Courses

To enroll in ETC programs, please contact the main administrative office at:
45-720 Kea'ahala Road, Kaneohe, HI 96744
Telephone: 808-235-7362 Fax: 808-235-7434
Web site: etc.wcc.hawaii.edu.

Office of Continuing & Community Education

Windward Community College seeks to improve the quality of life and provide direct educational assistance to individuals, businesses, and special interest groups. OCCE provides services for individual communities and the general public by making available a variety of instructional, cultural, recreational, and career/workforce services in which the institution has special competence or the community has special needs. OCCE also coordinates campus and off-campus programs for senior citizens.

The College offers non-credit instructional opportunities on and off-campus in Windward O‘ahu. Persons who are interested in seminars or courses should contact the Office of Continuing & Community Education at 808-235-7433.
Admission Information

Eligibility
Windward Community College welcomes part-time and full-time students who desire to attend college and can benefit from the educational program offered. Windward Community College is open to any U.S. high school graduate or equivalent (e.g. GED) or person 18 years of age (prior to the start of the semester) or older.

A special early admissions program (Early Admit or Running Start) for high school junior/senior students with outstanding academic records may be accommodated on a space available basis as an unclassified status. The Running Start program allows public high school students attend college while earning both high school and college credits. In addition to the University of Hawai‘i System Application form, students must apply (via Special Early Admissions/Running Start application) through their high school counselor. To continue enrollment at Windward Community College, students are required to re-apply to the college each semester.

The enrollment of non-residents and international students is governed by the Board of Regents policy.

Application Deadlines
Deadlines for filing applications for priority admissions are August 1 for Fall Semester, December 1 for Spring Semester and May 1 for Summer Term. Late applications will be accepted (late registration fee may be assessed), though some programs/classes have limited openings. Applicants are advised to file their application as early as possible.

General Admissions Requirements

1. Application
Complete and submit the University of Hawai‘i System Application Form by the application deadline. Applications are available at Windward Community College Admissions and Records Office, or from any Hawai‘i high school counselor, or on our Web site at windward.hawaii.edu.

Students who missed (stopped-out) for a semester or more (Fall/Spring) must complete a new application for the semester they wish to re-enter.

2. Placement Testing
Placement testing in math and English is required if a student wishes to register in math and English courses or any course with a math/English prerequisite. Test results will indicate the level at which to start at Windward Community College. The placement tests are for placement purposes only and are not admission tests. There is no charge for initial placement testing. Test scores and prerequisite courses are valid for two years. A picture ID and UH ID number is required. Contact The Testing Center in Hale Alaka‘i, Room 106.

Transfer students who have completed college-level courses in math and English are not required to take the placement tests.

Proof of completed courses will be required at the time of registration.

3. Health Clearances
In compliance with Hawai‘i State Department of Health regulations (Hawai‘i Administrative Rules, Chapter 11-157), applicants, must submit proof of health clearances for tuberculosis (TB) and MMR (Measles, Mumps, Rubella vaccine) prior to registration to the Admissions and Records Office.

4. Orientation Session
All new and transfer students are encouraged to attend an Orientation session conducted by our counselors. At this meeting, students receive information on how to select classes and how to register. Contact Student Services in Hale ‘Ākoakoa, Room 212.

Admission of International Students
Windward Community College is authorized under federal law to enroll non-immigrant students. International students must comply with all regulations of U.S. Department of Homeland Security and the University of Hawai‘i policies and procedures.

The application process should start at least five months prior to the deadline in order to successfully complete the application on time. Once all documents are received and if accepted, a letter of acceptance and an I-20 form will be sent to the international student. The student will need to use the I-20 form to apply for a student visa through the U.S. Embassy or Consulate of the country. Also, there is a Student and Exchange Visitor Information System (SEVIS) fee payable to the Department of Homeland Security (DHS).

Step 1 - Take the Test of English as Foreign Language (TOEFL Web site ets.org)

- Score must be within 2 years prior to the start of the semester
- Minimum score must be 500 (paper-base), 173 (computer-base), or 61 (internet-base)
- Score must be sent directly by Educational Testing Services to WCC Admissions and Records Office (#4976)

Step 2 - Submit University of Hawai‘i System Application Form

- Download the UH System Application Form
- Include non-refundable payment of non-resident application fee of $25.00 US dollar (do not send cash)
- Must be accepted in an approved classified degree program at WCC

(Continued)
Admission Information

Step 3 - Submit University of Hawai‘i Supplementary Information Form for Undergraduate International Applicants
- Download the UH Supplementary Form for international students
- The form includes an affidavit of financial support that shows sponsorship and/or financial support in US dollars for tuition, books/supplies, and living costs for the duration of study (refer to supplementary application for estimated cost of attendance)
- Include Sponsor’s bank statement, must be within the last 6 months

Step 4 - Submit Transcripts
- Official high school (secondary) transcripts showing evidence of successful completion of schooling equivalent to 12 years of US education sent directly by the high school to WCC Admissions and Records Office (must include graduation date)
- Official college (post secondary) transcripts must be sent directly by college to WCC Admissions and Records Office
- All transcripts must be in English or accompanied by an English translation that has been certified by either a school official or a U.S. consular official

Step 5 - Meet the Deadline
- All documents stated above must be submitted to WCC Admissions and Records Office by the deadline
  - Fall Semester is June 1
  - Spring Semester is November 1
  - Summer Semester not accepting application

Step 6 - Submit Health Examination and Immunization prior to registration
- Must provide a certificate of tuberculosis examination dated within 12 months prior to the start of the semester with date administered and reading of Mantoux skin test (PPD) and measurement in millimeters of indurations
- Must provide record of immunization containing two doses of measles with at least one of the two being Measles-Mumps-Rubella (MMR) vaccine OR a blood test showing laboratory evidence of immunity to MMR (student born before 1957 is exempt from MMR requirement)
- TB/MMR records must be signed or stamped by U.S. licensed provider

Step 7 - Obtain Health Insurance/Medical Health Insurance prior to registration
- Provide proof of having purchased a valid, up-to-date medical health insurance
- To protect international students against the high cost of unanticipated health care expenses resulting from accidents or illness

Step 8 - Once accepted, register at least full-time status (12 credits) at WCC

Residency Regulations for Tuition Purposes
Students who do not qualify as bona fide residents of the State of Hawai‘i, according to the University of Hawai‘i rules and regulations in effect at the time they register, must pay the non-resident tuition. An official determination of residency status will be made prior to enrollment. Applicants may be required to provide documentation to verify residency status.

Once classified as a non-resident, a student continues to be so classified during his/her term at the college until he/she can present clear and convincing evidence to the residency officer that proves otherwise prior to the first day of the term.

For additional information or interpretation, contact the residency officer in the Admissions and Records Office. Some of the more pertinent University residency regulations:

Definition of Hawai‘i Residency
1. A student is deemed a resident of the State of Hawai‘i for tuition purposes if the student (19* or older) or the student (under 19*) and his/her parents or legal guardian have:
2. Demonstrated intent to permanently reside in Hawai‘i (see below for evidences);
3. Been physically present in Hawai‘i for the 12 consecutive months prior to the first day of instruction, and subsequent to the demonstration of intent to make Hawai‘i his/her legal residency; and
4. The student, whether adult or minor, has not been claimed as a dependent for tax purposes for at least 12 consecutive months prior to the first day of instruction by his/her parents or legal guardians who are not legal residents of Hawai‘i.

To demonstrate the intent to make Hawai‘i your legal residency, the following evidence apply:
A. Filing Hawai‘i resident personal income tax return.
B. Voting/registering to vote in the State of Hawai‘i.

Other evidence, such as permanent employment and ownership or continuous leasing of a dwelling in Hawai‘i, may apply, but no single act is sufficient to establish residency in the State of Hawai‘i.

Other legal factors in making a residency determination include:
A. The 12 months of continuous residence in Hawai‘i shall begin on the date upon which the first overt action (see evidences) is taken to make Hawai‘i the permanent residence.
Residence will be lost if it is interrupted during the 12 months immediately preceding the first day of instruction.

B. Residency in Hawai‘i and residency in another place cannot be held simultaneously.

C. Presence in Hawai‘i primarily to attend an institution of higher learning does not create resident status. A non-resident student enrolled for 6 credits or more during any term within the 12-month period is presumed to be in Hawai‘i primarily to attend college. Such periods of enrollment cannot be applied toward the physical presence requirement.

D. The residency of unmarried students who are minors follows that of the parents or legal guardian. Marriage emancipates a minor.

E. Resident status, once acquired, will be lost by future voluntary action of the resident inconsistent with such status. However, Hawai‘i residency will not be lost solely because of absence from the State while a member of the United States Armed Forces, while engaged in navigation, or while a student at any institution of learning, provided that Hawai‘i is claimed and maintained as the person’s legal residence.

*The age of majority is 18 years. However, a person between the ages of 18 and 19, unless emancipated, cannot claim residency solely on the basis of himself/herself because he/she does not have the minimum 12 months residency which commences on his/her 18th birthday. Therefore, the applicant must claim a portion of the required 12 months on the basis of his/her parent or legal guardian.

**Board of Regents Exemptions**

1. Non-residents may be allowed to pay resident tuition if they qualify as one of the following:

   A. United States military personnel and their authorized dependents (as defined by the Armed Services) during the period such personnel are stationed in Hawai‘i on active duty.

   B. Members of the Hawai‘i National Guard and Hawai‘i-based Reserves.

   C. Full-time employees of the University of Hawai‘i and their spouses and legal dependents (as defined under Internal Revenue Service rules).

   D. East-West Center student grantees pursuing baccalaureate or advanced degrees.

   E. Hawaiians, descendents of the aboriginal peoples that inhabited the Hawaiian Islands and exercised sovereignty in the Hawaiian Islands in 1778.

   2. Citizens of an eligible Pacific island district, commonwealth, territory, or insular jurisdiction, state, or nation which does not provide public institutions that grant baccalaureate degrees may be allowed to pay 150% of the resident tuition.

These currently include the following:

- American Samoa
- Commonwealth of the Northern Mariana Islands
- Cook Islands
- Federated States of Micronesia
- Marshall Islands
- Palau
- Niue
- Republic of Palau
- Republic of the Marshall Islands
- Solomon Islands
- Tokelau
- Tonga
- Tuvalu
- Nauru
- Vanuatu
- New Caledonia
- Wallis

**Misrepresentation**

A student or prospective student who provides incorrect information on any form or document intended for use in determination of residency status for tuition purposes will be subject to the requirements and/or disciplinary measures provided for in the rules and regulations governing residency status.

**Appeal Process**

Residency decisions may be appealed by the deadline. Contact the residency officer in the Admissions and Records Office for information on how to initiate an appeal.

**Veterans Administration**

Windward Community College is a State-approved school for veterans’ benefits. Information regarding eligibility, entitlement and types of training authorized may be obtained from the Veterans Administration Regional Office. The Admissions and Records Office is responsible for VA enrollment certification. VA enrollment certification will not be processed if the student has a financial obligation to the University of Hawai‘i. VA students must have their prior credits from another college/training evaluated for possible transferring of credits into the college to avoid delay in VA enrollment certification.

**Change of Address**

Students are responsible for keeping the Admissions and Records Office informed of their current address (e.g. mailing, permanent). International students permanent address must be their home country.

**Change of Major**

Students who wish to change their major must submit the Student Record Changes form to the Admissions and Records Office in Hale Ala‘a‘i, Room 112. The new program/major is effective the following semester once school begins.
Financial Information

Tuition and Fees

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<th>2010-11</th>
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<td>Student Publication Fee</td>
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For Credit Courses | Summer 2010 | Summer 2011 |
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<td>Student Publication Fee</td>
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</tbody>
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Credit Courses
All tuition and fee charges at University of Hawai‘i campuses are subject to change in accordance with requirements of state law and/or action by the Board of Regents or the University administration.

Non-Credit Courses
Tuition and fees vary, depending on the length of the course. Contact the Office of Continuing Education for detailed information.

Dishonored Check Fee
A $25 service charge is assessed for checks which were made out to the University of Hawai‘i and returned for any cause.

Late Registration Fee
A $30 for Fall/Spring and $10 for summer additional fee is charged for registration during or after the late registration period.

Add/Drop Fee
A $5 fee is charged for every schedule change made in person during or after the late registration period. Additional tuition and fees may be applicable when adding a class. There is no fee charged for adding/dropping courses online.

Graduation Fee
A $15 fee ($15 extra for a Hawaiian Language diploma) is payable at the time of application for graduation. Diplomas and certificates will not be processed without this payment.

Transcript Fee
A $5 fee is charged for each transcript that is sent outside of the University of Hawai‘i System, for student copies, or for UH non-admission purposes. Rush requests are $15 per copy for 24-hour processing. Additional postage fees are charged for a transcript that is sent outside of the United States.

Non-Resident Application Fee
A $25 nonrefundable, nontransferable fee is charged for all non-resident applicants (except for members of the U.S. Armed Forces or dependents of such members, stationed in Hawai‘i, on active military duty).

Educational Record Fee
A $2 fee is charged for a copy of each educational record (e.g. fee statement).

Printing Fee
A minimum fee of $.09 per page is charged to print on the public printers in the Library.

Payments
Login to MyUH, select Academic Services and the Review My Charges/Make an Online Payment page that displays the current amount you owe. A bill will not be mailed to you. ONLY FULL PAYMENT IS ACCEPTED. If you are receiving a tuition waiver or scholarship, check with your home campus financial aid office or the awarding department before making payment. You may pay by cash, personal check, money order, cashier’s check, or via MyUH using MasterCard, Visa.
or JCB. Payment plan is also available. For more information, go to myuhinfo.hawaii.edu and click on View Payment Plan Information.

It is the responsibility of students to pay their tuition/fees or drop their courses by the deadline that may cause a financial obligation. Not doing so will lead to a financial debt, that if not paid, will be sent to a collection agency. Refer to Financial Obligations to the University policy.

**Refunds**

You must first formally withdraw from your class(es) online or in person. If you are eligible for a tuition refund, allow a minimum of 6 weeks to process. Refer to the Academic Calendar or Schedule of Classes for refund dates.

**Tuition**

If you withdraw from the College or any of your courses, you may be eligible for a tuition refund. The amount of refund is determined by the date of official withdrawal.

**Activity Fees**

If a complete withdrawal from all courses is made before the end of the late registration period, you will receive a 100% refund of the Student Activity fee and Board of Publication fee.

**Cancelled Classes**

A 100% tuition/fees refund is made available to a student if classes are cancelled by the College and the student does not reenroll in other classes.

**Financial Obligations to the University**

Students who have not satisfactorily adjusted their financial obligations to any part of the University of Hawai‘i System (such as tuition and fees, traffic violations, parking tickets, unreturned library books, library fines, other fines, locker fees, laboratory breakage charges, transcript fees, loans past due, rental payments, etc.) may be denied grades, transcripts, diplomas and registration, including adds/drops and other entitlement services (e.g. Enrollment Verification, VA Enrollment Certification).

A copy of the “Rules and Regulations Governing Delinquent Financial Obligations Owed the University of Hawai‘i,” promulgated by the Board of Regents, is on file in the Office of the Vice Chancellor of Student Affairs.

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Students like Chenoa, who live on the Windward side of O‘ahu, save money and time by taking classes at Windward Community College. Chenoa is a linguistics major at UH-Mānoa and also takes language and liberal arts classes at WCC.
Financial Aid Information

Windward Community College offers financial aid to students who seek help in funding their cost of education. These expenses may include tuition charges, student fees, books, supplies, living expenses, personal expenses and childcare costs. The Financial Aid Office administers federal, state and institutional aid programs in the form of grants, student loans, scholarships, and employment opportunities.

Basic Eligibility Requirements
Students must meet basic eligibility requirements to qualify for federal and state financial aid. These basic requirements are as follows:

- You must be seeking a certificate or degree from Windward Community College (WCC).
- You must either have graduated from high school, received a GED or demonstrate the Ability-To-Benefit (based on your score on the placement test.)
- You must be either a U.S. citizen or an eligible non-citizen (i.e. permanent resident alien.)
- Males between the ages of 18 and 25 years old must register with the Selective Service or prove exemption from registering.
- Continuing students must be making satisfactory academic progress towards their degree and have at least a cumulative GPA of 2.0 at WCC.
- You must not owe a refund on a federal grant or be in default on a student loan.

Federal Financial Aid Programs

The Federal Pell Grant
Pell Grants are based on demonstrated need and is awarded to students who have not earned a bachelor's degree. This grant does not have to be repaid.

The Federal Supplemental Educational Opportunity Grant (SEOG)
The SEOG is based on exceptional financial need and is awarded to students who are enrolled at least half-time. This grant does not have to be repaid and funds are limited.

The Federal Academic Competitiveness Grant (ACG)
The ACG is based on exceptional financial need, Federal Pell Grant eligibility, the student must have a graduation date from high school after January, 2005, and must have passed an approved high school curriculum. An official high school transcript will need to be sent to the Financial Aid Office in addition to filing a FAFSA.

The Hawai'i Student Incentive Grant (HSIG)
The HSIG is a grant available to students who are residents of the State of Hawai'i, demonstrate exceptional financial need and are eligible for a Federal Pell Grant. Funds are limited.

The Federal Work-Study Program
The Work-Study program is based on demonstrated financial need and offers students the opportunity to earn their financial aid award through part-time employment on campus. Work hours are scheduled around a student's class hours and it's a great opportunity to gain valuable work experience while attending school.

The Federal Perkins Loan
The Perkins loan is a fixed, low-interest rate (5%) student loan. The school is the lender for this type of loan program. Interest accrual and repayment does not begin until 9 months after the student ceases to be enrolled at least half-time.

The Federal Direct Subsidized Stafford Loan
This loan is made to the student and is based on financial need through the filing of a FAFSA. There is no interest accrual while the student is enrolled in school at least half-time. A fixed interest rate of 4.5% will be assigned to the loan at the point the student enters repayment. The maximum award is based on a student's class standing - $3,500 per year for a first-year student and $4,500 per year for a second-year student. Repayment begins 6 months after the student ceases to be enrolled at least half-time.

The Federal Direct Unsubsidized Stafford Loan
This loan is made to the student and has a fixed interest rate of 6.8%. The maximum award is based on a student's dependency, status, level of need, and class standing. The maximum award is $9,500 per year for a first-year student and $10,500 per year for a second-year student. Repayment begins 6 months after the student ceases to be enrolled at least half-time.

The Federal Direct Parent Loan for Undergraduate Students (PLUS)
PLUS loans have a fixed interest rate of 7.9% and are made to a parent of dependent undergraduate students. The loan amount is based on the student’s cost of attendance minus any aid awarded to the student. Repayment of this loan begins 60 days after the funds are disbursed.

State Financial Aid Programs

The UH Opportunity Grant is based on financial need and the student must be enrolled at least half-time. Funds are limited.

The State of Hawai'i Higher Education Loan (available only within the University of Hawai'i System) is a fixed, low-interest rate (5%) student loan for bona fide State of Hawai'i residents. The school is the lender for this type of loan program. The amounts offered by institutions vary but the maximum award at WCC is $3,000 per year. Interest accrual and repayment does not begin until 9 months after the student ceases to be enrolled at least half-time. This type of loan has deferment and cancellation benefits.
Scholarships

The UH Centennial Scholarship is a $1,000 award for incoming full-time students who will graduate from a Hawai'i high school in May 2007 or later. The student must have a cumulative high school GPA of at least 3.8 or higher or a combined score of 1800 on the three-part SAT Reasoning Test (or ACT equivalent). The student must submit their official Hawai'i high school transcript or test scores to the Financial Aid Office.

The State of Hawai'i B Plus Scholarship is for students who are eligible for a Pell Grant and graduated from a public Hawai'i high school in May 2006 or later. The student must have a cumulative public Hawai'i high school GPA of at least 3.0 or higher. The student must submit their official Hawai'i public high school transcript to the Financial Aid Office.

Other scholarships also available through the Financial Aid Office each year pending funding are as follows:

- Charles Hemenway Scholarship
- Garden Club of Honolulu Club Scholarship
- Gary Stice Excellence in Geoscience Scholarship
- Hawai'i Veterans Memorial Scholarship
- John Young Scholarship
- Lani-Kailua Outdoor Circle – WCC AG Scholarship
- Minami Foundation Scholarship
- Paul & Jane Field Scholarship
- Phil Hagstrom Endowed Scholarship
- Windward Community College Scholarship Fund

Applications for these scholarships are available online at windward.hawaii.edu/Financial_Aid/ or at the Financial Aid Office from February through April of each year. The Financial Aid Office has a bulletin board with announcements of internal and external scholarships funded by generous donors. Please visit the scholarship board located in the hallway of the Hale Alaka'i building fronting Room 107 throughout the year.

Application Process

The FAFSA (Free Application for Federal Student Aid) is used to apply for federal, state and some scholarship aid programs. Students are encouraged to apply on-line and as early as possible since some financial aid programs have limited funds.

You can file a FAFSA electronically at fafs.a.ed.gov. We suggest you print out the FAFSA on the Web Worksheet to note your answers and organize them for submission. You (and your parent if you are classified as a dependent based on the FAFSA definition) will need a PIN number(s) for electronic signature purposes. A PIN number can be obtained by visiting pin.ed.gov. Upon obtaining your PIN number(s), you can submit your FAFSA data electronically. If you encounter difficulties in the electronic process, please contact the Financial Aid Office or the Federal Student Aid Information Center at 800-433-3243 for assistance.

WCC’s Federal School Code for the FAFSA is 010390.

You can also schedule an appointment with the Financial Aid office and we can assist you with completing and filing a FAFSA.

Upon processing your FAFSA, the federal government will forward the results of the application to you and to each school noted on the FAFSA. Upon determination of your aid eligibility, the Financial Aid Office will inform you in writing of your award status and provide you with additional information regarding your financial aid award.

Withdrawal And Refund Policy For Financial Aid Recipients

Financial aid recipients are advised to contact the Financial Aid Office prior to withdrawing from class(es) at the College for it may result in the repayment of all or part of the aid awarded to the student.

In the event a financial aid recipient completely withdraws from the College, any refund due to unearned tuition and fees will be applied to the financial aid program(s) from which the student benefited. The order of financial aid programs to which the refund will be applied is available at the Financial Aid Office.

For inquiries on financial aid, please call 808-235-7449, visit the Financial Aid Office in Hale Alaka'i, Room 107, or log onto our Web site at windward.hawaii.edu/financial_aid/.
Centers for Learning

Computer Labs
Windows PCs and Apple Macintosh computers with Internet access are available for use by all Windward students in the Library, the Student Activities Center 'Ākoakoa 232, and several other locations around campus. The software applications available include the Microsoft Office suite (Word, PowerPoint, Excel, and Access) and various Adobe programs (Acrobat Professional, Contribute, Dreamweaver, Illustrator, InDesign, Photoshop Elements, and Photoshop Extended). A reasonable per-page fee is charged for black-and-white and color printing.

Use of the computer labs and all other Windward computing resources must conform to UH Executive Policy E2.210 “Use and Management of Information Technology Resources” (hawaii.edu/infotech/policies/itpolicy.html).

Further information about the computing resources available to students is posted on the college Web site at windward.hawaii.edu/computing.

The Testing Center (TTC)
The Testing Center (formerly The Learning Center) located in Alaka'i 106, is open daily. Services include assessment of students' skills in reading, writing and math.

Library
The library in Hale La'akea serves as a source of learning resources and a place to study and use print and nonprint resources. The library houses a collection of books, periodicals and audiovisual materials and maintains a collection of online journal bases and e-books which are accessible from off campus. Computers with Internet access and standard software applications are provided for students to do research, access journal databases and e-books, and prepare papers and presentations.

A reference librarian is available at all times to assist students and faculty in locating information, learning to use library resources, evaluating sources of information, and citing these sources. Resources of other libraries in the University of Hawai‘i system are available to students and faculty through intersystem loans.

Students need a Windward Community College ID card to borrow books and other materials. The library also welcomes use by other University of Hawai‘i students and community members.

For additional information, contact the library at 808-235-7338 or visit library.wcc.hawaii.edu.

Math Lab
The Math Lab, located in Hale Mana‘opono, Room 103, is open daily. Services include drop-in tutorial assistance in math, access to math lab resources and references, and assessment/advising in math.

Media Center
The Media Center is maintained by the College primarily to serve the instructional staff in the development of instructional/learning resources. The Center provides service to students by assisting them with the audiovisual requirements of student projects. The Center is located in Hale No’eau.

Fujio Matsuda Technology Training and Education Center
The Office of Continuing and Community Education administers the Fujio Matsuda Technology Training and Education Center which was established in 1985 to serve as a technological education center for the Windward O‘ahu community. The Center, supported by a generous contribution of $1 million over a 5-year period from a group of donors, provides a “high tech, high touch” approach to computer education and training.

The Matsuda Center offers personal advising, a wide range of non-credit courses and workshops, and follow-up activities to individuals who wish to learn about computers in a friendly, low anxiety, high touch environment. The Center is an accessible and valuable community resource which meets the educational and training needs of individuals and businesses in Windward O‘ahu. For additional information on the Matsuda Center, please call 808-235-7433.

Center for Aerospace Education
The Center for Aerospace Education (CAE), which was established in 1986, supports WCC’s credit and community outreach programs in aerospace science. The mission of the CAE is to inspire students to actively engage in science activities through informal experience and formal education, to explore career options in aerospace science and industry, and to become informed, contributing citizens by becoming science-literate.

The following facilities and services are offered by the CAE:
- Aerospace Exploration Lab
- Hōkūlani Imaginarium
- NASA Flight Training Aerospace Education Laboratory
- Lanihuli Observatory
- Hawai‘i Space Grant–Windward

The CAE also sponsors teacher workshops and offers consultation to students and teachers on aerospace education and science projects.

The goals of the CAE are to:
- help students develop high-tech skills to succeed in a knowledge-based global economy;
- increase enrollment and success of K-12 students in science, mathematics and technology courses in high schools;
• generate greater interest in careers in science and help facilitate the successful transition of students from high school to post-secondary institutions; and,

• increase the number of underserved students entering college who choose to major in science, technology, engineering and mathematics (STEM) and have the skills necessary to successfully complete their higher education.

For more information, contact Prof. Joseph Ciotti at 808-236-9111 or visit the web site at aerospace.wcc.hawaii.edu.

Aerospace Exploration Lab
The Aerospace Exploration Lab (AEL), which is managed by the college's Center for Aerospace Education (CAE), provides instructional materials and services in astronomy, aeronautics (rocketry), aeronautics (aviation) and atmospherology (weather and climate). Founded in 1989, this educational resource center acts as a "hands-on" science exploratorium, assisting K-12 students and teachers in discovering scientific principles through low-tech experiential activities.

The AEL also houses a library of aerospace books, magazines, videos, posters, curricular programs and demonstration models.

School tours of the Aerospace Exploration Lab are available on a reservation basis. Visitors can explore the world of science at the Discovery Pad—a hands-on exploratorium, as well as view numerous displays depicting air and space exploration from early flight to the future.

The AEL is located in Hale 'Imiloa, Room 135 (Science Building). All services are free of charge. For inquiries and reservations call 808-235-7321, or visit aerospace.wcc.hawaii.edu/AEL.html.

Hawai'i Space Grant Consortium—Windward
Windward Community College is a participating member of the Hawai'i Space Grant College (HSGC), which promotes student involvement in space science education. Each semester, a limited number of stipends are available to college students engaged in space-related projects. Students choose a topic under the guidance of a faculty mentor with whom they work throughout the semester. Past projects have included space science curriculum development, astronomical observations, remote sensing of the earth, space art, and zero-g research through the NASA Reduced Gravity Student Flight Opportunities Program on-board its KC-135A aircraft. WCC Space Grant students are currently engaged in CanSat/ARLLISS projects involving high-powered rocketry and payload probe design and construction. Each semester, students have the opportunity present their work at the HSGC Fellowship Symposium. HSGC—Windward is located in Hale 'Imiloa 112 and managed by the college's Center for Aerospace Education (CAE). Contact Prof. Joseph Ciotti for further information at 808-236-9111 or visit the web site at aerospace.wcc.hawaii.edu/HSGC.html.

Hoa'aina RS/GIS Center for Environmental Monitoring
The Hoa'aina RS/GIS Center for Environmental Monitoring serves to facilitate WCC’s undergraduate curriculum in Remote Sensing (RS), Geographic Information Systems (GIS) and Global Positioning System (GPS). This center, managed under the Pacific Center for Environmental Studies (PaCES), further serves as a resource to researchers, managers, educators and community members whose work can benefit from the application of these advanced technologies. Current applications involve coral reef monitoring in Kāneʻohe Bay, identifying the geographic distributions of introduced species, stream mapping in the Windward O'ahu watershed, and documenting Hawaiian fishpond restoration.

The Hoa'aina RS/GIS Center for Environmental Monitoring is designated as a NASA Center of Excellence in the Training and Applications of Remote Sensing and Geographic Information System to Environmental Monitoring. For further information, contact either Dr. David Krupp at 808-236-9121 or Prof. Floyd McCoy at 808-236-9115 or visit the Web site at hoaaina.wcc.hawaii.edu/mainmenu/menu.htm.

Hōkūlani Imaginarium
The Hōkūlani Imaginarium is a high-tech, multi-media planetarium and scientific visualization theater under the management of the college's Center for Aerospace Education (CAE). Dedicated in October 2001, the Imaginarium supports the college's astronomy curriculum and community outreach efforts. The theater includes a Digistar II projector with over 80 additional special effects projectors. Its 66 seats are equipped with interactive buttons for audience participation. This facility is available for K-12 visits as well as group and public shows. For school tours call 808-235-7321. For public shows contact the college's Office of Continuing Education at 808-235-7433. An admission fee is charged for shows. For general information, call the Imaginarium Manager at 808-236-9169 or visit the Web site at hoaaina.wcc.hawaii.edu/mainmenu/menu.htm.

Gallery 'Iolani
Gallery 'Iolani is recognized as one of the finest exhibition sites in the state of Hawai'i, showing work from local, national and international venues. It is the mission of Gallery 'Iolani to promote exhibitions of cultural and educational significance. The gallery also serves as a classroom for students studying gallery design and management at WCC. Gallery 'Iolani is located adjacent to Palikū Theatre in the Hale Pālanakila complex. For more information about the gallery and/or opportunity to study in the gallery design class, contact art professor and Gallery director Toni Martin at 808-236-9150, or visit gallery.wcc.hawaii.edu.
Centers for Learning

Kuhi La’au
The Kuhi La’au Tropical Plant and Orchid Identification Facility: Inouye and Rifai Collection is located in Hale ‘Imiloa, Room 112-A. It was dedicated on February 9, 2000. The facility provides a free plant identification service, focusing on plants of Hawai‘i, tropical plants of Asia and the Pacific, and orchids. Fresh samples of branches, flowers or fruits can be sent to the facility for identification. Information regarding plant names and ethnobotanical uses will be mailed to the sender within a week. For further information, contact Dr. Ingelia White at 808-236-9102.

Climate-Controlled Greenhouse
The climate-controlled greenhouse is located next to Hale ‘Imiloa. It was acquired through a grant from the Pacific Center for Advanced Technology Training (PCATT), and was dedicated on October 3, 2001. The greenhouse provides a controlled atmosphere for mericlones and seedlings to thrive out of their post-in-vitro culture. It also houses orchid species for identification purposes. Contact Prof. Ingelia White for further information at 808-236-9102.

Lanihuli Observatory
Lanihuli Observatory is an astronomical and meteorological observatory under the management of the college’s Center for Aerospace Education (CAE). Dedicated in Oct 2007, Lanihuli Observatory supports the college’s astronomy labs, HSGC student projects, K-12 outreach and the general public. This facility includes:

- NOAA weather satellite tracking station providing real-time images of the weather and ocean conditions surrounding Hawai‘i as well as an on-site weather station.
- Solar telescope (heliostat) consisting of a 6-inch refractor capable of white light projection and direct H-alpha viewing.
- 16-inch optical Schmidt-Cassegrain telescope under an automated 16-foot dome.
- Cosmic ray telescope operated in affiliation with Fermilab’s QuarkNet project.
- Visitor’s Gallery with library and earth/space science kiosks including a 24-inch Magic Planet display.

Radio observations of Jupiter and the sun are streamed to students around the world via the Internet.

The Lanihuli Observatory is available for daytime school tours and to the general public after evening Imaginarium shows. There is no charge to visit this facility. To schedule school tours, contact 808-235-7321. For general information, call Prof. Joe Ciotti at 808-236-9111 or visit the web site at jupiter.wcc.hawaii.edu/newradiojove/lanihuli.html.

The radio telescope for listening in on Jupiter and the sun will operate from the control room in affiliation with NASA’s Radio Jove Project. Data collected from this radio telescope is already available to classrooms across the country via the Internet. A NOAA weather satellite tracking station will allow students to view live images of Hawai‘i’s cloud cover and weather.

The Lanihuli Observatory will be used by students enrolled in the College’s astronomy courses and Hawai‘i Space Grant program, as well as by the thousands of K-12 students who visit the Imaginarium and Aerospace Exploration Lab at Windward Community College. Lanihuli is available to the general public after evening Imaginarium shows. For more information, call Prof. Joe Ciotti at 808-236-9111 or visit the Web site at jupiter.wcc.hawaii.edu/newradiojove/lanihuli.html for more information.
Tissue Culture and Plant Biotechnology Laboratory
The laboratory is located in Hale 'Imiloa 101-A. It is supported through the grants from USDA–CSREES (Cooperative State Research, Education, and Extension Service), and was dedicated on February 5, 2003. The Tissue Culture and Plant Biotechnology Laboratory is an aseptic room used for in vitro culture and gene transformation operations. Contact Prof. Ingelia White at 808-236-9102.

Bioprocessing Medicinal Garden Complex
The Bioprocessing Medicinal Garden Complex is located across from the Hale 'Imiloa building and was dedicated on June 18, 2007. It consists of three facilities: the medicinal garden (containing plants from Asia, the Pacific, and America), the aquaponic system, and the bioprocessing facility. The complex is supported through the grants from USDA-CSREES (Cooperative State Research, Education, and Extension Service) and USDA-SPEC (Secondary and Two-Year Post secondary Agriculture Education Challenge). The medicinal plants grown organically in the garden and in the aquaponic system are processed into bioproducts in the bioprocessing facility. For more information, contact Prof. Ingelia White at 808-236-9102.

Water Quality Laboratory
The Water Quality Lab, a Windward Community College facility, is managed by the Pacific Center for Environmental Studies (PaCES). Located in Hale ‘Imiloa, the Lab conducts collaborative projects with community agencies and is a learning center for students who wish to gain experience in sampling and analysis of water from streams, the ocean, or subsurface sources. Students may participate in the project for credit as an undergraduate directed research course (independent study) through the Marine Option Program, or through PaCES. For an example of the kind of work conducted, please visit wcc.hawaii.edu/usda/Heeia/. Paid internships may be available from the Pacific Center for Environmental Studies. For additional information, contact either Prof. Floyd McCoy at 808-236-9115 or Prof. David Krupp at 808-236-9121.

NASA Flight Training Aerospace Education Laboratory
NASA Flight Training Aerospace Education Laboratory (AEL) was dedicated in 2002 in partnership with NASA’s Glenn Research Center. Managed by the college’s Center for Aerospace Education (CAE), this facility houses computer simulators designed for exploring careers in aerospace. Included are a research-grade windtunnel, a zero-gravity drop tower and a flight simulator. Located in Hale ‘Imiloa, Room 112, the NASA Flight Training AEL supports the college’s astronomy curriculum, other STEM–related programs, and Hawai‘i Space Grant students, and serves as a community outreach resource for students in grades six and above. There is no charge for this venue. For school tours, contact 808-235-7321. For general information, contact Dr. Jacob Hudson at 808-347-8246 or visit aerospace.wcc.hawaii.edu/NASAael.html.

Pacific Center for Environmental Studies (PaCES)
Housed within the Department of Natural Sciences, the Pacific Center for Environmental Studies (PaCES) encourages and supports environmental science education, research and stewardship at Windward Community College through the following activities: undergraduate environmental science enrichment through classroom instruction and research; workforce training; K-12 environmental science enrichment; teacher training; and community environmental science awareness.

PaCES is guided by the following Themes:
- Understanding the functioning of ecosystems and human influences on them;
- Viewing humans as functional components of ecosystems from historical, cultural and social, as well as scientific, perspectives;
- Recognizing that the quality of human life is dependent upon the quality of our environment and our ability to sustain our humanity within this environment;
- Promoting stewardship through wise and thoughtful management of our environment and natural resources, looking to traditional practices and promising technologies of the future; and
- Embracing ahupua‘a as a symbol for sustainability and positive human interaction with the environment.

Along with providing support for the College’s environmental studies courses, PaCES’s also integrates and coordinates WCC’s Academic Subject Certificate in Bio-Resources Development and Management, the Marine Option Program, the Hoa‘aina RS/GIS Center for Environmental Monitoring, a Water Quality Laboratory. For more information, contact either Prof. David Krupp at 808-236-9115 or Prof. Floyd McCoy at 808-235-9115, or visit the Web site at wcc.hawaii.edu/paces/.

Palikū Theatre
Palikū Theatre—the jewel of Windward O‘ahu—is a state-of-the-art, 300-seat theatre that provides theatrical opportunities to students, faculty and the community, while promoting cultural diversity in an educational setting. Palikū Theatre has been in operation since July, 2002 and offers a unique, flexible and affordable performance venue for students and members of the community to showcase their talents. The theatre is also home to an in-house production company, which has successfully staged such popular productions as Fiddler on the Roof, My Fair Lady, Big River, South Pacific, Miss Saigon, and Oklahoma! The facility is also used as a venue for lectures, seminars and special speaking engagements as part of the college’s educational and community service programs. For more information, you may contact theatre manager Tom Holowach at 808-235-7330, or visit wcc.hawaii.edu/paliku.
Although advisory services are provided and students are encouraged to take advantage of them, students themselves are ultimately responsible for following the proper procedures and completing the work required in courses and programs.

Academic Advising
Academic advisors are available to help students develop a program of study to meet their educational objectives. In meeting with an academic advisor, students will have an opportunity to develop an individualized educational plan along with a program of academic support throughout their college experience. Students will also receive guidance in academic planning through assistance in course selection.

Academic advising sessions are conducted throughout the registration period and may be arranged on an appointment basis by phoning Student Services.

Personal Counseling
Student Services counselors are available to assist students with personal or college-related problems and to help assess personal growth and development.

Student Employment
Job placement assistance is available on a limited basis for referrals to on-campus jobs through the Personnel Office. Eligibility is based on a minimum enrollment of 6 credits within the University of Hawai‘i system and a minimum GPA of 2.0. Call 808-235-7404 or stop by Hale Alaka‘i, Room 120. See the Federal Work Study Program (FWSP) section for more information.

Services to Students with Disabilities
In accordance with Section 84.4 of the Federal rules and regulations governing Section 504 of the Rehabilitation Act of 1973, no qualified individual with a disability shall, on the basis of his/her disability, be excluded from participation in, be denied benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal financial assistance.

Students with disabilities, either permanent or temporary, are provided the following services:
- personal, academic and career counseling
- admissions and financial aid application assistance
- campus orientation
- registration assistance
- tutorial, reader, notetaker, interpreter, and/or other academic support services as needed
- campus accessibility map
- specifically designed auxiliary equipment to meet the needs of the disabled student

Students desiring special services are advised to contact the Disabilities Accommodations Coordinator at least six weeks prior to the beginning of the semester so that services may be arranged on a timely basis. For further information and assistance please call 808-235-7448.

For disability accommodations, please call 808-235-7448 or the TTY relay service at 1711 or 1511. Advance notice requested.
Hearing impaired individuals desiring information may contact the College by using the Telecommunication Device for the Deaf (TTY) relay service at 808-643-8833 or by using the TTY phone located in Hale Alaka‘i.

**TRiO Student Support Services (formerly STAAR)**

Windward Community College, in association with the federal government, has developed a program to assist students with special needs to make their college experience successful. The program provides remedial/developmental coursework, academic advising, counseling services, and free tutorial assistance for students who meet the federal government eligibility criteria. Students are encouraged to visit the TRiO Student Support Services office located in Hale Nauauao 146, or to call 808-235-7487, for further information.

**Student Activities and Organizations**

The Associated Students of the University of Hawai‘i at Windward Community College (ASUH-WCC) have an organized student government to develop a program of activities for students and members of the community. ASUH-WCC administers the use of student activity fees. Last year ASUH-WCC sponsored the College newspaper, *Ka‘Ohana*, the College literary magazine, *Rain Bird*, and other educational, cultural, and social activities.

Elections for ASUH-WCC seats are held each semester. Interested students are invited to participate in these activities.

**Student Participation in College Governance**

Students at Windward Community College are encouraged to participate in institutional policy making and in implementing the program of activities offered.

A number of College committees invite student participation in policy making. Students may also serve as instructors for non-credit courses, lab assistants, and as assistants in the development of a public services program.

Students interested in these activities should contact a member of the ASUH-WCC or the Student Services Office staff. To contact the ASUH-WCC, E-mail them at wccasuhi@hawaii.edu or call 808-235-7390.

Students are also encouraged to participate in campus clubs and organizations.

**Honor Society**

Students who have earned 12 credits with a cumulative grade point average of 3.5 are invited to join the Phi Theta Kappa National Honor Society each semester. The campus chapter is actively involved in sponsoring events for intellectual and scholarly growth and provides opportunities for service, social activities, and developing friendships for its members.

**Clubs and Societies**

- Botany Club
- Ceramics Club
- Chess and Backgammon Club
- Ka’Ohana
- Ke Kumau ‘Ōlelo Hawai‘i (Hawaiian Language Club)
- Kupono Hawaiian Club
- Music Club
- Palikū Players
- Phi Theta Kappa
- Psi Beta (Psychology Club)
- Russian Club
- Safe Spaces

**Food Services**

Cafeteria services are available in Hale ‘Ākoakoa (Campus Center). Several campus buildings are equipped with vending machines. There are several fast food restaurants in nearby Kāne‘ohe town.

**Parking**

There is no charge for parking, but parking is permitted in designated areas only. Cars parked in restricted areas may be towed away at the owners’ expense. The College assumes no liability for damage to or thefts from automobiles parked on campus.

Parking is permitted in the parking lots and along the roads marked for parking. No parking is permitted on the grass or in restricted areas indicated by signs or red or yellow markers.

Parking for disabled persons is provided in specially marked stalls. Special placards issued by the City and County of Honolulu are required to park in these marked stalls. Vehicles without a valid placard are in violation of HRS Sec. 19.150 and may be towed away at owners’ expense, in accordance with City Ordinance Sec. 15-24.11 (3d).

**Bookstore**

The Windward Community College Bookstore is operated for the convenience of the College’s students and staff and members of the community. Textbooks, related reference materials, and some supplies are available.

The Bookstore is located in Hale ‘Ākoakoa and is open Monday-Friday, 8:00 a.m. to 3:30 p.m. Phone 808-235-7418.

**Health Services**

The College provides no health services. Students are eligible to participate in a group health insurance program. Information may be secured through Student Services. Programs offering certain free or low cost health services are available at the Windward Comprehensive Health Center, adjoining the campus.
Lost and Found
Articles which are lost and found are taken to/or held at the Business Office in Hale Alaka‘i, Room 114.

Housing
The College has no dormitories and does not assist students in locating housing.

Attendance
Regular class attendance is expected of all students. Students who stop attending classes or never attended classes are likely to receive an F grade and responsible for any tuition/fees. To avoid this, official withdrawal must be made by the deadline. Refer to the Academic Calendar or Schedule of Classes for drop/withdrawal dates.

Electronic Channels for Communicating with Students
UH E-mail is the official means of communication within the University/College. Students are responsible for checking their E-mail account frequently and consistently to remain current with the University/College communications. Students are expected to monitor and manage their E-mail storage quota to insure that their mailboxes are not saturated and are able to receive new messages.

Student Conduct
The University of Hawai‘i Windward Community College has a Code of Student Conduct which defines expected conduct for students and specifies those acts subject to University sanctions. Students should familiarize themselves with the Code of Student Conduct, since upon enrollment at UH Windward Community College the student has placed herself/himself under the policies and regulations of the University and its duly constituted bodies. The disciplinary authority is exercised through the Student Conduct Committee. The Committee has developed procedures for hearing allegations of misconduct. Copies of the Student Conduct Code are available in the Office of the Vice Chancellor of Student Affairs.

Impermissible Behavior
The Board of Regents of the University of Hawai‘i has established a policy on impermissible behavior which applies to students at Windward Community College. Students alleged to have violated this policy are subject to the disciplinary procedures of the College. Copies of the hearing procedures are available in the Office of the Vice Chancellor of Student Affairs, Vice Chancellor of Instruction, and the library.

Academic Dishonesty
Academic dishonesty cannot be condoned by the University. Such dishonesty includes cheating and plagiarism (examples of which are given below) which violate the Student Conduct Code and may result in expulsion from the University.
Cheating
Includes but is not limited to giving unauthorized help during an examination, obtaining unauthorized information about an examination before it is administered, using inappropriate sources of information during an examination, altering the record of any grades, altering answers after an examination has been submitted, falsifying any official University record, and misrepresenting the facts in order to obtain exemptions from course requirements.

Plagiarism
Includes but is not limited to submitting any document to satisfy an academic requirement that has been copied in whole or part from another individual's work without identifying that individual; neglecting to identify as a quotation a documented idea that has not been assimilated into the student's language and style, or paraphrasing a passage so closely that the reader is misled as to the source; submitting the same written or oral material in more than one course without obtaining authorization from the instructors involved; or drylabbing, which includes (a) obtaining and using experimental data from other students without the express consent of the instructor, (b) utilizing experimental data and laboratory writeups from other sections of the course or from previous terms during which the course was conducted, and (c) fabricating data to fit the expected results.

Student Academic Grievance Procedures
The College has adopted the University of Hawai'i's Policy and Procedures for Student and Applicant Complaints and Grievances. Copies of the procedures are available in the Office of the Vice Chancellor of Student Affairs. Students may also file complaints of discrimination with:

The Office of Civil Rights
U.S. Department of Education
Old Federal Building
50 United Nations Plaza, Rm. 239
San Francisco, California 94102
Phone: 415-556-7035

Students having concerns about educational and civil rights matters are encouraged to contact:

Vice Chancellor of Student Affairs
Windward Community College
45-720 Kea'ahala Road
Kāne'ohe, Hawai'i 96744
Phone: 808-235-7466

The College maintains formal procedures for resolving complaints and grievances brought by students who believe a faculty member has acted improperly or in a manner inconsistent with the student's customary academic expectations. These procedures are contained in the WCC Policy Guidelines Manual, No. 4-6. The manual is available in the Office of the Vice Chancellor of Student Affairs, the Office of the Vice Chancellor of Instruction, and the library. The following is a general summary of the steps in resolving a complaint. Students who have a complaint are urged to consult Policy No. 4-6 for more information if they wish to go beyond Step 2 below.

The WCC Academic Grievance Procedures protect students' freedom of expression, right to orderly and fair grading and evaluation, and right to confidentiality. These are defined in more detail in the policy.

Students who have a complaint must follow strict timelines to have their complaint resolved under this policy, as follows:

Step 1: Within 14 days after a student has become aware of the problem, she or he must attempt to resolve the matter with the faculty member involved.

Step 2: If the matter is not resolved, the student may discuss the matter with the faculty member's Dean. This must be done within 7 days after the last scheduled meeting with the faculty member. The Dean has 7 days to resolve the complaint.

Step 3: If the student is not satisfied with the results of Step 2, he or she may file a written complaint with the Vice Chancellor of Academic Affairs. This must be done within 7 days after notification by the Dean. The Vice Chancellor of Academic Affairs has 14 days to resolve the matter.

Step 4: If the matter is not satisfactorily resolved by the Vice Chancellor of Academic Affairs, the student may file a written grievance with the Chairperson of the Academic Grievance Committee. This must be done within 7 days after notification by the Vice Chancellor of Academic Affairs.

Within 10 days, the Academic Grievance Committee must convene a hearing, detailed procedures for which are contained in the Policy Guidelines Manual. The Committee informs the Chancellor of its findings and recommendations within 5 days after the close of the hearing. The Chancellor's decision is final within the University.

The process of addressing allegations of discrimination are described in the procedures for Handling Impermissible Behavior and the Academic Grievance Procedures and in CCCM No. 2210, UH Community College Procedure and Guidelines Relating to Complaints of Discrimination. Copies are available at the Office of the Vice Chancellor of Student Affairs.

Students may also file complaints of discrimination with the Office of Civil Rights, Region IX, Henry M. Jackson Federal Building, 915 Second Avenue, Rm. 3310, Seattle, WA 98174-1099. Phone: 206-220-7900, FAX: 206-220-7887.

Educational Rights and Privacy of Students
Pursuant to Section 99.6 of the rules and regulations governing the Family Educational Rights and Privacy Act of 1974 (hereinafter the Act), students in attendance at the University...
Student Affairs

of Hawai‘i Windward Community College are hereby notified of the following:

1. It is the policy of Windward Community College to subscribe to the requirements of Section 438 of the General Education Provision Act, Title IV, of Public Law 90-247, as amended, and to the rules and regulations governing the Act, which protect the privacy rights of students.

2. The rights of students under the Act include the following, subject to conditions and limitations specified in the Act:
   a. The right to inspect and review education records.
   b. The right to request to amend education records.
   c. The right of protection from disclosure by Windward Community College of personally identifiable information contained in education records without permission of the student involved.
   d. The right to file complaints concerning alleged failure by Windward Community College to comply with the Act.

3. Students are advised that institutional policy and procedures required under the Act have been published as Administrative Procedure A7.022, Procedures Relating to Protection of the Educational Rights and Privacy of Students. Copies of A.P. A7.022 may be obtained from The Office of the Vice Chancellor of Student Affairs of Windward Community College.

4. Directory Information: Students are advised that certain personally identifiable information listed below is considered by the College to be directory information and, in response to public inquiry, may be disclosed in conformance with State law, at the College’s discretion, without prior consent of the student unless the student otherwise so informs the College not to disclose such information.
   a. Name of student.
   b. Address and zip code
   c. Telephone number
   d. Major field of study.
   e. Educational level (e.g., freshman, sophomore, etc.).
   f. Fact of participation in officially recognized activities and sports.
   g. Weight and height of members of athletic teams.
   h. Dates of attendance.
   i. Degrees, awards and academic honors received and date
   j. Most recent educational institution attended.
   k. E-mail address.
   l. Enrollment status (full-time or part-time).

A student has the right to request that any or all of the above items not be designated directory information with respect to that student. Should a student wish to exercise this right, he or she must in person and in writing, not earlier than the first day of instruction nor later than fourteen calendar days from the first day of instruction for the academic term or semester, or the fourth day of a summer session, inform the Admissions and Records Office which of the above items are not to be disclosed without the prior consent of that student.

5. A parent or spouse of a student is advised that information contained in educational records, except as may be determined to be directory information, will not be disclosed to him/her without the prior written consent of the son, daughter, or spouse.

Use of Social Security Number

The University of Hawai‘i ("University") is committed to safeguarding the privacy of personal and confidential information of its students, employees, alumni, and other individuals associated with the University. In the normal practice of conducting official University business, the University collects and maintains confidential information relating to its students, including a student’s Social Security Number ("SSN"). The University requests that a student provide a SSN at the time of application to the University. The SSN is not required for enrollment, however, the University is required by federal law to report to the Internal Revenue Service (“IRS”) the SSN and other information for tuition-paying students. Federal law also requires the University to obtain and report to the IRS the SSN for any person to whom compensation is paid. Due to the practical administrative difficulties which the University would encounter in maintaining adequate student records and processing financial transactions without the SSN, the University will continue to collect SSNs as permitted by law for official use within the University system. Providing the University with your SSN ensures that University programs and services are available with the least delay.

Students will be assigned a University generated student identification number upon enrollment, which will be used as the primary identifier. The SSN will not be used as the primary identifier of students associated with the University. The SSN will be used in activities, including but not limited to, matching and reconciling documents in order to determine eligibility for admission and financial aid, to determine residency for tuition purposes, to comply with federal and/or state law reporting requirements (e.g. for financial aid, Internal Revenue Service mandates, Taxpayer’s Relief Act of 1997, Immigration and Naturalization Service), and in accordance with the Family Educational Rights and Privacy Act. The SSN will not be disclosed to any persons outside the University system, except as allowed by law or with permission from the individual. This policy does not preclude, if a primary means of identification is unavailable, the University from using the SSN as needed to conduct official University business.
Definition of Terms Used by Windward Community College

**Cancelled Classes**
Courses are subject to cancellation (e.g. low enrollment). There is a 100% tuition/fees refund for cancelled classes. Students are notified via mail, E-mail, phone call, or posted on classroom door.

**Change in Registration**
All changes in registration (adds, drops, withdrawals) must be officially recorded by the deadlines. If drops and withdrawals are not officially recorded, students are subject to receiving a failing grade. Changes can be made via MyUH portal, or by visiting the academic counselor, or the Admissions & Records Office. Once the semester begins, there is a fee for in-person add/drop transaction charged to students. Additional tuition and fees may be applicable when adding a class. Once the semester begins, complete withdrawal from ALL courses must be made in person at the students’ home campus.

**Change of Home Institution**
Students that want to change institution after submitting an admissions application or enrolled at a CC campus must complete a Change of Home Institution form instead of a UH System-wide application (excluding 4-year UH campuses).

**Class Size**
Classes at the College normally range in size from 15 to 35 students; WI classes are usually limited to no more than 20 students.

**Classified Students**
Students who are enrolled for credit in an officially declared prescribed program leading to a degree or certificate (AA, CA, CC, CO).

**Commencement**
A public ceremony and celebration held at the end of the academic year at which students’ degrees and certificates are recognized.

**Course**
A unit of instruction consisting of varying combinations of recitations, lectures, laboratory sessions, and field trips in a particular subject within the time span of a semester or session.

**Credit Hours** (also referred to as semester hours, credits, units)
The value assigned to each class of each course. One credit hour usually equals fifteen hours in class per semester. The number of credit hours for each course is determined by the number of lecture, laboratory, or field experience hours determined necessary for each semester course. No student may register for more than 18 credits without obtaining approval from a counselor at registration.

**Continuing Student**
After admission, students must be enrolled each semester (Fall/Spring) for at least 1 credit hour of course work. Students who are not enrolled will need to submit the system application form for readmission with the established regulations. Students who are readmitted will be subject to the degree requirements in effect at the time of readmission.

**Distance Education**
Working collaboratively, the UH Community Colleges now provide courses that allow Hawai’i students to earn a degree through cable TV, Internet, and interactive television.

**Erase Period**
During this time students dropping a course will have the class erased from their registration file. See current Academic Calendar or Schedule of Classes for deadlines.

**Full-time Student**
A student carrying twelve (12) or more credit hours in a semester or six (6) credits or more in a 6-week Summer session where full-time status is for only the 6-week session. A third party sponsor may have a different definition of full-time status used in determining their benefits (e.g. VA, financial aid).

**Part-time Student**
A student carrying eleven (11) or fewer credit hours in a semester.

**Prerequisite**
Skills or courses required prior to enrollment in a course. Course descriptions indicate prerequisites if they apply.

**Returning Students**
Students who have missed (stopped-out) a semester (Fall/Spring) must reapply for admissions if they wish to return to the College.

**Semester**
A time span of fifteen weeks within a four and one-half month period during which courses are offered and completed. Some courses are also scheduled for 13-week. There are usually two semesters in one academic year: fall semester and spring semester. There may be several “accelerated terms” within each semester (e.g. 8-week, 5-week).

**Summer Session**
The College usually offers two sessions during the summer. Tuition and fees for the summer session differ from those of the Fall/Spring. Students who are enrolled for the Spring semester may register for the summer session without applying for summer. New/Returning summer students are required to apply for the Fall semester if the students want to continue for the upcoming semester.

**Unclassified Students**
Students who are not pursuing a degree or certificate but are taking courses for upgrading or enrichment.
Academic Regulations

Transfer of Credits from Other Institutions

Credits earned for courses taken at any of the public community colleges in Hawai‘i, or at the University of Hawai‘i at Mānoa, West Oahu, and Hilo may be transferred to this College and applied to meet requirements of degree and certificate programs subject to the specific requirements in each program. Some credits, however, may be classified as electives if Windward Community College has no equivalent course.

Credits earned at a grade level of “D” (not D-) or better at other regionally accredited institutions either in Hawai‘i or another state or country may be transferable and applied to meet program requirements at Windward Community College. “CR” or similar “PASS” grades are acceptable if the awarding institution indicates the work is of “D” level or better. Counselors are available to discuss with students which credits are acceptable in transfer from other institutions. The College’s policy statement on the acceptance of transfer credits is available from the Office of the Vice Chancellor of Student Affairs.

Students must be aware, however, that transfer credits awarded are applicable to meet requirements of this College but may not necessarily be accepted by any other institution upon transfer of the student from Windward Community College to another college.

Students transferring to other institutions from Windward Community College should refer to that institution’s transfer information.

Evaluation of Transfer Credits

A request must be made by the student to have an official evaluation of transfer credits. The request for transcript evaluation is processed after three weeks into the start of the semester. The student must be currently enrolled, in a declared degree/certificate program at Windward Community College (exception – applying for graduation). The evaluation request form is available in the Admissions and Records Office.

Transcripts from institutions outside of the UH system must be sent directly to the Admissions & Records Office and are maintained for one year. For transcripts from other UH campuses, it is no longer necessary to request that transcripts be sent. UH system transcripts will be viewed electronically by the transcript evaluator.

Advanced Placement Examination (AP)

The Advanced Placement Examinations are administered in high schools by the Educational Testing Service for the College Entrance Examination Board for students who have completed specific college-level courses in high school. For the University’s credit policy, students should consult the Student Services Office.

College Level Examination Program (CLEP)

Any student at Windward Community College is eligible to apply for the College Level Examination Program (CLEP). A passing score on a CLEP examination is recorded as CR (credit) and the credit is entered as “Advanced Standing” credit on the student’s transcript. Only students achieving CLEP examination scores at or above specified levels of achievement are awarded the number of credits indicated for each examination. Students interested in applying for CLEP examinations must make their own arrangements at the University of Hawai‘i at Mānoa.

Grade Point Average

A student’s grade point average is computed by dividing the student’s total grade points earned by the total credits attempted, excluding the credits for classes in which grades of I, W, N, CR, and NC were awarded. Although I, W, N, and NC are not included in the grade point average, students are advised that some colleges, especially graduate and professional schools, do not look favorably upon transcripts containing these grades. Similar attitudes occur among some employers and scholarship grantors.
Grading

Letter grades and grade points are awarded to students to reflect their level of achievement of the objectives of a course. At the College, the letter grades which can be awarded include the following table:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
<th>Grade Point Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent achievement</td>
<td>4 grade points given (course credits awarded)</td>
</tr>
<tr>
<td>B</td>
<td>Above average achievement</td>
<td>3 grade points given (course credits awarded)</td>
</tr>
<tr>
<td>C</td>
<td>Average achievement</td>
<td>2 grade points given (course credits awarded)</td>
</tr>
<tr>
<td>D</td>
<td>Minimal passing achievement</td>
<td>1 grade point given (course credits awarded)</td>
</tr>
<tr>
<td>F</td>
<td>Less than minimal passing achievement</td>
<td>0 grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>CR</td>
<td>Achievement of objectives of course at C level or higher</td>
<td>0 grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>NC</td>
<td>Used to denote achievement of objectives of the course at less than C level under the CR/NC option</td>
<td>0 grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>N¹</td>
<td>Refer to footnote</td>
<td>No grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>I²</td>
<td>Incomplete</td>
<td>No grade points given (no course credit awarded until student completes course)</td>
</tr>
<tr>
<td>W³</td>
<td>Official withdrawal from course</td>
<td>No grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>L</td>
<td>Audited Course</td>
<td>No grade points given (no course credits awarded)</td>
</tr>
<tr>
<td>CE</td>
<td>Credit by exam</td>
<td>No grade points given (course credits awarded)</td>
</tr>
<tr>
<td>NCE</td>
<td>No Credit by exam</td>
<td>No grade points given (no course credits awarded)</td>
</tr>
</tbody>
</table>

¹N grade indicates that the student has worked conscientiously, attended regularly, finished all work, fulfilled course responsibilities, and has made measurable progress. However, either the student has not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level, or the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal or family emergencies.

²I grade (Incomplete) is a temporary grade given at the instructor’s option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. The student is expected to complete the course by the designated deadline in the succeeding semester. If this is not done, the “I” will revert to the contingency grade identified by the instructor.

³W grade indicates that the student officially dropped/withdrew from the class. If the student dropped/withdrew during the erase period, the record of the registration does not appear on the transcript. Refer to the Academic Calendar or Schedule of Classes for drop/withdrawal deadlines.

Dean’s List

Each semester the Dean’s List recognizes students who have achieved academic excellence at the College. Students who have earned 24 credits at the College, who have a current and cumulative grade point average of 3.5 or better, and who have no N or NC grades in the current semester are automatically placed on the Dean’s List unless they request to be omitted. Dean’s List is noted on the student’s transcript.

Repeating Courses

A student may repeat any course taken at the College but will receive additional credit only if the course description in the catalog states that the course may be repeated for additional credit. With the exception of courses which specifically allow repeating for additional credit, credit will be allowed only once for a course, and the student will receive the higher grade and grade point. The lower grade, however, shall remain on the student’s record.

Credit By Examination

Windward Community College students who present evidence of having achieved course objectives through prior experience may apply for credit by exam. Credit by exam is not available for all courses. Students are advised to check with individual instructors and the Department Chairperson on a course-by-course basis. Students must be officially enrolled in at least one course (other than the course the student is attempting to receive credit by exam) during the semester in which credit by exam is attempted. Credit by examination forms must be filed with the Admissions & Records Office prior to the end of the late registration period. Students will be charged for credit by exam courses at the prevailing tuition and fees rate.

Credit/No Credit Option

The Credit/No Credit option is maintained to encourage students to broaden their education by taking courses outside of major requirements without affecting their grade point averages. No grade points are given for courses taken under this
Academic Regulations

grading option. Course credit is awarded for courses completed at Windward Community College with certain restrictions. This grading option is not offered in all courses and students majoring in a particular program are not permitted to take a major required course with the CR/NC grading option. The student should consult the instructor’s course outline to determine if this option is available in a particular course. If this option is available, the student must submit the completed CR/NC Option form to the Admissions and Records Office by the deadline. Once the CR/NC Option is submitted, the CR/NC cannot be changed. Refer to the Academic Calendar or Schedule of Classes for deadline date.

Auditing

No credit is given for an audited course. The grade of “L” will be recorded for the course on the student’s transcript. Auditors must complete all admission and registration requirements and procedures, including the payment of tuition and fees. Students are permitted to audit certain classes with the written consent of the instructor. Students who want to audit a course must submit the completed Auditor Request Form to the Admissions and Records Office by the deadline. Refer to the Academic Calendar or Schedule of Classes for deadline date.

Grade Reports

Grade reports may be viewed online at the end of each semester. Students must report any errors on their grade report to the Admissions & Records Office within 7 calendar days following the end of term.

Academic Probation Policy

A cumulative GPA of 2.0 is required to remain on satisfactory academic progress at Windward Community College. Students who do not meet this minimum GPA at the end of any semester will receive a warning of unsatisfactory academic progress. If satisfactory progress is not made in ensuing semesters, the student will be placed on academic probation and eventually suspended or dismissed from the college.

All students notified of unsatisfactory academic progress are required to meet with an academic counselor prior to registration.

Warning

Students may be placed on academic warning at the end of any semester in which their cumulative GPA falls below 2.0. A warning is not notated on the permanent academic record. Warned students may continue to attend Windward Community College but must raise their cumulative GPA to 2.0 or higher. Failure to do so will result in academic probation.

Probation

If students on warning fail to raise their cumulative GPA to 2.0 or higher, they will be placed on academic probation.

Notation of probation is made on the students’ permanent academic record. Probationary students may continue to attend Windward Community College under the following terms:

- they will be allowed to enroll only in courses approved by an academic counselor
- they will meet regularly thereafter with that counselor to review progress
- they must earn a semester GPA of 2.0 in each probationary semester
- they will remain on probation until their cumulative GPA is raised to 2.0 or higher

Failure to meet these conditions will result in academic suspension.

Suspension

A student will be suspended for failing to meet the terms of probation. Notation of academic suspension is made on the student’s permanent academic record. A suspended student is eligible to apply and return to Windward Community College after a wait period of at least one semester (not including summer session). A student returning after suspension will be placed on probation during the semester of re-entry. Under extenuating circumstances a waiver of the wait period may be granted, allowing a student to enroll. Failure to meet the terms of probation after returning from suspension will result in dismissal.

Dismissal

A student returning after suspension will be dismissed for failing to meet the terms of probation. A dismissed student may be readmitted only in unusual circumstances, and only after the passage of at least two semesters (not including summer session). Note that readmission after dismissal occurs only rarely.

Removal from Probation

A student will be removed from probation once the cumulative GPA is raised to 2.0 or higher.

Appeals

A student may appeal a decision regarding academic probation, suspension or dismissal by filing a formal petition with the Office of the Vice Chancellor of Student Affairs in Hale ʻĀkoakoa 202. Appeals must be filed as soon as notification is received, and prior to the first day of instruction of the following semester.

Further details of the policy are available in the Office of the Vice Chancellor of Student Affairs, Hale ʻĀkoakoa 202, 808-235-7466.
Degrees and Certificates

The Instructional Program

The instructional program at Windward Community College recognizes that people differ in interest, motivation, ability, and learning styles. Thus, alternatives are stressed in the kinds, levels, and ways in which courses are offered. Courses offered are intended to meet the needs of individuals:

- intending to earn an Associate in Arts degree in the liberal arts;
- intending to earn a Certificate of Achievement in a vocational program;
- intending to earn a Certificate of Completion or Certificate of Competence in a vocational program;
- intending to transfer to a four-year college to earn a bachelor’s degree;
- interested in taking courses for personal enrichment;
- interested in acquiring skills and knowledge needed for employment in selected occupational fields;
- interested in reinforcing basic learning and study skills, e.g., reading, writing, note taking, memory/concentration skills;
- interested in updating skills and knowledge for employment in certain vocational fields.

Modes of instruction also vary and students may enroll in group-learning, lecture-oriented classes, highly individualized classes, or independent study projects. A few classes take an interdisciplinary approach to a topic or problem.

Some coordinated studies packages are also offered. Here, instructors offering interrelated courses integrate their courses and provide students with a team of professionals who are concerned with all the learning activities of the student.

Piggyback courses are also offered. In some of these courses, where self-instructional materials are used, students can opt to meet the objectives of different courses, working at their own rate of speed and proceeding to a second level within the term, depending on their own abilities.

A pre-test may also be given in some classes. This is intended to help identify the knowledge and skills already possessed by students, thus enabling instructors to tailor the instruction to meet the special needs or interests of the class. (Pre-tests are not used in grading students.)

### Degrees and Certificates offered at Windward Community College

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<th>Program</th>
<th>Degree/Certificate Type</th>
</tr>
</thead>
<tbody>
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<td>Liberal Arts</td>
<td>(Associate in Arts Degree program)</td>
</tr>
<tr>
<td>Agricultural Technology</td>
<td>(Certificate of Completion)</td>
</tr>
<tr>
<td>Art</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>Bio-Resource Development and Management</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>Business</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>Business Technology</td>
<td>(Certificate of Competence)</td>
</tr>
<tr>
<td>Geographic Information System/Global Positioning System</td>
<td>(Certificate of Competence)</td>
</tr>
<tr>
<td>Hawaiian Studies</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>• Language</td>
<td></td>
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<tr>
<td>• History/Culture</td>
<td></td>
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<tr>
<td>• Science</td>
<td></td>
</tr>
<tr>
<td>Information Computer Science in Applied Business &amp; Information Technology</td>
<td>(Certificate of Competence)</td>
</tr>
<tr>
<td>Information Computer Science in Web Support</td>
<td>(Certificate of Competence)</td>
</tr>
<tr>
<td>Plant Biotechnology</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>Plant Landscaping</td>
<td>(Certificate of Completion)</td>
</tr>
<tr>
<td>• Landscaping Maintenance</td>
<td></td>
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<tr>
<td>• Turfgrass Maintenance</td>
<td></td>
</tr>
<tr>
<td>Psycho-Social Developmental Studies</td>
<td>(Academic Subject Certificate)</td>
</tr>
<tr>
<td>Subtropical Urban Tree Care</td>
<td>(Certificate of Completion)</td>
</tr>
<tr>
<td>• Arborist Focus</td>
<td></td>
</tr>
<tr>
<td>• Tree Worker Focus</td>
<td></td>
</tr>
<tr>
<td>Veterinary Assisting</td>
<td>(Certificate of Achievement)</td>
</tr>
</tbody>
</table>
Degrees & Certificates

Associate in Arts Degree
The Associate in Arts degree is awarded to students who complete a general program of liberal arts courses which may be applied to meet baccalaureate degree requirements at a four-year college or to fulfill the general education interests of the student. Students who plan to transfer to other colleges, including the University of Hawai‘i at Mānoa, should work closely with a counselor to help ensure that courses taken for the A.A. degree are also applicable at their next campus.

Effective Fall 1994, students who have earned an articulated Associate in Arts (A.A.) degree from a University of Hawai‘i Community College shall be accepted as having fulfilled the general education core requirements at all other University of Hawai‘i campuses. While an articulated A.A. degree satisfies general education core requirements, students must also complete all specialized lower-division, major, college and degree/graduation requirements. Additional campus-specific requirements, such as competency in a foreign language or writing intensive courses may also be required. With planning, most, if not all, of these requirements may be incorporated into the Associate in Arts degree; if not, they are required in addition to the Associate in Arts degree. Students are advised to visit one of the academic counselors on campus to review a program sheet for the specific degree being sought, e.g., Bachelor of Arts, Bachelor of Business Administration, Bachelor of Education, etc.

College catalogs are published every two years and do not always reflect the most recent campus actions involving core courses. For the most recent information concerning core courses, students should check with their advisors.

Learning Outcomes for the A.A. degree
Learning experiences in the Associate in Arts degree program are designed to assist the student in realizing the following outcomes:

1. Draw on knowledge from the liberal arts to succeed in upper division courses.
2. Recognize and respond to the wonders and challenges of the natural environment, both biological and physical.
3. Use research and technology skills to access information from multiple sources; use critical thinking and problem-solving skills to evaluate and synthesize information to form conclusions, ideas, and opinions.
4. Express ideas clearly and creatively in diverse ways through the fine and performing arts, speech and writing.
5. Recognize one's role in community and global issues with a respect for diverse cultures and differing views while embracing one's own cultural values and heritage.
6. Engage in civic activities with a sense of personal empowerment.
7. Enter and perform effectively in the work force.
8. Develop skills that improve personal well-being and enhance professional potential.
9. Use knowledge and skills to maintain and improve mental and physical well-being.

Certificate Programs
The College offers certificate-level programs within the Associate in Arts degree (Academic Subject Certificate) and certificate-level programs (Certificate of Achievement, Certificate of Completion, and Certificate of Competence) which are designed to prepare students for entry-level employment or upgrading of work skills in several vocational fields.

In the vocational area, certificates are offered in Agricultural Technology, Plant Landscaping, Subtropical Urban Tree Care, Veterinary Assisting, Business Technology, Global Information System/Global Positioning System, Applied Business and Information Technology and Web Support.

In the Associate in Arts degree, most credits completed in certificate-level programs (Academic Subject Certificate) may be applied to meet the Associate in Arts degree program requirements.

Certificate of Achievement (CA)
A college credential for students who have successfully completed designated medium-term technical-occupational-professional education credit course sequences which provide them with entry-level skills or job upgrading. These course sequences shall be at least 24 credit hours but may not exceed 45 credit hours (unless external employment requirements exceed this number). The issuance of a Certificate of Achievement requires that the student must earn a GPA of 2.0 or better for all courses required in the certificate.

Certificate of Completion (CC)
A college credential for students who have successfully completed designated short-term technical-occupational-professional education credit course sequences which provide them with entry-level skills, or job upgrading. These course sequences shall be at least 10 credit hours, but may not exceed 23 credit hours. The issuance of a Certificate of Completion requires that the student must earn a GPA of 2.0 or better for all courses required in the certificate.

Certificate of Competence (CO)
A college credential for students who successfully complete designated short-term credit or non-credit courses which provide them with job upgrading or entry-level skills. The issuance of a Certificate of Competence requires that the student's work has been evaluated and determined to be satisfactory. Credit course sequences shall be at least 4 but less than 10 credits. In a credit course sequence the student must earn a GPA of 2.0 or better of all courses required in the certificate.
Academic Subject Certificate (ASC)
A college credential for students who have successfully completed a specific sequence of credit courses from the Associate in Arts (A.A.) curriculum. The sequence must fit within the structure of the A.A. degree, may not extend the credits required for the A.A. degree, and shall be at least 12 credit hours. The issuance of the Academic Subject Certificate requires that the student must earn a GPA of 2.0 or better for all courses required in the certificate.

Additional Offerings

Military Science Courses
Military science and air science courses are offered through the University of Hawai‘i at Mānoa. Windward students making satisfactory academic progress may enroll in these courses as concurrent students. For further information, contact the military departments at the Mānoa campus.

Independent Studies
This program offers students the opportunity to participate in the creation of academic learning experiences designed to meet individual needs, interests, aptitudes and desired outcomes. It is intended to serve the student, who after completing the requirements of an introductory course, may wish to continue an in-depth study of a particular topic or issue previously covered, or who may wish to reinforce understanding of concepts or relationships covered.

A student at the College, under faculty supervision, may design an independent study project at any of three levels: Vocational (099) or Academic (199)/(299). An independent study project could take the form of directed reading, research, or field work experience. Students are encouraged to develop original projects and the project must be appropriate to the student’s program of study, related to the existing college curriculum, and in the area of the supervising instructor’s and/or co-advisor’s expertise.

Independent study projects are undertaken with at least one student selected faculty advisor. The advisor must be a member of the College faculty and participation by this faculty member is voluntary. The advisor serves as a facilitator of learning, guiding the student in establishing and achieving the goals of the independent project. An advisor may recommend particular preparation before a student undertakes a project.

No more than 12 credits in any combination of independent study or cooperative education can be applied to meet the Associate Degree requirements. Procedural details may be obtained through an instructor or the Vice Chancellor of Instruction’s Office. The deadline for registration in an independent study course is the end of the Add Period for the second 8-week session.

Service Learning
Service Learning is an option in which students can earn partial course credit in designated courses at Windward Community College. Working with their instructor, students who opt for a service learning component in a specified course will learn and develop academic skills from a course and apply their learning through active participation in an elementary, intermediate, or secondary school or at an approved community site. Service Learning is reciprocal in nature and is integrated into designated courses. It enhances the academic curriculum of the students through the educational component of the service learning course and is directed towards fostering civic responsibility in the student.

Cooperative Education
This program offers students opportunities to participate in career related experiences designed to reinforce skills learned in different areas and to apply these skills in actual job situations. Cooperative Education experiences are offered in Agriculture and Social Sciences, and are being planned in other disciplines. See each subject area and/or the department for eligibility requirements, prerequisites and information on procedures for setting up such a course.

Marine Option Program
The Marine Option Program (MOP) is open to students of all disciplines who have an interest in the ocean. Its goal is to provide marine education to students through classroom courses and the acquisition of a water-related skill.

A certificate issued by the University of Hawai‘i at Mānoa is awarded to students who successfully complete at least 10 credit hours of marine-related courses (1-credit OCN 101, 3-credits OCN 201 or ZOOL 200, 6 credits marine electives) and the MOP skill project. The unique MOP skill project (2 or more credits, e.g., Academic Independent Study 199) allows students to design and conduct an independent aquatic project related to their academic field of interest or educational goals. At WCC, MOP is managed by the Pacific Center for Environmental Studies (PaCES).

For information about the program, contact the Windward MOP Coordinator at 808-235-9118 or visit the MOP Office in Hale ‘Imiloa, Room 118, or E-mail wccmop@hawaii.edu, or visit the Web site: wcc.hawaii.edu/MOP/.
Degrees & Certificates

Transferring to Another College

Many Windward Community College students transfer to other colleges and universities to complete their studies. Each college or university sets its own rules concerning the credits that they will accept and the requirements for transferring students. Therefore, students should read the catalogs from prospective colleges carefully and consult with a counselor for full information.

Generally speaking, students earn 60 credits of courses with numbers of 100 and above before transferring to another institution. (Courses numbered below 100 are usually not accepted in transfer by four-year colleges.) The number of credits that you should take at the College depends on the rules of the institution that you want to transfer to, as well as the major field that you wish to study.

When to Apply for a Transfer

You should plan to apply at least one semester before you hope to enroll at a new school. Some colleges have early deadlines. Find out about the deadline in the catalog or Web site and make sure that you meet it. Deadline dates pertain to your application form and receipt of official transcripts from all colleges that you have ever attended, so be sure that you order your transcript(s) early.

Transferring Credits

The transfer school will evaluate transcripts and determine which credits will be accepted as part of the degree that you are seeking there. There is no physical transfer of actual credits, for your permanent academic record at Windward Community College always remains here. Normally, courses numbered 100 and above are transferable if you are going to a four-year college, but not all of the courses 100 and above will meet the basic requirements (some will be electives).

Transferring to the UH-Mānoa Campus

It’s important to observe deadlines when applying to UH-Mānoa. Send for official transcripts from other colleges in plenty of time to reach Mānoa by the published application deadlines.

Mānoa accepts credits that have been completed with a grade of ‘D’ (not ‘D–’) or better.

Credit/No Credit grading options at Windward Community College need to be avoided if you expect to use the course in fulfillment of Mānoa core or major requirements. Mānoa will apply Credit/No Credit marks only to electives, but not to requirements (unless you had no choice because the course was offered for a mandatory Credit/No Credit grade).

Mānoa requires 60 or more credits of non-introductory courses for its bachelor degrees. Non-introductory courses are courses numbered 300 and above (or any other courses with explicit college-level prerequisites published in the catalog).

See a counselor at Windward Community College for help in planning to meet the requirements for the bachelor’s degree of your choice at Mānoa. Visit the Mānoa Advising Center for degree requirement and advising at Mānoa.

To enter the UH-Mānoa campus as a transfer student, you will need at least 24 credits of college-level work (courses numbered 100 and above), with a grade point average of 2.0 or better. You may have more than 24 credits, but you still need to have a 2.0 or better grade point average. If you wish to enter the Mānoa campus with fewer than 24 credits, you will need to take the SAT (or ACT) test and present your high school grades.

Transferring to Institutions Other than UH-Mānoa

Students planning to transfer to a college outside the UH System are urged to obtain the necessary college catalogs and to consult a counselor early in their college career so that a planned program can be arranged to meet the general education and admissions requirements of the college to which they plan to transfer. It is the student’s responsibility to obtain accurate information from any college or university that is being considered for transfer. The catalog from each college or university that is being considered for transfer is essential for proper planning.
Application for Graduation

Students should consult with their counselor/academic advisor at least one semester prior to registering for their projected final semester of study. For specific graduation requirements, see the programs of study listed in the catalog.

Students who intend to file for graduation must have a graduation certification done by a counselor prior to filing a graduation application form by the deadline with Admissions and Records Office. The graduation fee of $15 is payable upon submission of the application for graduation.

Scholastic Standards

A cumulative 2.0 grade point average is required for graduation with the Associate in Arts degree. At least 12 of the credits for the A.A. degree must be earned at Windward Community College. Students completing certificate program requirements must successfully complete credits in specified fields and maintain a cumulative grade point average of 2.0. At least 50% of the required courses in the major area must be earned at the College. Under certain circumstances, this requirement may be waived upon a request made to the Vice Chancellor of Student Affairs.

Associate in Arts Degree

The Associate in Arts (A.A.) degree is a two-year direct transfer liberal arts degree consisting of at least 60 semester credits at the 100 and 200 levels.

To earn an Associate in Arts (A.A.) degree, Windward Community College students must complete 60 credits in courses numbered 100 or above with a cumulative grade point average of at least 2.0 and fulfill the College’s Computer and Information Literacy (CIL) requirement. Students who are awarded an Associate in Arts degree from a UH Community College must have a Community College cumulative GPA of
Graduation Requirements

2.0 or higher for all course work taken in fulfillment of A.A. degree requirements. At least 12 of the credits for the A.A. degree must be earned at Windward Community College. No more than 12 credits may be independent study/cooperative education. Credits must be earned in the required areas.

Students will follow the program requirements stated in the course catalog at the time of their initial enrollment, providing that the student has been continually enrolled. Continual enrollment is defined as attending each semester (excluding summer session) for at least 1 credit hour of course work. Students who have a break in enrollment will need to submit the system application form for readmission with the established regulations. Students who are readmitted will be subject to the degree requirements in effect at the time of readmission.

Written and Oral Communications

Individuals need various modes of expression. These areas provide for the development of clear and effective written and oral communication skills.

REQUIREMENT: Three credits in English 100 and three credits selected from Speech 151, Speech 181, Speech 231 or Speech 251.

Symbolic Reasoning

Symbolic Reasoning courses expose students to the beauty and power of formal systems, as well as their clarity and precision; courses will not focus solely on computational skills. Students learn the concept of proof as a chain of inferences. They learn to apply formal rules or algorithms; engage in hypothetical reasoning; and traverse a bridge between theory and practice. In addition, students develop the ability to use appropriate symbolic techniques in the context of problem solving and to present and critically evaluate evidence.

REQUIREMENT: Three credits from selected math courses numbered 100 or above, Philosophy 110, or ICS 141 (beginning Fall 2010).

Global and Multicultural Perspectives

Global and Multicultural Perspectives courses provide thematic treatments of global processes and cross-cultural interactions from a variety of perspectives. Students will gain a sense of human development from prehistory to modern times through consideration of narratives and artifacts of and from diverse cultures. At least one component of each of these courses will involve the indigenous cultures of Hawai‘i, the Pacific, or Asia.

REQUIREMENT: Six credits must come from two different groups.

Arts and Humanities

Through study of artistic, literary, and philosophical masterworks and by examining the development of significant civilizations, cultures, and the nature of human communication, students should gain an appreciation of history and achievements. This experience should enable the student to approach future studies of a more specific character with a broadened perspective.
**Natural Sciences**
A scientifically literate person should know what science is, how scientific investigation is conducted, and that the activity of a scientist is a blend of creativity and rigorous thinking. Experimental investigations in the laboratory provide the student with first hand experience with the scientific method and research.

**REQUIREMENT:** Minimum of 6 credits. Must include a biological science course, a physical science course, and a laboratory/field trip course.

**Social Sciences**
Every educated person should have some appreciation of the role of culture and social institutions in the shaping of individual personality and the creation of social identities. Students should also develop an understanding of the extent to which scientific inquiry is appropriate to the creation of social knowledge and of the alternative ways of organizing human institutions and interpreting social reality.

**REQUIREMENT:** A total of 6 credits made up of two or more courses from two different subject areas.

**Writing Intensive Courses**
Writing Intensive (WI) Courses are part of a University of Hawai‘i systemwide movement to incorporate more writing in courses from all disciplines. A WI course is a discipline-specific course in which writing plays a major integrated role. Students in course sections designated as a “WI” (preceding the course title in the Schedule of Classes) learn to understand course content through writing and to write in ways appropriate to that discipline. English 100 is a prerequisite before students take the two required WI courses for the Associate in Arts degree. Students transferring to some bachelor’s degree campuses in the UH system may bring two or three WI courses with them to count for the bachelor’s degree. The hallmarks of a writing intensive course are:

1. Writing promotes learning of course content.
2. Writing is considered to be a process in which multiple drafts are encouraged.
3. Writing contributes significantly to each student’s course grade.
4. Students do a substantial amount of writing, a minimum of 4,000 words. Depending on the types of writing appropriate to the discipline, students may write critical essays or reviews, journal entries, lab reports, research reports or reaction papers.
5. To allow for meaningful teacher-student interaction on each student’s writing, the class is restricted to 20 students.

**Computer and Information Literacy (CIL)**
Information technologies have become an essential part of our daily lives. In order to participate fully and effectively in today’s society, students need to develop basic competencies in using computers to locate, manage, and communicate information.

**REQUIREMENT:** Students must successfully complete the College’s Computer and Information Literacy (CIL) requirement.

For more information, contact your counselor or visit the Web site at hawaii.edu/wcil.

**Math**
Students must have placement into Math 100, or successfully complete Math 25 or higher with a grade of “C” or better.
The Associate in Arts (A.A.) degree is a two-year direct transfer liberal arts degree consisting of at least 60 semester credits at the 100 and 200 levels.

To earn an Associate in Arts (A.A.) Degree, Windward Community College students must complete 60 credits in courses numbered 100 or above with a grade-point average of at least 2.0. Students who are awarded an Associate in Arts degree from a UH Community College must have a Community College cumulative GPA of 2.0 or higher for all course work taken in fulfillment of A.A. degree requirements.

At least 12 of the credits for the A.A. degree must be earned at Windward Community College. No more than 12 credits in any combination of independent study or cooperative education may apply to the degree requirements. Credits must be earned in the required areas. Underlined courses are infrequently offered. See course descriptions for prerequisites.

Graduation Requirements:
- Writing Intensive (WI) (Required: A total of 2 courses)
- Computer and Information Literacy Requirement
- Placement into Math 100 or complete Math 25 or higher with a grade of "C" or better.

Oral Communication (OC)
Required: A total of 3 credits
SP 151, 181, 231, 251

Foundations Requirements:

Written Communication (FW)
Required: A total of 3 credits
ENG 100

Global & Multicultural Perspectives (FG)
Required: A total of 6 credits from two different groups.
Group A: HIST 151
Group B: HIST 152
Group C: REL 150 (If taken Fall 2008 or after)

Symbolic Reasoning (FS)
Required: A total of 3 credits
ICS 141 (Beginning Fall 2010)
MATH 100, 103, 112, 135, 140, 203, 205
PHIL 110
Diversification Requirements:

**Arts, Humanities and Literature**
Required: A total of 6 credits, each course selected from two different groups.

**Arts (DA)**
ENG 204A
HWST 130, 135
HUM 100, 269V*
SP 151, 231, 251
THEA 101, 211, 221, 222, 240, 260
*Any combination that totals 3 credits will be considered the equivalent of one semester course.

**Humanities (DH)**
ART 269V, 270, 280
HWST 107, 255, 270, 285
HIST 231, 232, 241, 242, 281, 282, 284 or 224
LING 102
MUS 106, 107, 166
PHIL 100, 101, 102, 211, 213
REL 150 (up to and including Spring 2008) 151, 201, 202, 205, 207

**Literature (DL)**
ENG 270, 271, 272, 209

**Natural Sciences**
Required: A minimum of 6 credits with 3 credits from the biological science area (DB) and 3 credits from the physical science area (DP). In addition, the student must take a science laboratory/field trip course (DY).

*Note: BOLD TEXT denotes Natural Science courses that fulfill both a lecture (as DB or DP) and a lab (DY) requirement simultaneously.*

**Biological Sciences (DB)**
AG 120
ANSC 142, 151
AQUA 106, 201
BIOL 100, 101, 124, 171, 172, 200, 265, 275
BOT 101, 130, 160, 205, 210
FSHN 185
IS 201
MICR 130
OCN 220
SCI 123
ZOO 101, 106, 107, 141, 142, 200, 254

**Physical Sciences (DP)**
ASTR 110, 130, 180, 181, 250, 281, 294V
CHEM 100, 151, 152, 161, 162, 272
GEOG 101
GG 101, 103, 166
MET 101
OCN 201
PHYS 122, 151, 152, 170, 272

**Natural Sciences Lab (DY)**
ANSC 142L, 151L
AQUA 106L, 201L
ASTR 110L, 250L
BIOL 100L, 101L, 124L, 171L, 172L, 200L, 265L, 275L
BOT 101L, 130L, 205L, 210L
CHEM 100L, 151L, 152L, 161L, 162L, 272L
GEOG 101L
GG 101L, 210L, 211, 212, 213, 214
IS 201L
MET 101L
MICR 140
NREM 250
OCN 201L
PHYS 122L, 151L, 152L, 170L, 272L
SCI 123
ZOO 101L, 107L, 141L, 142L, 200L

**Social Sciences (DS)**
Required: A total of 6 credits from 2 different subject areas.
ANTH 150, 175 and 175L, 200
BOT 105
ECON 120, 130, 131
FAMR 230
GEOG 102, 122, 151
GIS 150
ICS 100
POLS 110, 120, 130, 180, 243
PSY 100, 170, 202, 224, 240, 250, 260, 270
SOC 100, 218, 231, 250, 251
SSCI 200
WS 151, 200, 202

*Note: Generally, any one course can fulfill only one area, e.g., SP 151, SP 231, SP 251 can fulfill either OC or DA, but not both. Certain natural science courses can fulfill both DP and DY requirements.*
Certificate of Achievement
Veterinary Assisting

The Certificate of Achievement in Veterinary Assisting is designed to provide students with the basic knowledge and skills required to perform effectively as an assistant in a veterinarian’s office, animal shelter or animal research facility. The two-semester program includes coursework in the physical and life sciences as well as hands-on experience through internships at local veterinary clinics.

Upon successful completion of this certificate, students will be able to:

- effectively communicate with clients and veterinary staff
- schedule appointments and generate invoices
- demonstrate proper patient restraint and safety procedures
- conduct routine physical exams and obtain patient histories
- assist with surgical procedures and dental cleanings
- calculate dosages and administer medications
- collect blood samples and perform diagnostic laboratory tests

Required Courses (29-30 credits)

- ANSC 142: Anatomy and Physiology of Domestic Animals (3)
- ANSC 142L: Anatomy of Domestic Animals Laboratory (1)
- ANSC 151: Clinical Laboratory Techniques (3)
- ANSC 151L: Clinical Laboratory Techniques Laboratory (1)
- ANSC 190: Veterinary Assisting Internship (3)
- BUSN 191: Veterinary Office and Computer Skills (3)
- ENG 100: Expository Writing (3)
- CHEM 151: Elementary Survey of Chemistry (3)
- CHEM 151L: Chemistry Laboratory (1)
- HLTH 125: Medical Terminology (1) or HLTH 110 - Survey of Medical Terminology (2)
- MATH 101: Mathematics for Veterinary Assisting (1)
- PSY 100: Survey of Psychology (3)
- SP 151: Personal and Public Speech (3)

See course descriptions for prerequisites.
Certificate of Completion
Agricultural Technology: Plant Landscaping and/or Agricultural Technology

The curriculum is designed for students desiring entry-level employment or to enhance their skills in the field of plant landscaping (landscape maintenance, turfgrass maintenance, nursery operations, and/or retail plant outlets). All courses are taught with a “hands-on, learn-by-doing” philosophy. Students are expected to make sound decisions about real life horticultural and environmental situations. The Certificate of Completion in Plant Landscaping consists of 16 credits. Students must complete 12 credits of required courses and select a 4-credit area of specialization (Landscape Maintenance and/or Turfgrass Maintenance).

The Certificate of Completion in Agricultural Technology consists of 15 credits. Students must complete 10 credits of required courses and select 5 credits of electives. See course descriptions for prerequisites. At the conclusion of the program, students will be able to:

- Describe common plant and insect life cycles; understand basic plant nutritional requirements and plant propagation techniques;
- Demonstrate landscape maintenance skills or turfgrass maintenance skills;
- Recommend common controls for plant pests;
- Properly manage soil for plant growth;
- Operate common landscape and turfgrass equipment.

Required courses for both Certificates (7 credits)
AG 20 OR AG 120 Plant Science (3)
AG 32B/C/D OR Plant Disease & Pest Control (3)
AG 132 Integrated Pest Management (3)
AG 36 Pesticide Safety (1)

Plant Landscaping (CCPL)

Additional requirements for Certificate of Completion
Required courses (5 credits)
AG 45 OR AG 235 Irrigation Principles & Design (3)
AG 93V Cooperative Education (1)
AG 100 AG Orientation: Careers (1)

Area of Specialization:
Select one (1) of the two (2) pairs of classes below (4 credits)

Landscape Maintenance
AG 44 Landscape Equipment (1)
AG 80 OR AG 180 Landscape Maintenance (3)

AND/OR

Turfgrass Maintenance:
AG 40 Turfgrass Equipment (1)
AG 82 OR AG 182 Turfgrass Management (3)

Agricultural Technology

Additional Requirements for Certificate of Completion
Required course (3 credits)
AG 49 OR AG 149 Plant Propagation (3)

Electives: Select from the list below. (5 credits)
AG 45 OR AG 235 Irrigation Principles & Design (3)
AG 52 OR AG 152 Orchid Culture (3)
AG 92 Special Topics (1-4)
AG 93V Cooperative Education (1-4)
AG 100 AG Orientation: Careers (1)
Certificate of Completion

Agricultural Technology: Subtropical Urban Tree Care

The Certificate in Subtropical Urban Tree Care is a 12–14-credit educational program for people who want to learn more about tree care and get involved in an emerging green industry. This is hands-on education with lots of tree touching. Completion of this program will help prepare students for the International Society of Arboriculture certification exams. See course descriptions for prerequisites.

Windward Community College has the only accredited educational program to learn how to care for our Island trees. Graduates can start earning between $11 and $25 per hour for helping to protect some of our island assets and enhancing our environment.

After completing the Arborist program, students will be able to:

- Describe tree anatomy and physiology;
- Identify and characterize tree species on the Hawai‘i ISA list;
- Recommend tree preservation techniques during construction;
- Use ISA pruning standard ANZI A300
- Apply ANSI Z133,1 and OSHA safety standards;
- Assess trees for risk;
- Select and use tree pruning and felling equipment.

Students completing the Tree Worker program will:

- Describe tree anatomy and physiology;
- Identify and characterize tree species on the Hawai‘i ISA list
- Use ISA pruning standard ANSI A300;
- Apply ANSI Z133,1 and OSHA safety standards;
- Select and use tree pruning and felling equipment;
- Climb a tree with rope and saddle.

Required Courses

**Arborist Focus**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG 20 / AG 120</td>
<td>Plant Science</td>
<td>3</td>
</tr>
<tr>
<td>AG 32B/C/D OR</td>
<td>Plant Disease and Pest Control</td>
<td>3 credits total</td>
</tr>
<tr>
<td>AG 132</td>
<td>Integrated Pest management</td>
<td>3</td>
</tr>
<tr>
<td>AG 93V</td>
<td>Cooperative Education</td>
<td>1</td>
</tr>
<tr>
<td>AG 155</td>
<td>Subtropical Arboriculture</td>
<td>3</td>
</tr>
<tr>
<td>AG 156</td>
<td>Tree Risk Assessment</td>
<td>3</td>
</tr>
<tr>
<td>AG 158</td>
<td>Tree Pruning and Felling Equipment</td>
<td>1</td>
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</table>

**Tree Worker Focus**

<table>
<thead>
<tr>
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<td>Integrated Pest management</td>
<td>3</td>
</tr>
<tr>
<td>AG 93V</td>
<td>Cooperative Education</td>
<td>1</td>
</tr>
<tr>
<td>AG 155</td>
<td>Subtropical Arboriculture</td>
<td>3</td>
</tr>
<tr>
<td>AG 158</td>
<td>Tree Pruning and Felling Equipment</td>
<td>1</td>
</tr>
<tr>
<td>AG 159</td>
<td>Tree Climbing</td>
<td>1</td>
</tr>
</tbody>
</table>
Academic Subject Certificate
Art: Drawing and Painting

The purpose of this Academic Subject Certificate in Art: Drawing and Painting is to provide pre-professional training for students planning careers in the Visual Arts in the areas of drawing and painting. The certificate would meet the goals of students who plan to (1) transfer to a four-year institution and earn a Bachelor of Fine Arts degree (BFA) and/or, (2) become a professional artist exhibiting in galleries and completing portraiture commissions, and/or, (3) enter a career in commercial art.

Exit Portfolio Review
Completion of the Academic Subject Certificate in Art: Drawing and Painting requires a portfolio review. The student must consult with the full-time faculty in drawing and painting in preparation for his or her exit portfolio review. A review committee will be formed consisting of two faculty members in drawing and painting. The portfolio submission will occur in the week following spring break, or at the end of the first Summer Session, if the student completed the Windward Atelier as his or her last studio art course.

The student’s exit portfolio must include six to eight drawings and three to four paintings that demonstrate that the student has developed his or her skills in observational and figurative drawing and painting. A student’s work must pass the portfolio review in order to receive the Academic Subject Certificate. The portfolio review is the capstone of the Academic Subject Certificate in Art: Drawing and Painting.

The Academic Subject Certificate in Art: Drawing and Painting consists of 21 credits. At least half of the classes must be taken at WCC. See course descriptions for prerequisites.

Required Courses
ART 113 Introduction to Drawing (3)
ART 114 Introduction to Color (3)
ART 115 Introduction to 2D Design (3)
ART 123 Introduction to Oil Painting (3)
ART 213 Intermediate Drawing (3)
ART 214 Introduction to Life Drawing (3)
ART 223 OR Intermediate Painting (3)
ART 224 Painting from Life (3)

In addition, the drawing and painting faculty strongly recommend that the student complete:
ART 101 Introduction to the Visual Arts (3)
ART 111 Introduction to Watercolor Painting (3)
ART 270 Introduction to Western Art (3)
Academic Subject Certificate
Bio-Resources and Technology: Bio-Resource Development and Management

The Academic Subject Certificate in Bio-Resources and Technology: Bio-Resource Development and Management will prepare students for careers in environmental science/studies and qualify them to transfer to Bachelor of Science degree programs. Knowledge and training in Bio-Resource Development and Management will be an asset to the productive and efficient use of natural resources for promoting sustainable management of our environment.

This Certificate consists of 26 credits. See course descriptions for prerequisites.

**Required Courses (14 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 101*</td>
<td>Biology and Society (4)</td>
<td></td>
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<tr>
<td>GEOG 101**</td>
<td>The Natural Environment (3)</td>
<td></td>
</tr>
<tr>
<td>IS 201</td>
<td>The Ahupua‘a (3)</td>
<td></td>
</tr>
<tr>
<td>BIOL 124***</td>
<td>Environment and Ecology (3)</td>
<td></td>
</tr>
<tr>
<td>BIOL 124L***</td>
<td>Environment and Ecology Lab (1)</td>
<td></td>
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</tbody>
</table>

*BIO 171/171L & 172/172L (General Biology I & II plus labs; 8 credits total) may replace BIOL 101. BIOL 171/171L & 172/172L are highly recommended for those students intending to major in an environmental science discipline at a four-year institution.

**GG 101 (Introduction to Geology; 4 credits) may replace GEOG 101.

*** Students may also replace the BIOL 124/124L requirement with BIOL 172/172L provided they take BIOL 265/265L in Elective Set 2.

**Elective Set 1 (6 credits)**

**Technology, Utilization, and Management**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>AQUA 106</td>
<td>Small Scale Aquaculture (3)</td>
<td></td>
</tr>
<tr>
<td>AQUA 106L</td>
<td>Small Scale Aquaculture Laboratory (1)</td>
<td></td>
</tr>
<tr>
<td>AQUA 201</td>
<td>The Hawaiian Fishpond (3)</td>
<td></td>
</tr>
<tr>
<td>AQUA 201L</td>
<td>The Hawaiian Fishpond Lab (1)</td>
<td></td>
</tr>
<tr>
<td>BOT 105</td>
<td>Ethnobotany (3)</td>
<td></td>
</tr>
<tr>
<td>CHEM 151/151L</td>
<td>Elementary Survey of Chemistry/Lab (4)</td>
<td></td>
</tr>
<tr>
<td>ENVST 199/299</td>
<td>Independent Study (1-4)</td>
<td></td>
</tr>
<tr>
<td>GIS 150</td>
<td>Introduction to GIS/GPS (3)</td>
<td></td>
</tr>
<tr>
<td>NREM 250</td>
<td>GIS Application in Environmental Science and Natural Resource Management (2)</td>
<td></td>
</tr>
<tr>
<td>OCN 220</td>
<td>Hawai‘i Fisheries (3)</td>
<td></td>
</tr>
<tr>
<td>ZOOL 105</td>
<td>Hawaiian Use of Fish &amp; Aquatic Invertebrates (3)</td>
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</tbody>
</table>

**Elective Set 2 (6 credits)**

**Environment and Ecology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 200</td>
<td>Coral Reefs (3)</td>
<td></td>
</tr>
<tr>
<td>BIOL 200L</td>
<td>Coral Reefs Lab and Field Studies (1)</td>
<td></td>
</tr>
<tr>
<td>BIOL 265*/265L*</td>
<td>Ecology and Evolutionary Biology/Lab (4)</td>
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<tr>
<td>BOT 130</td>
<td>Plants in the Hawaiian Environment (4)</td>
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<tr>
<td>ENVST 199/299</td>
<td>Independent Study (1-4)</td>
<td></td>
</tr>
<tr>
<td>GEOG 101L*</td>
<td>The Natural Environment Lab (1)</td>
<td></td>
</tr>
<tr>
<td>GG 103</td>
<td>Geology of the Hawaiian Islands (3)</td>
<td></td>
</tr>
<tr>
<td>HIST 285</td>
<td>Environmental History of Hawai‘i</td>
<td></td>
</tr>
<tr>
<td>OCN 201</td>
<td>Science of the Sea (3)</td>
<td></td>
</tr>
<tr>
<td>ZOOL 106</td>
<td>Hawaiian Marine Invertebrates (3)</td>
<td></td>
</tr>
<tr>
<td>ZOOL 107</td>
<td>Identification of Hawaiian Fishes (3)</td>
<td></td>
</tr>
<tr>
<td>ZOOL 200</td>
<td>Marine Biology (3)</td>
<td></td>
</tr>
<tr>
<td>ZOOL 200</td>
<td>Marine Biology Laboratory (1)</td>
<td></td>
</tr>
</tbody>
</table>

*BIO 265/265L and GEOG 101L are highly recommended for those students intending to enroll in a baccalaureate-level environmental science program.
The Academic Subject Certificate in Bio-Resources and Technology: Plant Biotechnology will prepare students for careers in biotechnology and qualify them to transfer to Bachelor of Science degree programs. Knowledge in plant biotechnology will be an asset in bioproduct manufacturing, assuring safe food/medicine products.

This Certificate consists of 26 credits. See course descriptions for prerequisites.

**Required Courses (16 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 101</td>
<td>General Botany (4) OR</td>
</tr>
<tr>
<td>BIOL 171/171L</td>
<td>General Biology I and Lab (4)</td>
</tr>
<tr>
<td>BOT 160</td>
<td>Identification of Tropical Plants (3) OR</td>
</tr>
<tr>
<td>BOT 130</td>
<td>Plants in the Hawaiian Environment (4)</td>
</tr>
<tr>
<td>BOT 210</td>
<td>Phytobiotechnology (4) OR</td>
</tr>
<tr>
<td>BIOL 275/275L</td>
<td>Cell and Molecular Biology and Lab (4) OR</td>
</tr>
<tr>
<td>BOT 205</td>
<td>Ethnobotanical Pharmacognosy (4)</td>
</tr>
<tr>
<td>MICRO 130</td>
<td>General Microbiology (3)</td>
</tr>
<tr>
<td>MICRO 140</td>
<td>General Microbiology Lab (2)</td>
</tr>
</tbody>
</table>

**Electives (10 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG 149</td>
<td>Plant Propagation (3)</td>
</tr>
<tr>
<td>AG 152</td>
<td>Orchid Culture (3)</td>
</tr>
<tr>
<td>BIOL 275</td>
<td>Cell and Molecular Biology (3)</td>
</tr>
<tr>
<td>BIOL 275L</td>
<td>Cell and Molecular Biology Laboratory (1)</td>
</tr>
<tr>
<td>BOT 105</td>
<td>Ethnobotany (3)</td>
</tr>
<tr>
<td>BOT 130</td>
<td>Plants in the Hawaiian Environment (4)</td>
</tr>
<tr>
<td>BOT 199/299</td>
<td>Independent Study or</td>
</tr>
<tr>
<td></td>
<td>Summer Field Study Abroad (1-4)</td>
</tr>
<tr>
<td>BOT 205</td>
<td>Ethnobotanical Pharmacognosy (4)</td>
</tr>
<tr>
<td>CHEM 151 or CHEM 161</td>
<td></td>
</tr>
<tr>
<td>CHEM 152 or CHEM 162</td>
<td></td>
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<tr>
<td>CHEM 151L or CHEM 161L</td>
<td></td>
</tr>
<tr>
<td>CHEM 152L or CHEM 162L</td>
<td></td>
</tr>
<tr>
<td>FSHN 185</td>
<td>Human Nutrition (3)</td>
</tr>
<tr>
<td>GIS 150</td>
<td>Introduction to GIS/GPS (3)</td>
</tr>
</tbody>
</table>
Academic Subject Certificate
Business

The Academic Subject Certificate in Business is a college credential for students who have completed a specific sequence of credit courses that prepare and qualify them for transfer to a four-year college. This certificate is designed to provide Windward Community College students with recognition for their accomplishments and to also serve as an indication to potential employers that students who have earned an Academic Subject Certificate have specific prerequisite business skills.

This Certificate consists of 24 credits. The sequence of courses required for the Academic Subject Certificate in Business is designed to provide a foundation in accounting, economics, computer science, and written and oral communications, while also qualifying for articulation as transfer credits to four-year college business degree programs. See course descriptions for prerequisites.

Please note that completing the sequence of courses below does not automatically qualify a student for entrance in a four-year college program. There may be other required courses. See your WCC counselor or check the four-year institution’s applicable program requirements or its current catalog.

Required Courses (24 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201</td>
<td>Intro to Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 202</td>
<td>Intro to Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 130</td>
<td>Principles of Economics (Microeconomics)</td>
<td>3</td>
</tr>
<tr>
<td>ECON 131</td>
<td>Principles of Economics (Macroeconomics)</td>
<td>3</td>
</tr>
<tr>
<td>ENG 100</td>
<td>Expository Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 209</td>
<td>Business Writing</td>
<td>3</td>
</tr>
<tr>
<td>ICS 101</td>
<td>Digital Tools for the Information World</td>
<td>3</td>
</tr>
<tr>
<td>SP 151</td>
<td>Personal and Public Speech</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td>Principles of Effective Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

Academic Subject Certificate
Psycho-Social Developmental Studies

The ASC in Psycho-Social Developmental Studies provides pre-professional training for students planning careers in human services (social work, counseling, education, corrections, psychology, and human development). The curriculum combines existing liberal arts courses and cooperative education at designated field sites in partnership with a social service agency or hospital. This certificate is unique because of the linkage and collaboration with liberal arts courses (interdisciplinary).

To earn the PSDS Academic Subject certificate, students must complete a total of 27 credits with a cumulative grade point average of 2.0 or better for all required courses. Twelve credits, including SSCI 193V and SSCI 293V must be taken at Windward Community College. See course descriptions for prerequisites.

Required Courses (24 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 100</td>
<td>Survey of Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 170</td>
<td>Psychology of Adjustment</td>
<td>3</td>
</tr>
<tr>
<td>SOC 218</td>
<td>Introduction to Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>SOC 231</td>
<td>Introduction to Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>PSY 224</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 240</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 100</td>
<td>Survey of General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 251</td>
<td>Introduction to Sociology of the Family</td>
<td>3</td>
</tr>
<tr>
<td>SSCI 193V</td>
<td>Cooperative Arts &amp; Science Education</td>
<td>3</td>
</tr>
<tr>
<td>SSCI 293V</td>
<td>Cooperative Arts &amp; Science Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (3 credits)

Select one course from the list below:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 200</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>BOT 105</td>
<td>Ethnobotany</td>
<td>3</td>
</tr>
<tr>
<td>ICS 100</td>
<td>Computing Literacy and Applications</td>
<td>3</td>
</tr>
<tr>
<td>POLS 180</td>
<td>Introduction to Hawaiian Politics</td>
<td>3</td>
</tr>
</tbody>
</table>
The ASC in Hawaiian Studies prepares students for careers in education, the visitor industry, or in fields requiring expertise in Hawaiian subject matter.

This certificate consists of a minimum of 25 total credits with three different areas of emphasis: Language, History/Culture, and Science. See course descriptions for prerequisites.

**Required Core Courses for ALL Areas of Emphasis (11 credits)**
- HAW 101  
  Elementary Hawaiian I (4)
- HAW 102  
  Elementary Hawaiian II (4)
- HWST 107  
  Hawai‘i: Center of the Pacific (3)

**Required Courses for Area of Emphasis (6-9 credits)**
(Select one Area of Emphasis)

**Language (8 credits)**
- HAW 201  
  Intermediate Hawaiian I (4)
- HAW 202  
  Intermediate Hawaiian II (4)

**Recommended Electives for Language Emphasis**
- HPER 124  
  Dances of Hawai‘i I (1)
- HPER 125  
  Dances of Hawai‘i II (1)
- HWST 130  
  Hula Olapa: Traditional Hawaiian Dance (3)

**History/Culture (6 credits)**
- HIST 224/284  
  History of Hawai‘i (3)
- HWST 270  
  Hawaiian Mythology (3)

**Recommended Electives for History/Culture Emphasis**
- HPER 124  
  Dances of Hawai‘i I (1)
- HPER 125  
  Dances of Hawai‘i II (1)
- HWST 130  
  Hula Olapa: Traditional Hawaiian Dance (3)
- IS 160  
  Polynesian Voyaging & Seamanship (3)
- IS 260  
  Polynesian Voyaging & Stewardship (3)

**Science (9 credits)**
- BOT 105  
  Ethnobotany (3)
- IS 160  
  Polynesian Voyaging & Seamanship (3)
- IS 260  
  Polynesian Voyaging & Stewardship (3)

**Recommended Electives for Science Emphasis**
- ASTR 110  
  Introduction to Astronomy (3)
- BIOL 200  
  Coral Reefs (3)
- BOT 105  
  Ethnobotany (3)
- BOT 130  
  Plants in the Hawaiian Environment (4)
- BOT 181  
  Plant Sea Life (4)
- GG 103  
  Geology of the Hawaiian Islands (3)
- GG 210  
  O‘ahu Field Geology (1)
- GG 211  
  Big Island Field Geology (1)
- GG 212  
  Maui Field Geology (1)
- GG 213  
  Moloka‘i, Lāna‘i, and Kaho‘olawe Field Geology (1)
- GG 214  
  Ka‘au‘i and Ni‘ihau Field Geology (1)
- HAW 201  
  Intermediate Hawaiian I (4)
- HAW 202  
  Intermediate Hawaiian II (4)
- HWST 270  
  Hawaiian Mythology (3)
- HIST 224/284  
  History of Hawai‘i (3)
- HPER 124  
  Dances of Hawai‘i I (1)
- HPER 125  
  Dances of Hawai‘i II (1)
- HWST 130  
  Hula Olapa: Traditional Hawaiian Dance (3)
- IS 160A/B  
  Polynesian Voyaging and Seamanship (3)
- IS 160L  
  Polynesian Voyaging and Seamanship Lab (1)
- IS 201  
  The Ahupua‘a (3)
- IS 260A/B  
  Polynesian Voyaging and Stewardship (3)
- IS 260L  
  Polynesian Voyaging and Stewardship Lab (1)
- MUS 121F  
  Beginning Slack Key Guitar (1)
- MUS 122F  
  Intermediate Slack Key Guitar I (1)
- MUS 121Z  
  Beginning ‘Ukulele (1)
- MUS 130F  
  Slack Key Guitar Ensemble (1)
- MUS 177  
  Introduction to Hawaiian Music (3)
- OCN 201  
  Science of the Sea (3)
- OCN 260  
  Pacific Surf Science and Technology (3)
- OCN 260L  
  O‘ahu Surf Science and Technology Lab (1)
- REL 205  
  Understanding Hawaiian Religion (3)
- SOC 250  
  Community Forces in Hawai‘i (3)
- ZOOL 105  
  Hawaiian Use of Fish and Aquatic Invertebrates (3)
- ZOOL 107  
  Identification of Hawaiian Fishes (3)

**Electives (5-8 credits)**
Any one course can be used only once in each Academic Subject Certificate.
The Certificate of Competence in Business Technology provides students with a certificate that combines career-search skills with basic clerical skills, allowing graduates to qualify for entry-level clerical positions. This five-credit certificate responds to the newly-common business practice of requiring job applicants to apply online, or to download or E-mail applications. It also provides students with basic computer and telephone skills common to contemporary clerical work. Upon completing the certificate, students will be able to use current and emerging technologies effectively to create and manage documents; communicate clearly and effectively through oral and written interactions, complying with standard office etiquette; and apply appropriate strategies to secure employment.

**Required Courses:**
- BUSN 121  
  Introduction to Word Processing (3)
- BUSN 160  
  Telephone Techniques and Communications (1)
- BUSN 166  
  Professional Employment Preparation (1)

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The Certificate of Competence in GIS/GPS certifies that a student has successfully completed two GIS/GPS courses. These courses will provide a student with job entry level skills in GIS/GPS, or an opportunity for job upgrading.

**Required Courses (5 credits)**
- GIS 150  
  Introduction to GIS/GPS (3)
- NRM 250  
  GIS Application in Environmental Science and Natural Resource Management (2)
- OR GIS/NREM 199/299 Independent Study (2)
Certificate of Competence

Information Computer Science: Applied Business and Information Technology

The Information Computer Science Certificate of Competence in Applied Business and Information Technology is a competency based program designed for the novice or professional information worker. This certificate is appropriate for upgrading the Information skills of industry members or for administrative support occupations.

The Certificate can be earned separately or in conjunction with the Business Academic Subject Certificate at Windward Community College. Students who choose to obtain a four-year degree can transfer to Maui Community College for the upper division coursework to obtain a bachelor's degree in Applied Science (B.A.S.). See course descriptions for prerequisites.

Upon successful completion of this certificate, the student will be able to:

- Develop advanced skills in industry-standard computer programs
- Integrate Web technologies into business applications to modernize information technology skills
- Integrate design elements in publications and Web projects

**Required Courses (9 credits)**

- ICS 101 Digital Tools for the Information World (3)
- ICS 115 Microcomputer Applications (3)
- ICS 214 Fundamentals of Design for Print and Web (3)

Certificate of Competence

Information Computer Science: Web Support

The Information Computer Science Certificate of Competence in Web Support is a competency based program designed for the novice or professional information worker who has little to no experience in Web support. This certificate is appropriate for upgrading the Web skills of industry members or for administrative support occupations. See course descriptions for prerequisites.

Upon successful completion of this certificate, the student will be able to:

- Design a professional Web site with Web 2.0 tools
- Successfully upload the Web site with the interactive Web 2.0 components
- Modify and update the Web site and add new components as needed

**Required Courses (9 credits)**

- ICS 107 Web Site Development (3)
- ICS 121V Microcomputer Topics (3) (Replaced by ICS 123 as of June 2010)
- ICS 123 Introduction to Audio and Video Editing (3)
- ICS 214 Fundamentals of Design for Print and Web (3)
Course Descriptions

The following pages list courses of instruction. Courses may not be offered every semester; students should refer to the Schedule of Classes prior to registration. Changes, additions, or deletions may be necessary, and when possible, advance notice will be given.

Credit
The number of credits of each course is indicated by a number in parentheses following the title of each course.

Windward Community College Articulation Codes

FW       Written Communication
FS       Symbolic Reasoning
FGA      Global & Multicultural Perspectives, Group A
FGB      Global & Multicultural Perspectives, Group B
FGC      Global & Multicultural Perspectives, Group C
OC       Oral Communications
DA       Arts
DH       Humanities
DL       Literatures
DS       Social Sciences
DB       Biological Science
DP       Physical Science
DY       Laboratory Science

Course Numbering
Each course is designated by an abbreviation which stands for the subject area of the course, followed by a number.

- Courses numbered from 1-99 are generally not applicable for credit toward a baccalaureate degree but some are applicable to certificates.
- Courses numbered from 100-199 are initial or introductory courses.
- Courses numbered from 200-299 are generally second-year courses in a sequence or development within a field of study.
- Undergraduate courses ending in -97 or -98 are experimental courses and will be offered for only one year on this basis.
- Courses ending in -99 are independent study courses such as directed reading, research or field work experience.
- The suffix “L,” when used, designates a laboratory course which is a companion course (whether required or not) to a given lecture course.
- The suffix “V,” when used, designates variable credit. The credit to be earned is arranged with the instructor by each student at the time of registration.
- The suffix “WI,” when used in the class schedule, designates a Writing Intensive course.
Course Descriptions

Accounting (ACC)

ACC 201 Introduction to Financial Accounting (3)
Introduction to accounting theory and methods used to record and report financial information according to generally accepted accounting principles. (3 hrs. lect.)
The student learning outcomes are:
• Describe and understand the nature, environment and role of accounting as it relates to individuals, business organizations, and the business community.
• Analyze, record and report the business activities and transactions of a service and/or merchandising type organization using GAAP.
• Understand and describe what internal controls are, including its basic components and limitation, and apply internal control activities in the control of cash and merchandising transactions.
• Apply generally accepted accounting principles (GAAP) in accounting for financial assets and liabilities including, but not limited to, short term financial assets, inventories, long-term assets, and current liabilities.

ACC 202 Introduction to Managerial Accounting (3)
Introduction to practices and procedures used to report internal operations to management. Topics include manufacturing operations, budgeting, standard costing, cost-volume-profit analysis, job and process costing, statement of cash flows, and financial statement analysis. (3 hrs. lect.)
Prerequisite: ACC 201 with a grade of “C” or better or equivalent or consent of instructor.
The student learning outcomes are:
• Analyze, record, and report equity and long-term liability transactions related to partnerships and corporations from both an issuer and investor perspective using GAAP.
• Prepare and analyze the Statement of Cash Flows.
• Analyze financial statements using horizontal analysis, vertical analysis, and financial statement ratio techniques.
• Describe the concepts of managerial accounting and explain how they are applied to various business models.
• Analyze, record, and report the activities of a manufacturing company using process cost, job order cost, and standard cost accounting systems.
• Prepare information and reports that may be used by management to plan, direct, motivate, and control a business using Cost-Volume-Profit analysis, incremental analysis, and operational and capital budgeting techniques.

Agriculture (AG)

AG 20 Plant Science (3)
The study of plant morphology, anatomy, physiology, classification, growth, growth regulators, and propagation. (2 hrs. lect.; 2 hrs. lab.)
The student learning outcomes are:
• Describe and explain general plant structure and function in relation to plant growth and development.
• Demonstrate knowledge of horticultural principles in the cultivation of plants.
• Examine commercial agricultural enterprises for to become familiar with employment opportunities and the impact of horticulture on our lives.

AG 36 Pesticide Safety (1)
Pesticide application, formulation, toxicity, transportation, storage, safety equipment, disposal, and rules and regulations governing pesticide use. (1 hr. lect.)
The student learning outcomes are:
• Select proper pesticide application equipment.
• Identify pesticides according to what they control.
• State the general rules and regulations governing the use of pesticides.

AG 40 Turfgrass Equipment (1)
Teaches the operation and maintenance of equipment used in turfgrass operations. (2 hrs. lect./lab.)
Prerequisite: Credit for or registration in AG 82 or AG 182 or consent of instructor.
The student learning outcomes are:
• Select the proper tool for the job.
• Demonstrate the effective use of the tool.
• List the advantages and disadvantages of various engine types.

AG 44 Landscape Equipment (1)
Teaches the operation and maintenance of equipment used in landscape operations. (2 hrs. lect./lab.)
Prerequisite: Credit for or registration in AG 80 or AG 180 or consent of instructor.
The student learning outcomes are:
• Select the proper tool for a job.
• Demonstrate the safe and effective use of the tool.
Course Descriptions

AAG 49  Plant Propagation (3)
Introduction to the principles and practices of propagation of fruit, vegetable and ornamental crops by seed, cuttings, grafting, budding, layering and division. Lecture/laboratory/field trip course. (2 hrs. lect.; 3 hrs. lab.)
The student learning outcomes are:
• Describe basic plant growth.
• Relate the principles of plant growth to the solution of everyday problems in plant production.
• Understand the influence of environmental factors on plant growth.
• Propagate plants by various methods.

AG 52  Orchid Culture (3)
An extensive study of orchid identification, breeding, growth, and culture. (3 hrs. lect.)
The student learning outcomes are:
• Identify orchid species, hybrids and trace their pedigrees.
• Provide cultural requirements for each genus, including temperature, light intensity, humidity, watering, fertilizing, media composition, pest/disease control and repotting.
• Perform traditional and in vitro propagation techniques.
• Perform orchid breeding and discuss its economic importance.

AG 80  Landscape Maintenance (3)
Application of horticultural principles and practices to the maintenance of plants in the landscape. Emphasis on trees, shrubs, and annuals. (2 hrs. lect.; 2 hrs. lab.)
Prerequisite: Credit for AG 20 or AG 120 or equivalent or consent of instructor.
The student learning outcomes are:
• Sketch a landscape plan.
• Install and maintain plants in a landscape.
• Identify common plants found in a landscape.

AG 82  Turfgrass Management (3)
Identification, planting, and maintenance of turfgrass for home, park, and golf areas. Discusses watering, fertilizing, insects, disease, and weed control in turfgrass. (2 hrs. lect.; 2 hrs. lab.)
Prerequisite: Credit for or registration in AG 20 or AG 120 or consent of instructor.
The student learning outcomes are:
• Identify turf grasses found in Hawai‘i.
• Select the proper turf for a site.
• Describe and perform maintenance practices in a golf course situation.

AG 92V  Special Topics (1-4)
This course covers current agricultural topics. The course is designed to have variable credits to coincide with the rigor of the topics. A student may enroll and receive credit for this course more than one time (for different topics). A specific course description will be printed in the schedule of classes. (14 hrs. lect.; 18 hrs. lect./lab.)
Prerequisite: Determined by course.
The student learning outcomes are:
• To be determined by the instructor.

AG 93V  Cooperative Education (1-4)
This course provides college credit for compensated work experience to reinforce knowledge and skills learned in coursework for the Agricultural Technology Program. Related instruction may be provided as appropriate. Seventy-five hours of work per semester is required for each credit earned. Repeatable up to 4 credits, 1 credit applicable toward Certificate of Completion.
Prerequisite: Open to Agriculture majors only. Instructor’s permission is required.
The student learning outcomes are:
• Demonstrate the utilization of course work in the field.

AG 100  Agriculture Orientation: Careers (1)
Familiarizes students with different agricultural operations in Hawai‘i through lectures, guest speakers and fieldtrips. (1 hr. lect.)
The student learning outcomes are:
• Describe various careers in agriculture.
• Identify positive and negative aspects of various agriculture careers.

AG 120  Plant Science (3)
The study of plant science, morphology, anatomy, physiology classification, growth, growth regulators, and propagation. Students are required to write a 10 to 15 page research report. (2 hrs. lect.; 2 hrs. lect./lab.)
WCC: DB
The student learning outcomes are:
• Describe and explain general plant structure and function in relation to plant growth and development.
• Demonstrate knowledge of horticultural principles in the cultivation of plants.
• Examine commercial agricultural enterprises for to become familiar with employment opportunities and the impact of horticulture on our lives.
• Research and report on a horticultural plant.

AG 132  Integrated Pest Management (3)
Strategies of integrated pest management; biological and cultural pest controls, weed control, disease control, insect control. (3 hrs. lect.)
The student learning outcomes are:
• Identify major insects, weeds, diseases that are detrimental to the horticulture industry in Hawaii.
• Define Integrated Plant Management and develop an IPM plan.
• Understand and use economic thresholds.
• Identify common predators and parasites.
• Identify management strategies to reduce pest pressures on plants.
AG 149  Plant Propagation (3)
Introduction to the principles and practices of propagation of fruit, vegetable, and ornamental crops by seed, cuttings, grafting, budding, layering and division. (3 hrs. lect.)
The student learning outcomes are:
• Describe basic plant growth.
• Relate the principles of plant growth to the solution of everyday problems in plant production.
• Understand the influence of environmental factors on plant growth.
• Propagate plants by various methods.
• Determine the best form of propagation for a selected plant.

AG 152  Orchid Culture (3)
An extensive study of orchid identification, breeding, growth, and culture. Students are required to write a 10 to 15 page research report. (3 hrs. lect.)
The student learning outcomes are:
• Identify orchid species, hybrids and trace their pedigrees.
• Provide cultural requirements for each genus, including temperature, light intensity, humidity, watering, fertilizing, media composition, and pest or disease control and repotting.
• Perform traditional and in vitro propagation techniques.
• Perform orchid breeding and discuss its economic importance.
• Conduct research and submit research paper.

AG 155  Subtropical Arboriculture (3)
The introduction of arboriculture and the care of community trees. This is a balanced course of practical skills and scientific tree care. (3 hrs. lect.)
Prerequisite: Credit for AG 20 or AG 120 or equivalent or consent of instructor.
The student learning outcomes are:
• Identify and describe the characteristics of tree species on the Hawai‘i ISA list.
• Describe tree anatomy and physiology.
• Recommend techniques of tree preservation during construction.
• Use ISA standards (ANSI A300) when pruning trees.

AG 156  Tree Risk Assessment (3)
This is an introductory course in the evaluation of hazard trees. It is intended for those students interested in pursuing careers in arboriculture. (3 hrs. lect.)
Recommended Preparation: AG 155.
The student learning outcomes are:
• Perform tree site inspections.
• Perform tree inspections.
• Document tree risk hazards.

AG 158  Tree Pruning and Felling Equipment (1)
An introduction to the arboriculture uses of pruning and felling equipment. Safety and efficient use are emphasized. (2 hrs. lect./lab.)
The student learning outcomes are:
• Operate a chain saw using ISA ANSI Z133.1 standards.
• Select the correct tool for the task.

AG 159  Tree Climbing (1)
An introduction to tree climbing using ropes and tree maintenance equipment in and around trees. (3 hrs. lab.)
Prerequisite: Credit for AG 155 or consent of instructor. Physical and mental capacity to climb trees using ropes.
The student learning outcomes are:
• Ascend a tree with ropes to a minimum of 15 feet.
• Use ISA standards to prune a tree while attached to a rope.

AG 180  Landscape Maintenance (3)
Application of horticulture practices to the maintenance of plants in the landscape. Emphasis on trees, shrubs, and annuals. Students are required to write a 10 to 15 page research report. (2 hrs. lect.; 2 hrs. lab.)
Prerequisite: Credit for AG 20 or AG 120 or consent of instructor.
The student learning outcomes are:
• Sketch a landscape plan.
• Install and maintain plants in a landscape.
• Identify common plants found in a landscape.
• Research and report on a landscape topic.

AG 182  Turfgrass Management (3)
Identification, planting, and maintenance of turfgrass for home, park, and golf course areas. Discusses irrigation, fertilization, cultivars, and pest control. Students are required to write a 10 to 15 page research report. (2 hrs. lect.; 2 hrs. lab.)
Prerequisite: Credit for AG 20 or AG 120 or consent of instructor.
The student learning outcomes are:
• Identify turf grasses found in Hawai‘i.
• Select the proper turf for a site.
• Describe and perform maintenance practices in a golf course situation.
• Research and report on a turf grass topic.

AG 192V Special Topics in Agriculture (1-4)
Topics related to diversified agriculture chosen by the Instructor. Course content may vary. May be repeated. (1-4 hrs. lect.)
The student learning outcomes are:
• Identify the important concepts and facts presented for the topic(s) under examination.
• Make inferences and draw conclusions from the topic(s) under discussion.
• Develop skills appropriate to the topic(s) under discussion.
Course Descriptions

• Gain a higher appreciation for the human endeavor of agriculture.
• Gain a higher awareness of the potential career paths that this special topic course in agriculture covers.

AG 235 Irrigation Principles and Design (3)
Fundamentals of irrigation principles, plant, soil, water relationships, soil moisture sensing devices, delivery systems, set up of drip, sprinkler, and surface irrigation systems. Use of chemigation. (3 hrs. lect.)
Recommended preparation: Math 22 or higher.
The student learning outcomes are:
• Determine water requirements for plant growth.
• Describe soil water concepts
• Select the appropriate irrigation method and components for the situation.
• Design a basic drip and sprinkler irrigation system.
• Trouble shoot irrigation problems

Animal Science (ANSC)

ANSC 142 Anatomy and Physiology of Domestic Animals Laboratory (3)
Introduction to the anatomy and physiology of domestic animals. Compares the anatomy and function of major body systems for the cat, dog and horse, with lesser emphasis on birds, reptiles and amphibians. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (3 hrs. lect).
Prerequisite: Registration in ANSC 142L.
WCC: VACA
The student learning outcomes are:
• Discuss the chemical building blocks of major biological molecules.
• Describe the link between cells, tissues, organs, and organ systems.
• Identify selected breeds of companion animals and livestock.
• Contrast the structure and function of major body systems (e.g., skeletal, circulatory, respiratory, and reproductive) among companion animals and selected livestock species.
• Explain how disease and disorders disrupt the homeostasis of each of the above body systems and discuss how common veterinary medical treatments are used to restore homeostasis.

ANSC 142L Anatomy of Domestic Animals Laboratory (1)
Laboratory to accompany ANSC 142. This course is designed to acquaint the student with the body systems of common domestic species (e.g., cats, dogs, horses and birds) through dissections, examinations of models, laboratory exercises, and other hands-on activities. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (3 hrs. lab).
Prerequisite: Credit for or registration in ANSC 142.
WCC: VACA
The student learning outcomes are:
• Identify and describe the anatomy of the major body systems for cats, dogs and horses using prepared slides, skeletons, models and dissections.
• Use standard anatomical terms to describe body directions, regions and sectioning planes.
• Recognize common domestic breeds of cats and dogs.
• Identify major anatomical landmarks used to assess patient health during physical exams.
• Demonstrate proficiency at the use of the microscope as a clinical instrument.

ANSC 151 Clinical Laboratory Techniques (3)
Provides students with the background knowledge needed to perform and interpret laboratory techniques commonly used in veterinary practice. Topics include: Homeostatic relationships, cytology, histology, parasitology and clinical physiology of major body systems. Includes a discussion of common disorders affecting major body systems and the techniques used for diagnosis. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (3 hrs. lecture).
Prerequisite: Credit for ANSC 142 and 142L.
Co-requisite: Registration in ANSC 151L.
WCC: VACA
The student learning outcomes are:
• Describe the procedures for safely collecting specimens from domestic animals.
• Identify internal and external parasites common to domestic mammals and birds.
• Discuss the procedures used to culture and identify common strains of bacteria.
• Describe the functions and physiology of the digestive, endocrine, circulatory, respiratory, reproductive and urinary systems.
• Discuss the clinical tests used to access function of the above body systems and
• Compare the technologies used by automated hematology and blood chemistry machines and discuss their impacts on the accuracy and reliability of test results.

ANSC 151L Clinical Laboratory Techniques Lab
Laboratory to accompany ANSC 151. Provides students with the knowledge and skills necessary to perform common veterinary lab tests including urinalysis, hematology, blood chemistry, cytology and parasitology. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (3 hrs. lab).
Prerequisite: Credit for ANSC 142/142L.
Co-requisite: Credit for or registration in ANSC 151.
WCC: VACA
The student learning outcomes are:

- Properly package, handle and store specimens for laboratory analysis.
- Demonstrate proficiency in the use of veterinary lab equipment (e.g. microscopes, blood chemistry analyzers, centrifuges, and refractometers).
- Determine proper maintenance and quality control procedures necessary to ensure accurate results.
- Properly carry out analysis of laboratory specimens, including urinalysis, CBC, blood chemistry and common cytological and parasitological procedures.
- Recognize accurate vs. erroneous results in order to provide maximum diagnostic benefit.
- Use critical thinking to analyze and interpret clinical data to determine if a need exists for additional laboratory tests that will provide useful diagnostic information.

**ANS C 190 Veterinary Assisting Internship (3)**

Practical animal experience at veterinary clinics, zoos, research labs or other animal facilities. Topics covered may include restraint procedures, veinipuncture, obtaining vital signs, radiological techniques, surgical assisting and animal husbandry. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields (2 hours lecture, 3 hours lab).

**Corequisite:** Credit for or registration in ANSC 142/142L or consent of instructor.

**WCC:** VACA

The student learning outcomes are:

- Demonstrate proper patient restraint and safety procedures.
- Determine the breed and sex of patient and obtain a patient history.
- Properly collect a venous blood sample from multiple collection sites (e.g., ephalic and jugular veins) for a minimum of two species.
- Obtain objective patient data (e.g., temperature, pulse, respiration rate, hydration status, and auscultate heart/lungs).
- Sterilize instruments and supplies using appropriate methods.
- Provide surgical assistance.
- Safely and effectively produce diagnostic radiographic and non-radiographic images.

**Anthropology (ANTH)**

**ANTH 150 Human Adaptation (3)**

Human variation, physical and cultural examined for its adaptiveness. Alternative explanations of human behavior, with implications for the future. (3 hrs. lect.) **WCC:** DS

The student learning outcomes are:

- Describe the concerns and general approach(es) of each of the four subfields of anthropology—cultural anthropology, physical anthropology, archaeology, and linguistics—and explain how they interact.
- Use basic terminology appropriate to the four subfields of anthropology.
- Apply key anthropological perspectives and approaches to real-world examples.
- Identify the major biological and cultural factors that influence human evolution.
- Describe basic archaeological approach to excavation.
- Explain the processes of heredity, variation, and natural selection involved in human evolution.
- Trace the evolutionary record from human ancestors to contemporary humans.
- Demonstrate an appreciation for the diversity of the Order Primates, in terms of biology and behavior.
- Discuss the relationship(s) among human biology, culture, and environment.
- Research and write a paper addressing some thesis, topic, or research question, utilizing appropriate sources and in a proper academic format (including proper citations).

**ANTH 175 Polynesian Surf Culture (3)**

Provides students with an understanding of surf culture in the Pacific Basin. Environmental and cultural factors are assessed in relation to surfing’s development in Polynesia, integration into Hawaiian culture, decline due to Western influence, and revitalization as a modern recreational activity. The modern surfing industry is also assessed through a cultural perspective that analyzes business practices utilized by surfing organizations today. (3 hrs. lect.)

**WCC:** DS

The student learning outcomes are:

- Demonstrate an understanding and basic knowledge of environmental and cultural factors affecting the development of surfing in Polynesia, surfing’s integration into Hawaiian culture, its decline due to Western influence, and its revitalization as a modern recreational activity.
- Coherently address modern social and legal issues relating to surfing.

**ANTH 175L Surf Culture Field Lab (1)**

Complements the lecture materials presented in the ANTH 175. Provides students with an understanding of surf culture in the Pacific Basin using O’ahu as a model for understanding ancient and modern surfing culture in Hawai’i. Field activities include surfing demonstrations and instruction, opportunities to speak with local cultural informants, and field trips to various museums to learn about Hawai’i’s surfing heritage. A coastal tour of O’ahu will be made to study the history of several major surf breaks. (3 hrs. lab.)

**Prerequisite:** Credit for or registration in ANTH 175.

**WCC:** DS

The student learning outcomes are:

- Demonstrate an understanding and basic knowledge of environmental and cultural factors affecting the development of surfing in Polynesia, surfing’s integration into Hawaiian culture, its decline due to Western influence, and its revitalization as a modern recreational activity.
Course Descriptions

- Demonstrate an understanding of the principles of anthropology as they apply to the creation and shaping of surfing culture, especially on Oʻahu.
- Coherently address modern social and legal issues relating to surfing.

**ANTH 200 Cultural Anthropology (3)**
Nature of culture, introduction to basic concepts for analyzing cultural behavior; patterning, integration, and dynamics of culture; culture and the individual. (3 hrs. lect.) WCC: DS
The student learning outcomes are:
- Explain how anthropologists study and talk about economic, kinship, political, gender, and religious systems, and cultural change.
- Apply the concept of culture to analyze cross-cultural issues in Hawaiʻi, the US, and the world.
- Identify cross-cultural differences and similarities in multicultural societies such as Hawaiʻi.
- Describe patterns of culture in societies which utilize various strategies of adaptation to their environments, including subsistence patterns, political organization, social organization, and stratification.
- Carry out ethnographic fieldwork in a subculture on Oʻahu and produce a written description of the culture.
- Apply anthropological perspectives and research methods to careers and research outside of the discipline.
- Examine his/her own life and culture in a more critical manner in relation to the lives of people in other cultures.

**Aquaculture (AQUA)**

**AQUA 106 Small Scale Aquaculture (3)**
Survey of possibilities of small scale aquaculture. Application of basic biological and ecological concepts and theories to the selection, planning and design of small scale aquaculture systems. (3 hrs. lect.)
Recommended Preparation: Registration in AQUA 106L.
WCC: DB
The student learning outcomes are:
- Describe past and present aquaculture technologies.
- Plan and design a small scale aquaculture system.
- Select appropriate small scale aquaculture organisms.
- Determine the optimal conditions for cultivating small scale aquaculture organisms.
- Develop a small-scale aquaculture husbandry and management plan.
- Evaluate the economic feasibility of developing a small-scale aquaculture system.

**AQUA 106L Small Scale Aquaculture Laboratory (1)**
Companion laboratory to AQUA 106, Small Scale Aquaculture. Practical, hands-on experiences in small scale aquaculture. Laboratory/field trip class. (3 hrs. lab.)
Prerequisite: Credit for or registration in AQUA 106.
WCC: DY

**AQUA 201 The Hawaiʻi Fishpond (3)**
An introduction into the history, development, biology and ecology, management, restoration, and future of Hawaiian fishponds. This course will study traditional Hawaiian fishponds, merging traditional knowledge with the principles of modern Western science. (3 hrs. lect.)
Recommended Preparation: Registration in AQUA 201L.
WCC: DB
The student learning outcomes are:
- Explain the process and philosophical basis of scientific inquiry.
- Distinguish between the types of traditional Hawaiian fishponds, the history of their construction and use throughout the Hawaiian Islands, how and where they were constructed, their operation and management, their characteristics, and their biota.
- Describe the oceanography, biology and ecology of Hawaiian fishponds.
- Describe the basic principles of aquaculture, including pond dynamics, feeding regimes, cultivated species propagation and growth, disease management, production, harvesting and maintenance.
- Discuss the status of Hawaiian fishponds in modern times, including their restoration and their future.

**AQUA 201L The Hawaiʻi Fishpond Lab (1)**
An introduction into the history, development, biology and ecology, management, restoration, and future of Hawaiian fishponds. This course will study traditional Hawaiian fishponds, merging traditional knowledge with the principles of modern Western science. (1 hr. lab.)
Prerequisite: Credit for or registration in AQUA 201 or consent of instructor.
WCC: DY
The student learning outcomes are:
- Use the scientific method of inquiry to study a Hawaiian fishpond.
- Apply the concepts learned in AQUA 201 to an experimental and hands-on observational setting.
The student learning outcomes are:
- Screenprinting. (2 hrs. lect./4 hrs. studio.)
- Design for screen printing on paper. Includes skill in photo printmaking providing experience in the development of skills used in designing for screen printing. (3 hrs. lect.) WCC: DA
- Studio experience mainly for non-majors. Introduction to printmaking. (4 hrs. studio.) WCC: DA
- Design a Hawaiian fishpond.
- Manage all aspects of a Hawaiian fishpond.

Art (ART)

Note to Students: Some art courses are offered sequentially. However, not all courses are offered each semester.

ART 101 Introduction to the Visual Arts (3)
Art 101 is an introductory course that focuses on the question “What is the nature of visual art?” and the forms and conditions under which art is expressed. Projects will be required. Independent field trips to art galleries may be required. (3 hrs. lect.) WCC: DA
The student learning outcomes are:
- Identify how an appreciation of the visual arts influences the quality of life.
- Analyze how the elements of form and principles of design work together with the creative process to produce a work of art.
- Describe individual art disciplines, media and specific methods of making art.
- Define major historical and contemporary movements in art and discuss how art reflects its time and culture.
- Execute studio art projects in order to experience visual concepts, art disciplines and media in each of the following:
  - Maintain a comprehensive sketchbook demonstrating understanding of the elements of art.
  - Create at least one basic 2D and 3D studio art project, utilizing media specific to the successful outcome of each project.
  - Execute one project based upon art history or museum observation.

Art 104D Introduction to Printmaking/Screen Printing (3)
Studio experience mainly for non-majors. An introduction to printmaking providing experience in the development of skills used in designing for screen printing on paper. Includes skill in photo screening. (2 hrs. lect./4 hrs. studio.) WCC: DA
The student learning outcomes are:
- Demonstrate a knowledge and understanding of the elements of art, principles of design, and the creative process.
- Select and use screen printing materials.
- Complete the creative problem-solving process, from planning and discovery to implementation and evaluation.
- Examine the process of integrating content and meaning with visual form in the screen printing process.

ART 105B Ceramics Studio Handbuilding I (3)
Studio experience mainly for nonmajors. An introduction to clay as an art medium. Emphasis on basic handbuilding techniques, three-dimensional concepts in clay, glazing, decorating and firing kilns. (2 hrs. lect.; 4 hrs. studio.) WCC: DA
NOTE: Art Majors: ART 105B and ART 105C must both be taken to receive equivalency at UHM as an art elective. Liberal Arts Students: ART 105B or ART 105C will transfer to fulfill the Humanities DA core requirements.
The student learning outcomes are:
- Demonstrate through finished ceramic objects a basic understanding of the hand building techniques.
- Comprehend and sensitively apply the visual elements of line, shape, color, texture, volume and mass and the design principles of balance, rhythm, dominance, contrast, variation and unity to the execution of ceramic objects.
- Demonstrate a basic understanding of color and color theory as it related to the use of glazes.
- Complete the creative problem-solving process from planning and discovery to implementation and evaluation.
- Demonstrate a basic understanding of drawing as a means of notation, conceptualization and visual organization.
- Demonstrate an awareness of historic and contemporary examples of ceramics.
- Begin to use the ceramic process to express personal imagery.
- Demonstrate an ability to articulate the concepts and intent of a finished ceramic piece.

ART 105C Ceramics Studio Wheelthrowing I (3)
Studio experience mainly for non-majors. Introduction to the potter’s wheel. Emphasis on techniques of forming basic wheelthrown shapes on the electric or kick wheel. Emphasis also on decorating, glazing, and firing of ceramic pieces. (2 hrs. lect.; 4 hrs. studio.) WCC: DA
NOTE: Art Majors: ART 105B and ART 105C must both be taken to receive equivalency at UHM as an art elective. Liberal Arts Students: ART 105B or ART 105C will transfer to fulfill the Humanities DA core requirements.
The student learning outcomes are:
- Demonstrate through finished ceramic objects a basic understanding of wheel throwing techniques.
- Comprehend and sensitively apply the visual elements of line, shape, color, texture, volume and mass and the design principles of balance, rhythm, dominance, contrast variation and unity to the execution of ceramic objects.
- Demonstrate a basic understanding of color and color theory as it relates to the use of glazes.
- Complete the creative problem-solving process from planning and discovery to implementation and evaluation.
- Demonstrate a basic understanding of drawing as a means of notation, conceptualization and visual organization.
Course Descriptions

- Demonstrate an awareness of historic and contemporary examples of ceramics.
- Begin to use the ceramic process to express personal imagery.
- Demonstrate an ability to articulate the concepts and intent of a finished ceramic piece.

ART 107 Elementary Studio: Photography (3)
Studio experience mainly for non-majors. An introduction to black and white photography emphasizing a variety of picturemaking techniques. Assignments and field trips. Student must have film camera with adjustable shutter speeds and aperture settings. (2 hrs. lect.; 4 hrs. studio.)
WCC: DA
The student learning outcomes are:
- Operate your camera to obtain correctly focused and exposed negatives, and use aperture and shutter speeds to create an intended image.
- Develop black and white film and make contact prints.
- Operate an enlarger to make black and white prints that express, enhance and communicate an intended image.
- Process and present photographic prints that aesthetically expresses your feelings, ideas and/or concepts.

ART 108 Elementary Studio: Drawing and Painting (3)
Art 108 is a studio course, which includes drawing and an introduction to acrylic painting techniques, with an emphasis on acrylic painting. Course content will also emphasize composition and color theory. Repeatable once for a total of 6 credits. (6 hrs. lect./lab.)
WCC: DA
The student learning outcomes are:
- Comprehend and use basic drawing techniques to create finished drawings.
- Use appropriate acrylic painting and color techniques to make finished paintings.
- Evaluate the creative problem-solving process to complete a final composition.
- Evaluate and critique works of art by using art terminology.
- Distinguish seeing from looking.
- Create a personal drawing and painting style through art practice and theory.

ART 111 Introduction to Watercolor Painting (3)
Art 111 is an introduction to watercolor painting materials and techniques. Repeatable once for a total of 6 credits. (6 hrs. lect./lab.)
Recommended Preparation: ART 101 and ART 113.
WCC: DA
The student learning outcomes are:
- Complete assignments that reflect the use of watercolor techniques and design principles in watercolor composition.
- Use and care properly for watercolor painting tools.

ART 113 Introduction to Drawing (3)
Art 113 is an introduction to the materials and techniques of drawing, focusing on line drawing, rendering, and the use of perspective. This course will include the study of the drawings of old and modern masters. Repeatable once for a total of 6 credits. (6 hrs. lect./lab.)
Recommended Preparation: ART 101.
WCC: DA
The student learning outcomes are:
- Complete assignments that reflect the use of basic visual elements to create an illusion of space and form.
- Use linear perspective.
- Demonstrate through drawings, skill in hand-eye coordination.
- Use skilfully a variety of drawing materials and techniques.
- Identify drawing materials and techniques used by the old and modern masters.

ART 114 Introduction to Color (3)
Art 114 is an introductory course focusing on color theory and the application of color as related to studio art practice. (6 hrs. lect./lab.)
Recommended Preparation: ART 101.
WCC: DA
The student learning outcomes are:
- Formulate a personal and expressive sense of color.
- Recognize and comprehend color interaction, color phenomena, color theories and vocabulary specific to color study.
- Master skills in paint mixing, color matching and application as well as other art processes, to creatively solve color problems.
- Utilize the multiple dimensions of color: hue, value, intensity and temperature in specific color projects.
- Recognize and properly use the three types of color applications: opacity, transparency and optical mixing.

ART 115 Introduction to 2D Design (3)
Art 115 is an introductory course which focuses on the basic design concepts, elements and principles of art. This course emphasizes projects in basic two-dimensional design. (6 hrs. lect./lab.)
Recommended Preparation: ART 101.
WCC: DA
The student learning outcomes are:
- Become familiar with and successfully use the principles of design to develop individual creative designs and dynamic compositions.
- Use a variety of strategies to create and evaluate the creative problem-solving process through intuitive processes, revisions and risk-taking, to arrive at a final composition.
- Demonstrate proper use of diverse media and materials to produce a work of art.
Course Descriptions

• Evaluate and critique works of art and presentation by using art terminology.
• Identify historic references within the theory and practice of design.
• Organize a portfolio of works that demonstrate aesthetic understanding of the principles of design, elements of form, and appropriate presentation of art.

ART 116 Introduction to Three-Dimensional Composition (3)
Focuses on building three-dimensional structures and basic sculptural forms using various approaches and materials, as well as the designing of creative environments. The student’s awareness of the natural order and the aesthetic aspect of design is broadened and the student learns the use of texture, volume, color, temperature, proportion, space, time and movement in a three-dimensional form. (2 hrs. lect.; 4 hrs. studio.)
WCC: DA

The student learning outcomes are:
• Demonstrate an understanding of the following sculpting processes: assemblage, carving, mold making, metal construction and casting.
• Utilize creative problem solving.
• Demonstrate and sensitively apply the visual elements of line, texture, color, volume and mass and the design principles of balance, directional force, rhythm, dominance, contrast, variation, and proportion.
• Demonstrate a basic understanding of drawing as a means of notation, conceptualization and visual organization.
• Demonstrate an awareness of historic and contemporary examples of sculpture.
• Begin to use the sculpting process to express personal imagery.

ART 123 Introduction to Oil Painting (3)
Art 123 is an introduction to the materials and techniques of oil painting. Classical painting techniques will be emphasized. Repeatable once for a total of 6 credits. (6 hrs. lect./lab.)
Recommended Preparation: ART 101, 113 and 114.
WCC: DA

The student learning outcomes are:
• Execute paintings using traditional painting techniques.
• Complete the technical process from preparation of the ground (canvas) to the completion of a painting.
• Execute underpainting, grisaille and limited palette painting techniques.
• Apply the visual elements of line, shape, light and shadow, color, texture and space as well as the design principles of balance, rhythm, focal points, implied movement and unity to a painting.
• Discuss oil painting concepts and techniques.
• Critique work based on oil painting concepts and techniques.

ART 189 Ka Unu Pa’a—Introduction to Hawaiian Art and Design (3)
An integrated beginning studio art course which offers students the opportunity to understand and express Hawaiian cultural perspective through contemporary visual arts activities. (6 hrs. lect./lab.)
Recommended Preparation: HAW 101 or one semester high school Hawaiian.
WCC: DA

The student learning outcomes are:
• Demonstrate a basic understanding of the historical and formal qualities of objects produced by Hawaiians through pre-contact, post-contact, and contemporary times.
• Demonstrate a basic understanding of art making as a means of contemporary notation, conceptualization and visual organization.
• Develop an appreciation of Hawaiian art, the variety and richness of its art forms and the cultural significance inherent in its production.
• Demonstrate how the Hawaiian language informs the process of art making and offers insights into the metaphorical nature intrinsic in Hawaiian art.
• Use various art making techniques and processes to explore personal imagery.
• Collaborate with others to make creative decisions.

ART 207 Intermediate Photography: Techniques and Aesthetics of Photography (3)
Basic techniques and esthetics of black and white photography; the camera as a tool for communication and self expression. Student must have a film camera with adjustable shutter speeds and aperture settings. Repeatable up to 6 credits, 6 credits applicable toward A.A. degree. (2 hrs. lect.; 4 hrs. studio.)
Prerequisite: Credit for ART 107, or consent of instructor.
WCC: DA

The student learning outcomes are:
• Conceptualize an idea and translate it photographically into a visual form.
• Use different black and white films and development procedures to convey and express different photographic aesthetics.
• Express through refined photographic techniques your ideas, feelings and/or concepts.
• Produce photographic prints that require proficient skill in darkroom techniques.

ART 208 Intermediate Photo: Color Studio (3)
Color in photography emphasizing communication and self-expression. Lectures, demonstrations and projects. Student must have film camera with adjustable shutter speeds and aperture settings. (2 hrs. lect.; 4 hrs. studio.)
Prerequisite: Credit for ART 101, 107, or consent of instructor.
WCC: DA
Course Descriptions

The student learning outcomes are:
• Conceptualize an idea and translate it photographically into a visual form.
• Use different color films and development procedures to convey and express different photographic aesthetics.
• Express through refined photographic techniques your ideas, feelings and/or concepts.
• Produce photographic prints that require proficient skill in darkroom techniques.

ART 213 Intermediate Drawing (3)
Art 213 is a continuation and development of drawing ideas and skills introduced in Art 113. A variety of materials, techniques and concepts are explored, particularly pertaining to drawing concepts unique to the 20th century. Portraiture will also be introduced. Repeatable up to 6 credits. (6 hrs. lect./lab.)
Recommended Preparation: ART 101 and ART 113.
WCC: DA
The student learning outcomes are:
• Exhibit a continued development of the skills and craft of drawing, as introduced in ART 113.
• Use perspective traditionally as well as in imaginative and creative ways.
• Draw portraits from life.
• Execute drawing concepts unique to the 20th century.
• Use drawing skills necessary to visually express creative ideas.

ART 214 Introduction to Life Drawing (3)
Art 214 is an introductory figure drawing course. Anatomical construction, light, space, diagrammatic analysis, and thematic content will be studied through the drawing process. Repeatable once for a total of 6 credits. (6 hrs. lect./lab.)
Prerequisite: Credit for ART 113 or consent of instructor. Recommended: ART 101 and 213.
WCC: DA
The student learning outcomes are:
• Draw the human figure accurately and expressively.
• Investigate through drawing, the interaction of structure, anatomy, design and expression, as it relates to the figure.
• Demonstrate an understanding of the relationship between the internal structure of the figure and its effects on topography.
• Discuss figure drawing concepts and techniques.
• Critique work based on figure drawing concepts and techniques.

ART 220 The Windward Atelier (Intensive Study in Drawing and Painting) (6)
Art 220 is an intensive course of study in the classical techniques of drawing and painting. Cast drawing, portraiture and figure painting will be the focus of instruction. The Windward Atelier is designed primarily for those students who have some prior studio experience in drawing. (34 hrs. lect./lab. for 6 weeks.)
Prerequisite: Acceptance through a drawing portfolio which demonstrates evidence of skills in observational drawing.
The student learning outcomes are:
• Make accurate drawings and paintings from observation.
• Perceive and record values accurately and use various sighting techniques in order to develop observational drawing and painting skills.
• Draw from classical plaster casts using mapping, memory and sighting techniques.
• Execute the painting process from canvas preparation to the completion of a painting.
• Execute underpainting, grisaille and limited palette painting techniques.
• Properly care for brushes and wooden palette, stretch and prepare a canvas, and make the Maroger Medium.
• Apply the visual elements of line, shape, light and shadow, color, texture, and space, and the design principles of balance, rhythm, focal points, implied movement and unity to cast drawing, portraiture and figure painting projects.
• Discuss classical drawing and painting concepts and techniques.
• Critique work based on classical drawing and painting concepts and techniques.

ART 223 Intermediate Painting (3)
Survey of late 19th and early 20th century studio practice. Completion of paintings which concentrate on historical styles as well as on a more personal direction. (2 hrs. lect.; 4 hrs. studio.)
Prerequisite: Credit for ART 123.
WCC: DA
The student learning outcomes are:
• Create paintings that exhibit a working knowledge of recent developments in the pictorial structure of paintings.
• Understand and use the dynamic organization of pattern, two and three dimensional space and rhythmic demands of the “flat” picture plane.
• Confidently paint shape, edges, color relationships and space with increased sensitivity.
• Develop original and personal concepts and techniques.
• Demonstrate an understanding of the technical aspect of the painting process.
• Develop the language skills in the critical evaluation of paintings.

ART 224 Painting from Life (3)
Art 224 is a survey of the figurative tradition of painting, using the model as the primary subject matter. This course is an intensive studio experience of painting from the model. Repeatable once for a total of 6 credits that may be applied to the AA degree. (6 hrs. lect./lab.)
Prerequisite: Credit for ART 123 and 214, or consent of instructor.
WCC: DA
The student learning outcomes are:

- Create paintings that exhibit a working knowledge of the figurative tradition of painting from the Renaissance to the present.
- Paint the human figure accurately and expressively.
- Sensitive apply the visual elements of line, shape, light and shadow, color, texture and space, and the design principles of balance, rhythm, focal points, implied movement and unity to figure painting projects.
- Execute the painting process from canvas preparation to the completion of a painting.
- Create limited palettes, and explore color harmony and balance within a painting.
- Use art terminology to evaluate paintings.

**ART 243 Ceramics Studio Handbuilding II (3)**

Development of handbuilding techniques, sculptural and vessel concepts, and surface treatment and glazing. Repeatable up to 6 credits, 6 credits applicable toward A.A. degree. (2 hrs. lect.; 4 hrs. studio.)

**Prerequisite:** Credit for ART 105B or consent of instructor.

**Recommended Preparation:** ART 101, 116.

**WCC:** DA

**NOTE:** Art Majors: ART 243 and 244 must both be taken to receive equivalency at UHM as ART 242, Introduction to Ceramics.

The student learning outcomes are:

- Demonstrate an understanding of the three basic handbuilding techniques and the potential of each as structural and decorative elements.
- Demonstrate an understanding of two different clay bodies and their potential as structural and decorative elements.
- Demonstrate an awareness of the varieties of materials and techniques of the glazing and firing processes.
- Demonstrate innovative and inventive problem solving through creative decision-making and insightful articulation of finished ceramic vessels and sculptural forms.
- Demonstrate an ability to generate creative ideas through three-dimensional visualization techniques.
- Demonstrate an understanding of color and color theory as it relates to three-dimensional form in the use of glazes and oxides.
- Demonstrate an understanding of historic and contemporary examples of hand built ceramics.
- Demonstrate an understanding of drawing as a tool for conceptualization and documentation of personal imagery and technical investigation of the ceramic process.
- Demonstrate an appreciation for and awareness of ceramic objects.
- Demonstrate an awareness of the visual elements and design principles while creating ceramic vessels and sculptural forms.
- Demonstrate an ability to articulate the concepts and intent of a completed piece.

**ART 244 Ceramics Studio Wheelthrowing II (3)**

Development of wheelthrowing techniques, vessel and structural concepts, and surface treatment and glazing. Repeatable up to 6 credits, 6 credits applicable toward A.A. degree. (2 hrs. lect.; 4 hrs. studio.)

**Prerequisite:** Credit for ART 105C, or consent of instructor.

**Recommended Preparation:** ART 101, 105B, 116.

**NOTE:** Art Majors: ART 243 and 244 must both be taken to receive equivalency at UHM as ART 242, Introduction to Ceramics.

The student learning outcomes are:

- Demonstrate through completed projects, a basic proficiency in wheel throwing techniques.
- Demonstrate an understanding of color and color theory through the use of various decorated techniques: slips, oxides, engobes, stains, and glazes.
- Demonstrate an understanding of clay bodies, oxidation and reduction firing, and of the basic chemical compositions of glazes.
- Demonstrate an awareness of the visual elements and design principles while creating ceramic vessels and sculptural forms.
- Demonstrate innovative and inventive problem solving, through creative decision-making and insightful articulation of finished ceramics vessels and sculptural forms.
- Demonstrate an ability to generate creative ideas through three-dimensional visualization techniques.
- Demonstrate an understanding of drawing as a tool for conceptualization and documentation of personal imagery and technical investigation of the ceramic process.
- Demonstrate an understanding of historic and contemporary examples of wheel made ceramics.
- Demonstrate an ability to articulate the concepts and intent of a finished ceramic object.

**ART 253 Figure Modeling (3)**

Modeling the human figure in clay, with emphasis on the basic skeletal structure and muscles in relation to surface modulation, proportion, volume and gesture. (6 hrs. lect./lab.)

**WCC:** DA

The student learning outcomes are:

- Demonstrate through finished sculpture, an understanding of figure and portrait modeling, mold-making, fabrication, and the casting process and materials.
- Demonstrate an understanding of drawing as a tool for conceptualization and documentation of personal imagery.
- Demonstrate an awareness of historic and contemporary examples of sculpture.
- Perceive and sculpt volume and mass with increased sensitivity and personal confidence.
- Trust one’s own decisions, insights, and perceptions during the creative problem-solving process.
- Demonstrate an ability to articulate the concepts and intent of a finished sculpture.
Course Descriptions

**ART 260  Gallery Design and Management (3)**
Design theory and techniques for presentation of art work and mounting an exhibition. Repeatable up to 6 credits applicable toward AA degree. (6 hrs. lect./lab.)
WCC: DA
The student learning outcomes are:
- Plan and install an art display using the appropriate skills and techniques of gallery design and management.
- Evaluate spatial relationships, design principles and color theory as related to gallery displays and discover the role intuition plays in the arts and gallery design.
- Critique and evaluate works of art and presentation by using art terminology.
- Prepare publicity related to gallery practice to include press releases and gallery invitations.
- Generate a portfolio documenting art exhibitions in our local community.

**ART 269C  Study Abroad: Japanese Cultural Tour—Ceramic Pottery and Kilns (4)**
An on-site study of Japanese pottery and kilns, using clay and sumi brush to analyze, understand and appreciate the development of Japanese Ceramic Art.
Prerequisite: Credit for ART 105B or 105C or consent of instructor.
The student learning outcomes are:
- Understand the development of Japanese ceramic art.
- Use clay and sumi brush as a tool to analyze, understand and sensitively appreciate and appraise Japanese ceramic form and structure.
- Execute the following pots or sculpture through hand building and wheel throwing ceramic techniques, glazing, and firing kilns: vases, bottles, bowls, plates and sculpture.
- Through the use of drawing, writing and photography, understand the evolution of space, color and design in Japanese pottery and sculpture.

**ART 269V  Study Abroad (Designated Region, Variable Credit) (1-6)**
An on-site study of the art/architecture of a designated location(s), using lectures and discussions and/or an art studio medium as a tool to analyze, understand and appreciate the development of this region’s art/architecture. (30 hrs. lect./lab. per credit trip total)
Prerequisite: Meet with instructor for approval.
WCC: DH
The student learning outcomes are:
- Become more informed about the peoples and culture of the designated locations visited.
- Become aware of Internationalism and an interdependency of cultures.
- Understand the development of ceramic art and/or architecture of the designated locations visited.
- Use group discussions, essays and examinations, and a visual studio process as a tool to analyze, understand and sensitively appreciate and appraise forms and structures of the art studied.

**ART 270  Introduction to Western Art (3)**
The study of major developments in Western art from prehistory to the present. (3 hrs. lect.)
Recommended Preparation: ART 101 or consent of instructor.
WCC: DH
The student learning outcomes are:
- Think and act with intellectual integrity to access, critically evaluate and synthesize information from scholarly resources to make or express critical judgments about historical and contemporary issues in Western art.
- Demonstrate understanding that art is a visible manifestation of cultural values, which mirror its time period.
- Incorporate writing as a tool for analyzing art forms.
- Make a critical comparison of the past and present in Western art.
- Analyze style both descriptively and comparatively.

**ART 280  Introduction to Eastern Art (3)**
Major developments in the Arts of Asia. (3 hrs. lect.)
Prerequisite: Credit for ART 101 or consent of instructor.
WCC: DH
The student learning outcomes are:
- Identify the art works of India, China and Japan.
- Compare and contrast the different artistic preferences in styles, forms and meanings of the above visual arts based on cultural and historical assumptions of those particular periods.
- Discuss the historical development of the cultures, basic ideas, beliefs and attitudes that shaped these unique artistic creations.

**Astronomy (ASTR)**

**ASTR 110  Introduction to Astronomy (3)**
Introduction to the astronomical universe for non-science students. (3 hrs. lect.)
WCC: DP
The student learning outcomes are:
- Outline the development of astronomy from ancient times to present and explain the role of the scientific method in this historic context.
- Describe and explain the apparent motions of the celestial bodies, especially as related to naked-eye observations.
- Identify the appropriate instruments used by astronomers to understand the universe.
- Outline the origins of our solar system and appraise the leading cosmological theories of the origin of the universe.
The student learning outcomes are:

- Describe the physical and chemical properties of the objects in our solar system and apply the concept of comparative planetology.
- Describe the physical and chemical nature of stars, and especially our sun, and apply the astronomical techniques used to measure stellar properties.
- Outline the evolutionary stages in a star’s life and compare and contrast the structure of our Milky Way and other galaxies.
- Apply astronomical concepts to the search for extraterrestrial life.

**ASTR 110L Introduction to Astronomy Laboratory (1)**

Demonstration of astronomical principles through laboratory observations and analysis of astronomical data. Not required for ASTR 110. (3 hrs. lab.)

Prerequisite: Credit for or registration in ASTR 110 or consent of instructor.

WCC: DY

The student learning outcomes are:

- Apply the scientific method to a selected group of topics in astronomy.
- Collect, report and analyze data obtained in a laboratory and/or observatory setting in a manner exhibiting organization, proper documentation and critical thinking.
- Demonstrate a basic understanding of the use of standard astronomical instruments.
- Perform image analysis, especially as related to astronomical photographic data.
- Identify environmental factors, which affect the outcome of an experiment or observation and apply basic error analyses techniques.
- Demonstrate a working knowledge of computer on-line and Internet astronomical programs.

**ASTR 130 Introduction to Archaeoastronomy (3)**

Introduction to the interdisciplinary study of cultures and astronomy for non-science majors. Topics include naked-eye astronomy, myths and rituals, calendar systems, architectural alignments and navigation. (3 hrs. lect.)

Recommended Preparation: ASTR 110.

WCC: DP

The student learning outcomes are:

- Describe and explain the observable daily motions of celestial bodies.
- Identify the phases of the moon and explain what causes them.
- List some cultural associations of the planets.
- Identify and use measurement tools for determining astronomical alignments.
- Illustrate how astronomical knowledge can be used in navigation.
- Compare and contrast how different cultures used astronomical knowledge.

- Assess the strengths and weaknesses of an interpretation of evidence from an archaeoastronomy site.
- Explain how culture and science are interrelated.

**ASTR 180: Planetary Astronomy (3)**

A survey of modern solar system astronomy with emphasis on the underlying physical principles. Topics discussed include the celestial sphere and aspects of the night sky, the structure and evolution of the Sun’s planetary system, comparative planetology, and theories of the formation of planetary systems. Intended for science majors and prospective science teachers. (3 hrs. lect.)

Recommended Preparation: The student should have a good operational familiarity with high school algebra.

WCC: DP

The student learning outcomes are:

- Outline the development of planetary astronomy from ancient times to present and explain the role of the scientific method in this historic context.
- Describe the major geological and atmospheric features of the objects in our Solar System.
- Describe the physical and chemical properties of the objects in our solar system and apply the concept of comparative planetology.
- Outline the origins of our Solar System and formulate models that explain the different physical and chemical characteristics of objects within the Solar System.
- Describe the properties of our Sun and their effects on objects in the Solar System.
- Outline techniques for discovering extrasolar planets and extraterrestrial life.

**ASTR 181: Stellar Astronomy (3)**

A survey of modern stellar, galactic, and extragalactic astronomy, with emphasis on the underlying physical principles. Topics covered include stellar structure, interstellar environments and the formation of stars, stellar evolution and death, the structures of galaxies, and cosmology. Intended for science majors and prospective science teachers. The student should have a good operational familiarity with high school algebra.

(3 hrs. lect.)

Recommended Preparation: The student should have a good operational familiarity with high school algebra; credit in ASTR 110 and/or ASTR 180.

WCC: DP

The student learning outcomes are:

- Outline the development of stellar astronomy from ancient times to present and explain the role of the scientific method in this historic context.
- Identify the appropriate instruments used by astronomers to understand the universe and describe the nature of electromagnetic radiation and its role in deciphering the mysteries of stellar astronomy.
- Describe the physical and chemical nature of stars, and especially our sun, and apply the astronomical techniques used to measure stellar properties.
Course Descriptions

- Outline the evolutionary stages in a star’s life, including the role of the interstellar medium.
- Compare and contrast the structure of our Milky Way and other galaxies.
- Outline and appraise the leading cosmological theories of the origin of the universe.
- Apply astronomical concepts to the search for extraterrestrial life.

ASTR 250 Observational Astronomy (3)
An introduction to the tools and techniques of observational astronomy; astronomical time and coordinate systems, photometric systems and magnitudes, principles of telescopes and their operation, introduction to modern astronomical instruments, analysis of astronomical data. Includes planetary, solar and stellar observations. (3 hrs. lect.) WCC: DP
Prerequisite: ASTR 110; or ASTR 180 and ASTR 181
Recommended Preparation: Student should have operational familiarity with high school algebra and basic trigonometry.
The student learning outcomes are:
• Use appropriate celestial charts and astronomical time system to identify and locate celestial objects, such as stars, nebulae, galaxies, planets, satellites and asteroids.
• Describe the primary functions of an astronomical telescope and major detectors, such as spectrometers and photometers.
• Apply basic principals in planetary remote sensing and image processing.
• Outline astronomical techniques involved in observing planetary and stellar objects, such as variable stars, asteroids and the Sun and Moon.
• Compare and contrast the research involved in optical, radio, infrared and cosmic ray astronomy.
• Use appropriate techniques to analyze astronomical data.

ASTR 250L Observational Astronomy Lab (1)
A lab course in modern observational astronomy, with emphasis on “hands-on” use of instruments to acquire data with research-grade telescopes at the college's Lanihuli Observatory. Remote telescope observations may also be used. Students will gain on-site observing experience with CCD photometry and spectroscopy through direct acquisition and data analysis using modern laboratory data reduction software. Applications to planetary, solar, stellar and, where possible, galactic astrophysics will be covered. (3 hrs. lab.) WCC: DY
Prerequisites: credit or current enrollment in ASTR 250
Recommended Preparation: Student should have operational familiarity with high school algebra and basic trigonometry.
The student learning outcomes are:
• Use appropriate celestial charts and astronomical time system to identify and locate celestial objects, such as stars, nebulae, galaxies, planets, satellites and asteroids.
• Describe the fundamentals optics and telescopic observations
• Operate and make observations with optical, radio and cosmic ray telescopes.
• Apply basic principals in planetary remote sensing and image processing using both real-time observations and archived data.
• Apply the techniques of astrophotography and spectrometry.
• Use appropriate techniques to analyze astronomical data.

ASTR 281 Space Explorations (3)
Current topics in planetary exploration, extraterrestrial life, and space resources and colonization. (3 hrs. lect.)
Prerequisite: Credit for ASTR 110 or consent of instructor.
WCC: DP
The student learning outcomes are:
• Outline the characteristics and origins of objects in our solar system, including the sun, planets, moons, meteoroids, asteroids and comets.
• Compare and contrast terrestrial and Jovian worlds and apply geological and atmospheric concepts to comparative planetology.
• Explain the effects and implications of collisional impacts on planetary surfaces.
• Apply the laws of planetary motion and celestial mechanics.
• Outline the historical development of manned and unmanned space flight.
• Identify and describe the appropriate instruments, detectors and space probes used by astronomers and space scientists to explore the solar system, especially in the area of remote sensing.
• Discuss the future of space colonization and exploitation.
• Discuss the nature and origin of life on earth and apply the astronomical concepts related to the search for extraterrestrial life.

ASTR 294V Special Topics in Astronomy (1-4)
This course covers current topics in astronomy. The course is designed to have variable credit to coincide with the rigor of the topic. A student may enroll and receive credit for this course more than one time (for different topics). A course description will be presented in the schedule of classes. (1-4 lect. hrs.)
Prerequisite: Credit for ASTR 110 or consent of instructor.
WCC: DP
The student learning outcomes are:
• Identify the important concepts and facts presented for the topic under examination.
• Make inferences and draw conclusions from the special topics under discussion.
• Apply skills appropriate to the topic under discussion.
• Evaluate the science and technology of astronomy and space science.
Biology (BIOL)

**BIOL 100  Human Biology (3)**
Introduction to structure and functions of cells, tissues, organs, and systems of the human body. Topics related to physical fitness, nutrition, health, and disease. Not intended for science majors. Students who have received credit for or are currently enrolled in ZOOL 101 may not receive credit for BIOL 100. (3 hrs. lect.)

*Prerequisite:* Grade of “C” or better in ENG 21, or placement into ENG 22 or higher.

WCC: DB

The student learning outcomes are:
- Explain the process and philosophical basis of scientific inquiry.
- Distinguish between living things and inanimate objects.
- Describe the chemical architecture of living things and the functions of the major groups of biological molecules.
- Describe the parts, their structure and functions, of cells, diversity of cell types, cell metabolism, cell communication, and cell division processes (mitosis and meiosis).
- Solve problems in Mendelian genetics.
- Describe the processes whereby genes are expressed as the characteristics of the whole organism.
- Explain the role of nutrition and fitness in human health.
- Describe the hierarchical architecture of the human body and how the organism achieves this organization (human development).
- Describe the anatomy and physiology of the systems that make up the human body, including skeletal, integumentary, muscular, circulatory, digestive, respiratory, excretory, nervous, endocrine, immune, and reproductive systems.
- Discuss current concepts regarding human evolution, its mechanisms and history.
- Describe the interrelationships between humans and their environments.

**BIOL 100L  Human Biology Laboratory (1)**
Laboratory to accompany BIOL 100 (Human Biology). Emphasizes the application of the scientific method, basic laboratory methods and procedures in biology, and facts and principles of human anatomy and physiology. (3 hrs. lab.)

*Prerequisite:* Credit for or registration in BIOL 100 or equivalent preparation or consent of instructor.

WCC: DY

The student learning outcomes are:
- Use the scientific method of inquiry to investigate biological phenomena.
- Apply the concepts learned in BIOL 100 to an experimental and hands-on observational setting.
- Collect, reduce, and interpret biological data.
- Prepare written objective reports describing and interpreting experimental and observational results.
- Demonstrate the use of some of the standard tools of the biological scientist, such as microscopes, scales, spectrophotometers, computers, and other analytical tools.
- Apply the standard analytical procedures needed to study human biology, such as dissection, separation of biological compounds, microscopic examination of cells and tissues, membrane transport mechanisms, energy metabolism, genetics, digestion and nutrition, excretion, skeletal muscle physiology, cardiovascular function, nervous system function, respiration, and blood analyses.
- Recognize and identify basic human tissue types and their distinguishing characteristics.
- Demonstrate basic knowledge of anatomy (structure) and physiology (function) of the fetal pig (using preserved specimens) and human body (using models and figures).

**BIOL 101  Biology and Society (4)**
Historical development of scientific concepts, characteristics, and interaction of science and society from the perspective of biological sciences. (3 hrs. lect.; 3 hrs. lab.)

*Prerequisite:* Credit for MATH 25 or equivalent preparation. Eligibility for placement in ENG 100, or consent of instructor.

WCC: DB & DY

The student learning outcomes are:
- Distinguish science as a way of knowing from other epistemological systems.
- Discuss the historical development of the discipline of biology into what it is today, relating the contributions made by significant individuals and concepts of the past to modern biology.
- Explain the major integrating principles of biology.
- Explain the origin and organization of the diversity of life on Earth.
- Describe how living systems function, relating structure to function, at all levels within the hierarchy of life from molecules to the biosphere.
- Solve problems in inheritance and genetics.
- Present informed, rational and objective opinions on biologically-related issues important to human society.
- Use the scientific method of inquiry to investigate biological phenomena.
- Apply the concepts learned to an experimental and hands-on observational setting.
- Collect, reduce, and interpret biological data.
- Prepare written objective reports describing and interpreting experimental and observational results.
- Demonstrate the use of some of the standard tools and methods of the biological scientist, such as microscopes, scales, spectrophotometers, computers, dissection dichotomous keys, and other analytical tools.
- Identify the major systematic groups to which specimens of living things belong.
Course Descriptions

BIOL 124  Environment & Ecology (3)
A study of human ecology through the analysis of the interrelationships between science and technology, the means these provide for manipulation of environment and the effects of this manipulation on the environment and on human populations. Lecture/field trip course designed for non-science majors. (3 hrs. lect.)
WCC: DB
The student learning outcomes are:
• Explain the process and philosophical basis of scientific inquiry.
• Describe the basic principles of ecology, including population ecology, community ecology, and ecosystem function.
• Describe the characteristics of the major biomes and ecosystems of the Earth.
• Describe the interrelationships between land, sea, the atmosphere and the living things that occupy these environments.
• Discuss the role that humans play in affecting the characteristics of the environment.
• Evaluate current environmental issues and problems including the solutions and management practices that have been used or offered to address these issues and problems.

BIOL 124L  Environment & Ecology Laboratory (1)
Companion laboratory class to BIOL 124, Environment and Ecology. This class, providing hands-on experience in the laboratory and in the field, enhances the student’s understanding of basic environmental science and ecological concepts presented in BIOL 124. (3 hrs. lab.)
Prerequisite: Credit for or registration in BIOL 124 or consent of instructor.
WCC: DY
The student learning outcomes are:
• Use the scientific method of inquiry to investigate environmental phenomena.
• Apply the concepts learned in BIOL 124 to an experimental and hands-on observational setting.
• Collect, reduce, and interpret biological data.
• Prepare written objective reports describing and interpreting experimental and observational results.
• Demonstrate the use of some of the standard tools of the environmental scientist, such as microscopes, scales, spectrophotometers, various environmental meters, and basic statistical procedures.
• Apply the standard analytical procedures needed to study the environment, such as soil analyses, water quality determinations, stream bioassessments, and quantitative resource inventories.
• Conduct experiments that evaluate how environmental factors affect living organisms.

BIOL 171  General Biology I (3)
Introductory biology for all life science majors. Cell structure and chemistry, growth, reproduction, genetics, evolution, viruses, bacteria, and simple eukaryotes. (3 hrs. lect.)
Recommended Preparation: High school chemistry or college chemistry and registration in BIOL 171L.
WCC: DB
The student learning outcomes are:
• Explain the process and philosophical basis of scientific inquiry.
• Distinguish between living things and inanimate objects.
• Describe the classification of living things, the kinds of criteria used to classify them, and the formal protocol in naming them.
• Describe the chemical architecture of living things and the functions of the major groups of biological molecules.
• Describe the parts, their structure and functions, of cells, diversity of cell types, cell metabolism, cell communication, and cell division processes (mitosis and meiosis).
• Solve problems in Mendelian genetics.
• Describe the processes whereby genes are expressed as the characteristics of the whole organism.
• Describe evolution as the unifying principle of biological science; and present the evidence supporting evolution and natural selection.
• Discuss current hypotheses/theories regarding the evolutionary process and the origins of life, eukaryotic cells, sexuality, and multicellularity.
• Describe the characteristics, systematics, and biology of viruses, prokaryotes, protists, and fungi.

BIOL 171L  General Biology Lab I (1)
Laboratory to accompany BIOL 171. (3 hrs. lab.)
Prerequisite: Credit for or registration in BIOL 171. Recommended Preparation: High school chemistry or college chemistry.
WCC: DY
The student learning outcomes are:
• Use the scientific method of inquiry to investigate biological phenomena.
• Apply the concepts learned in BIOL 171 to an experimental and hands-on observational setting.
• Collect, reduce, and interpret biological data.
• Prepare written objective reports describing and interpreting experimental and observational results.
• Demonstrate the use of some of the standard tools of the biological scientist, such as microscopes, scales, spectrophotometers, computers, and other analytical tools.
• Apply the standard analytical procedures of biology, such as chromatography, biochemical analyses, preparation of materials for microscopic examination, culture techniques, and statistical procedures (descriptive statistics and hypothesis testing).
BIOL 172  General Biology II (3)
Continuation of BIOL 171. Anatomy, physiology, and systematics of plants and animals, behavior, ecosystems, populations, and communities. (3 hrs. lect.)
Prerequisite: Credit for BIOL 171 and 171L. Corequisite: BIOL 172L. Recommended Preparation: High school biology and college level reading and writing skills.
WCC: DB
The student learning outcomes are:
• Distinguish between the major groups of higher plants by recognizing the anatomical, morphological, developmental features, and life cycles defining these groups.
• Distinguish between the major groups of animals by recognizing the anatomical, morphological, and developmental features defining these groups.
• Describe the biology of higher plants, including the following concepts: basic plant characteristics, plant adaptations to terrestrial versus aquatic life styles, and vascular plant reproduction, growth, anatomy, nutrition, transport mechanisms, and hormonal integration.
• Describe the biology of animals, including the following concepts: adaptations to terrestrial versus aquatic life styles, embryology, behavior, and the anatomy and physiology of animal organ systems (i.e., digestion, respiration, circulation, osmoregulation, thermoregulation, immunity, reproduction, nervous, and endocrine system).
• Describe the basic principles of ecology, including population ecology, community ecology, and ecosystem function.
• Describe the characteristics of the major biomes and ecosystems of the Earth.
• Describe the interrelationships between land, sea, the atmosphere and the living things that occupy these environments.

BIOL 172L General Biology Lab II (1)
Laboratory to accompany BIOL 172. (3 hrs. lab.) Co-requisite: BIOL 172.
Recommended Preparation: High school biology and college level reading and writing skills.
WCC: DY
The student learning outcomes are:
• Use the scientific method of inquiry to investigate biological phenomena.
• Apply the concepts learned in BIOL 172 to an experimental and hands-on observational setting.
• Collect, reduce, and interpret biological data.
• Prepare written objective reports describing and interpreting experimental and observational results.
• Apply standard analytical procedures for the comparative study of plants and animals, such as the handling of living and preserved materials for study, dissection procedures, preparation of materials for microscopic examination, and use of dichotomous keys.
• Identify the diagnostic anatomical features of organisms representing major groups of plants and animals.
• Identify the major systematic groups to which specimens of plants and animals belong.

BIOL 200 Coral Reefs (3)
Introduction to the biology, ecology and geology of stony corals and the reef structures they build. Topics include, but not limited to, the following: photobiology, biochemistry, physiology, reproduction, ecology, biogeography and evolution of stony corals; contributions made by other members of the coral reef community, such as algae, invertebrates, fish, sea turtles, sea birds, and marine mammals; reef formation and geomorphology; corals as resources for human utilization and the impacts of human activities upon reefs throughout the world. Emphasis will be on Hawai‘i’s coral reefs, but comparisons will be made among reefs from other areas. (3 hrs. lect.)
WCC: DB
The student learning outcomes are:
• Explain the process and philosophical basis of scientific inquiry.
• Distinguish between living things and inanimate objects.
• Describe the classification of living things, the kinds of criteria used to classify them, and the formal protocol in naming them.
• Demonstrate an understanding of the biology of corals (e.g., systematics & classification, soft tissue morphology and cytology, skeletal morphology, endosymbiosis with zooxanthellae, modes of feeding, reproduction, environmental factors that influence growth and distribution, and evolution) with an emphasis on Hawaiian corals.
• Describe the ecological relationships among the living components of coral reef communities and their interactions with the physical environment.
• Describe the types of reefs and the processes that create and shape them.
• Describe the resources that coral reefs provide, especially to Pacific island nations and states.
• Describe the impacts of human activities on coral reefs and the significance of these impacts to Pacific island nations and states.

BIOL 200L Coral Reef Laboratory and Field Studies (1)
Laboratory and field studies of the biology, ecology, and geology of stony corals and the reef structures they build; companion course to BIOL 200. (3 hrs. lab.)
Prerequisite: Credit for or registration in BIOL 200 or consent of instructor. Recommended Preparation: High school biology and algebra.
WCC: DY
The student learning outcomes are:
• Use the scientific method of inquiry to investigate biological phenomena.
Course Descriptions

- Apply the concepts learned in BIOL 200 to an experimental and hands-on observational setting.
- Collect, reduce, and interpret biological data.
- Prepare written objective reports describing and interpreting experimental and observational results.
- Demonstrate the use of some of the standard tools of the biological scientist, such as microscopes, scales, spectrophotometers, computers, and other analytical tools.
- Demonstrate the use of specialized tools and methods frequently used in the study of corals and coral reefs.

**BIOL 265 Ecology and Evolutionary Biology (3)**
Principles of ecology and evolution for life science majors stressing integrated approach and recent advances. (3 hrs. lect.)
Prerequisite: Credit for BIOL 171/171L and 172/172L; or one year of introductory college biology plus labs; or equivalent preparation; or consent of the instructor.
Co-requisite: BIOL 265L; or consent of instructor.
WCC: DB

The student learning outcomes are:
- Apply the appropriate terminology when describing, explaining, and applying ecological theory.
- Summarize abiotic environmental features including climate, soil and geographical structure.
- Identify the biological and physical structures of ecosystems, major biogeochemical cycles, and energy flow.
- Examine the basic principles of population dynamics including birth and mortality rates, population growth models, life history strategies, competition and carrying capacity.
- Define the interactions within communities including interspecific competition, predation, and mutualism.
- Describe the evolutionary adaptations of organisms to their environment.
- Give examples of evolutionary principles that produced unique island communities.
- Evaluate the impact of habitat alteration and destruction, loss of biodiversity, and effects of alien species.
- Interpret and produce tabular and graphical representations of information, including tables, graphs, and maps.
- Locate and critique the value of printed and online resources.
- Evaluate the consequences of population growth, increased resource use and pollution on global ecosystems.

**BIOL 275 Cell and Molecular Biology (3)**
Integrated cell and molecular biology for life science majors. Modern advances in recombinant DNA technology. (3 hrs. lect.)
Prerequisite: C or better in BIOL171/171L. and CHEM272/272L or consent of instructor. Corequisite: BIOL275L or consent of instructor.
WCC: DB

The student learning outcomes are:
- Describe the principles of cytology including cell organization, structures and functions.
- Describe cell biochemistry including macromolecules of the cells, enzymes, membrane transport, cell signaling, and energy flow in cells during respiration and photosynthesis.
- Describe the principles of genetics including DNA replication, protein synthesis, mitosis, meiosis, genetic recombination and gene expression.

**BIOL 275L Cell and Molecular Biology Lab (1)**
Laboratory for cell and molecular biology. (3 hrs. lab.)
Co-requisite: BIOL 275; or consent of the instructor. Recommended Preparation: ICS 101 or ICS 105B-E, calculus or algebra.
WCC: DY

The student learning outcomes are:
- Operate equipment used in cell and molecular biology laboratory.
- Conduct experiments including DNA/RNA/protein extraction and electrophoresis, enzyme kinetics, ELISA, RFLP, PCR, gene expression.
- Produce lab reports using the standard scientific format.
Course Descriptions

Botany (BOT)

BOT 101  General Botany (4)
Introduction to plant structure, function, reproduction, and evolution; plants in relation to the environment and human activities. Lecture/laboratory/field trip course. (3 hrs. lect.; 3 hrs. lab.)
Recommended Preparation: High school biology.
WCC: DB & DY
The student learning outcomes are:
• Discuss basic concepts of plant morphology, anatomy, physiology, cytology, taxonomy and genetics.
• Discuss life cycles of division in Thallophyta, Bryophyta, Pteridophyta and Spermatophyta.
• Discuss interrelationship between plants and animals, and socio-economic importance of plants on humans.
• Discuss plant biotechnology.
• Operate dissecting and compound microscopes.
• Perform traditional and in vitro propagations.

BOT 105  Ethnobotany (3)
Study of Polynesian introduced plants and some native plants, and their role in Hawaiian culture, particularly during PreCook period. Lecture/field trip course. Meets Social Science area requirement.
(3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Identify plants of major importance in various aspects of Hawaiian, Asian and Pacific Island cultures
• Utilize the plants for food, medicine, and other material goods

BOT 130  Plants in the Hawaiian Environment (4)
Introduction to the evolution of plant communities and species of Hawaiian ecosystems; ecological interactions; observations, identification and systematics of native and introduced flora. Lecture/laboratory/field trip course. (3 hrs. lect.; 3 hrs. lab.)
WCC: DB & DY
The student learning outcomes are:
• Discuss geological history of the Hawaiian Islands and natural history of plants in Hawai‘i.
• Discuss the arrival, establishment, major evolutionary trends and adaptive radiation of some of the surviving native species.
• Discuss natural and human-mediated changes in the ecosystems, plant succession, and interaction between native and introduced species of plants.
• Discuss botanical terminology for use in identifying native Hawaiian plants.

BOT 160  Identification of Tropical Plants (3)
Nontechnical course in identification of common plants of tropics; includes native and introduced flora. (3 hrs. lect.)
WCC: DB
The student learning outcomes are:
• Operate dissecting microscopes.
• Recognize unique vegetative and generative characteristics of plant families.
• Use manuals, flora and monographs to identify plants.
• Prepare herbaria.

BOT 205  Ethnobotanical Pharmacognosy (4)
A study of medicinal plants of Hawai‘i, their characteristics, and the extraction, separation, isolation and identification of their chemical constituents for possible uses in pharmaceuticals or in their natural state. This course is designed to train students for careers in plant and medical biotechnology. Lecture and laboratory/field trip course. (3 hrs. lect.; 3 hrs. lab.)
Prerequisite: Credit for or registration in any of these courses: BOT 101, BOT 105, BOT 130, MICR 130, MICR 140, BIOL 172/172L, CHEM 152/152L or consent of instructor. Recommended: High school biology, chemistry and math.
WCC: DB & DY
The student learning outcomes are:
• Discuss theories and principles in the study of medicinal and nutritious plants.
• Discuss ethics, intellectual property rights and conservation of traditional knowledge.
• Perform Laboratory activities: plant extraction, distillation, bioassay tests, analysis of chemical constituents for possible uses in pharmaceuticals and nutraceutical products.
• Produce lab reports using the standard scientific format.

BOT 210  Phytobiotechnology (4)
Introduction to practical aspects of Plant Biotechnology. Topics include micropropagation techniques, such as plant tissue, cell and protoplast cultures: DNA-based technologies, such as DNA extraction, DNA sequencing, PCR; and methods of plant genetic engineering. This course is designed to train students for careers in advanced agriculture technology and industry. (3 hrs. lect.; 3 hrs. lab.)
Prerequisite: Credit for or registration in BOT 101, or AG 152, or MICR 130 and MICR 140, or BIOL 171 and 171L; eligible for placement into MATH 25.
Recommended Preparation: High school biology or chemistry, MATH 24.
WCC: DB & DY
The student learning outcomes are:
• Apply the principles of genetics.
• Discuss and perform experiments including plant/bacterial/human DNA/protein electrophoresis, Southern and Western blots, plant genetic engineering using biolistic bombardment and bacterial gene transformation.
• Apply bioinformatics and DNA sequencing.
• Discuss bioethical issues, risks and benefits of biotechnology.
• Produce lab reports using the standard scientific format.
Course Descriptions

Business Technology (BUSN)

BUSN 89  Electronic Calculating (1)
This course gives students practice with real world skills used in the modern business environment; emphasizes proper technique and speed with the ten-key pad found on calculators, computer keyboards, and cash registers; develops the ability to work with numbers and use of a calculator to perform business computations. (1 hr. lect.)
The student learning outcomes are:
• Demonstrate speed and accuracy on numeric keypad.
• Demonstrate ability to use common calculator functions.

BUSN 121  Introduction to Word Processing (3)
The course covers proper keyboarding techniques; word processing concepts (Microsoft® Word); and document formatting of letters, memos, tables, reports, and e-mail. Basic file management and operating system functions are included. Keyboarding speed and accuracy are emphasized. Recommended Preparation: ENG 21 or higher.
The student learning outcomes are:
• Key by touch when inputting information (alphabetic, numeric, and symbolic), using proper techniques with accuracy.
• Use the computer’s operating system to manage documents and folders.
• Produce business documents using word processing software. Produce basic mailable business documents in a timely manner using word processing software.

BUSN 123  Word Processing for Business (3)
Uses advanced features from a word processing program to create business documents emphasizing production and proofreading. Integrates knowledge of the Internet and the computer. Includes timed computer keyboarding skills for creating and editing business documents and sending electronic attachments. (3 hrs. lect.) Recommended Preparation: 35 gwam; or grade of “C” or better in OAT 121 or BUSN 121; or instructor approval.
The student learning outcomes are:
• Apply advanced features of current word processing software to produce mailable documents, which facilitate timely internal and external business communication.
• Apply ethical and professional practices to perform business tasks, e.g.:
  a. compliance with copyright laws
  b. meet deadlines
  c. adhere to codes of conduct.
• Use electronic operating system software to organize and maintain folders and files.
• Key information accurately and efficiently to meet business standards.

BUSN 160  Telephone Techniques and Communication (1)
Develop customer-oriented telephone communication skills through professional relationships and knowledge of communications technology, including facsimile and mailing options. Emphasis will be on telephone handling, customer service attitude, and effective message taking. (1 hr. lect.)
Prerequisites: Placement into Eng 100
The student learning outcomes are:
• Handle incoming and outgoing telephone calls with courtesy and professionalism.
• Learn to select from several methods of communication, including facsimile (Fax), e-mail, text, and voice messaging to fit the need.
• Develop awareness of basic postal and shipping alternatives, including express mail and other delivery systems.

BUSN 166 Professional Employment Preparation (1)
Facilitates employment search by emphasizing professional techniques and standards in the preparation of application forms, resumes, cover letters, and employment interviews. (1 hr. lect.) (Cross-listed as IS 105C.)
Recommended Preparation: ENG 22 or higher, keyboarding skills, and knowledge of word processing.
The student learning outcomes are:
• Integrate job interview preparation techniques into a live interview.
• Utilize resources needed to find a job.
• Assemble a career portfolio for ongoing career development.

BUSN 188 Business Calculations (3)
Introduction to 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 will be stressed. (3 hrs. lect.)
Recommended Preparation: Placement into MATH 22 or higher and credit for or enrollment in ENG 21 or higher or equivalent.
The student learning outcomes are:
• Apply mathematical functions to arrive at calculations to be used in business decisions.
• Interpret how calculations are used in making business decisions.
• Operate ten-key by touch at a minimum rate of 100 ndpm.

BUSN 191 Veterinary Office and Computer Skills (3)
Veterinary Office and Computer Skills covers the support skills needed in a veterinary office. Because veterinary office skills are critical in the success or failure of a practice, this course will emphasize the following: client communication, public relations, ethical and legal procedures, bookkeeping functions, scheduling, records management, and telephone skills. Students will be introduced to one or more industry-standard veterinary software programs as well as word processing and spreadsheet software. (3 hrs. lect.)
WCC: VACA
The student learning outcomes are:

- Contribute to a welcoming office environment that promotes accurate interactions with patients and clients.
- Work as a team member to deliver service in an ethical, compassionate manner, following the Veterinary Technician’s Code of Ethics developed by the National Association of Veterinary Technicians Association Ethics Committee.
- Perform introductory office administrative duties to insure up-to-date filing and retrieval of documents, data entry, billing and receipts, and inventory.
- Demonstrate knowledge of an industry-standard veterinary software program
- Demonstrate introductory skills for a word processing and spreadsheet program

BUSN 193V Cooperative Education (1-4)
Cooperative Education 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. The number of credits earned depends upon the number of hours spent at the job station during the semester. To receive credit for cooperative education, the student must complete a minimum of 60 work hours per credit and participate in class activities. May be repeated up to 4 credits. No more than 12 credits in any combination of Independent Study or Cooperative Education may apply to the degree requirements. 
Prerequisite: Instructor approval.

The student learning outcomes are:

- Perform duties at a worksite according to industry standards.
- Evaluate career choice based on personal traits, industry expectations, and work experience.

Chemistry (CHEM)
Note to Students: Each chemistry course requires a separate registration for both the lecture and laboratory course(s).

CHEM 100 Chemistry in Society (3)
Provides a survey of basic concepts and applications of chemistry with emphasis on the role of chemistry in the real world. This is suitable for students who have little or no background in chemistry and serves to fulfill a general education physical science core course for the nonscience major or as a preparatory course for CHEM 151. (3 hrs. lect.)
WCC: DP
The student learning outcomes are:

- Predict properties of chemical elements based on their atomic structure and their location in the Periodic Table.
- Name chemical compounds, balance chemical and nuclear reactions.
- Predict properties of chemical compounds based on chemical bonding, molecular shapes, and polarity.
- Calculate mass relationships in chemical reactions and the quantity of matter in gaseous chemicals and chemical solutions.
- Predict the products of common chemical reactions.
- Apply knowledge of chemical concepts to a current environmental, health, industrial, or technological issue or condition by writing a short research paper.

Prerequisite: Credit for MATH 24 or higher, grade of “C” or better in ENG 21, or placement in ENG 22 or higher.
WCC: DP

CHEM 100L Chemistry in Society Laboratory (1)
Experiments in everyday chemistry. (3 hrs. lab.)
Prerequisite: Credit for or registration in CHEM 100.
WCC: DY

The student learning outcomes are:

- Identify/locate laboratory safety equipment and apply laboratory safety procedures.
- Construct molecular models to determine molecular shape and properties.
- Assemble apparatus to perform common laboratory techniques to verify fundamental chemistry principles in everyday life.
- Make and record accurate observations and precise quantitative measurements.
- Synthesize conclusions based on observations and data in a formal laboratory report.
- Identify sources of error in laboratory experiments.

Prerequisite: Instructor approval.

CHEM 151 Elementary Survey of Chemistry (3)
Provides the student with an adequate background in the fundamentals of chemistry. Covers the basic language and quantitative relationships of chemistry, including atomic structure, chemical bonding, structure-property relationships, chemical reactions. Prerequisite to CHEM 152 for majors in medical technology and nursing and other allied health and science-related fields, or can be taken as a preparatory course for CHEM 161. (3 hrs. lect.)
Prerequisite: Credit for MATH 24 or higher, grade of “C” or better in ENG 21, or placement in ENG 22 or higher.
WCC: DP

The student learning outcomes are:

- Predict properties of chemical elements based on their atomic structure and their location in the Periodic Table.
- Name chemical compounds, balance chemical and nuclear reactions.
- Predict properties of chemical compounds based on chemical bonding, molecular shapes, and polarity.
- Calculate mass relationships in chemical reactions and the quantity of matter in gaseous chemicals and chemical solutions.
- Predict the products of common chemical reactions.
- Apply knowledge of chemical concepts to a current environmental, health, industrial, or technological issue or condition by writing a short research paper.
Course Descriptions

CHEM 151L Elementary Survey of Chemistry Laboratory (1)
Experiments introducing laboratory techniques and illustrating chemical principles; supplemented by films, demonstrations, and problem sessions. (3 hrs. lab.)
Prerequisite: Credit for or registration in CHEM 151.
WCC: DY
The student learning outcomes are:
• Identify and locate laboratory safety equipment and apply laboratory safety procedures.
• Assemble apparatus to perform common laboratory techniques to verify basic chemistry laws on gases, chemical stoichiometry, chemical equilibrium and others.
• Use molecular models and technology to investigate chemistry concepts.
• Make and record accurate observations, precise measurements and calculations applying rules on significant figures.
• Develop hypotheses, use critical thinking to process results and identify sources of error.
• Apply and articulate the scientific method by preparing a lab report using the standard scientific format.

CHEM 152 Survey of Organic and Bioorganic Chemistry (3)
Structure, nomenclature, properties and reactions of organic compounds will be studied with emphasis on those compounds of practical importance in life science and related fields. (3 hrs. lect.)
Prerequisite: Credit for CHEM 151 or equivalent.
WCC: DP
The student learning outcomes are:
• Construct molecular models and use these to describe chemical structure, geometry and physical properties.
• Identify, classify and name organic and biochemical compounds.
• Predict products of fundamental organic reactions.
• Use the vocabulary on organic chemicals and reactions in metabolism and other biochemical applications.
• Explain the role of enzymes in metabolism.
• Apply knowledge of biochemistry concepts to discuss the genetic cause of a metabolic disorder in a short research paper.

CHEM 152L Survey of Organic and Bioorganic Chemistry Laboratory (1)
Techniques of preparation, purification, and identification of organic compounds. (3 hrs. lab.)
Prerequisite: Credit for CHEM 151L and credit for or registration in CHEM 152.
WCC: DY
The student learning outcomes are:
• Develop an appreciation for the methods of scientific inquiry through laboratory experiments.
• Identify functional groups of organic chemicals using tests based on chemical properties.
• Carry out common laboratory methods of separation and purification of materials.
• Prepare polymers, esters, soap and other common organic chemicals.
• Apply laboratory safety procedures, recognize and respond to hazards.
• Gain experience in the use of several techniques to identify unknown chemicals and detect enzyme activity.

CHEM 161 General Chemistry I (3)
Basic principles of inorganic chemistry with an emphasis on problem solving. First course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include chemical calculations, electronic structure, chemical bonding, states of matter and solutions. Concurrent registration in CHEM 161L is required. (Offered Fall semester only.) (3 hrs. lect.)
Prerequisite: A grade of "C" or better in Math 103, or placement into Math 135 or instructor's consent.
Co-requisite: Registration in CHEM 161L.
Recommended Preparation: Student should have taken high school chemistry, CHEM 100, or CHEM 151.
WCC: DP
The student learning outcomes are:
• Use the mole concept in solving stoichiometry problems involving solids, liquids, gases and solutions.
• Balance chemical equations, classify reactions, identify and analyze the role of the chemicals involved in chemical reactions.
• Predict the behavior of gases while undergoing changes in volume, pressure, temperature and quantity.
• Manipulate thermochemical equations and calculate the amount of energy involved in chemical reactions.
• Predict physical and chemical properties of elements based on electronic structure and location in the Periodic Table.
• Predict physical and chemical properties of compounds based on chemical bonding, geometry and intermolecular interactions.

CHEM 161L General Chemistry Laboratory I (1)
Laboratory experiments illustrating fundamental principles of chemistry. (Offered Fall semester only.) (3 hrs. lab.)
Prerequisite: Credit for or registration in CHEM 161.
WCC: DY
The student learning outcomes are:
• Apply laboratory safety procedures and respond to hazards.
• Use molecular and crystal models, perform common laboratory techniques competently and computer-based experiments to verify chemistry laws on stoichiometry, thermochemistry, behavior of gases and liquids.
• Apply and articulate the scientific method by preparing lab reports using the standard scientific format. Express in
writing core chemistry principles, results of experiments and do critical thinking by synthesizing conclusions based on observations and data.

- Make and record precise measurements, calculate results using significant figures, standard deviations and identify sources of error in laboratory experiments.
- Use computer competently, word-processing, spreadsheet and graphing.
- Prepare chemical solutions, perform dilutions, calculate solution concentrations and generate a calibration curve.

**CHEM 162  General Chemistry II (3)**

Second course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include thermochemistry, kinetics, acid-base equilibrium, solubility equilibrium and electrochemistry. Emphasis on problem solving. Concurrent registration in CHEM 162L is required. (Offered Spring semester only.)

**Prerequisite:** A grade of "C" or better in CHEM 161, credit or registration in MATH 135, or instructor's consent.

**Co-requisite:** Registration in CHEM 162L.

**WCC:** DP

The student learning outcomes are:

- Predict properties of pure substances using phase diagrams.
- Predict properties (boiling point, melting point, osmotic pressure, vapor pressure) of solutions based on concentration.
- Determine reaction rate law and calculate rate constants and half-life based on experimental data.
- Calculate the equilibrium concentration of chemicals in solution involved in precipitation, and acid-base and reactions.
- Predict spontaneous reactions based on enthalpy and entropy considerations.
- Determine the electrochemical potential of redox reactions.

**CHEM 162L  General Chemistry Laboratory II (1)**

Laboratory experiments illustrating fundamental principles of chemistry. (Offered Spring semester only.) (3 hrs. lab.)

**Prerequisite:** Credit for or registration in CHEM 162.

**WCC:** DY

The student learning outcomes are:

- Perform and develop skills in organic chemistry laboratory methods and techniques used in separation and purification.
- Determine the chemical identity of some organic chemicals through their properties.
- Keep complete and accurate records, manipulate data for mathematical calculations, including reactant recovery and percent yield.
- Apply laboratory safety and safety disposal of waste procedures that can be used in all future laboratory experiences.

**CHEM 272  Organic Chemistry I (3)**

This is the first semester course in organic chemistry intended for science majors. Topics to be covered include structure, properties, nomenclature, reactions, reaction mechanisms, stereochemistry and spectroscopy of alkanes, alkenes, alkynes, alkyl halides, alcohols and their applications to biology. (3 hrs. lect.)

**Prerequisite:** A grade of "C" or better in CHEM 162 or instructor's consent

**Corequisite:** CHEM 272L

- **WCC:** DP

The student learning outcomes are:

- Discuss the bonding and structure of organic compounds.
- Name various organic compounds using IUPAC rules and diagram their structures.
- Use stereochemical concepts in understanding physical and chemical properties.
- Identify chemical structure and physical chemical properties.
- Explain the relationship between structure and physical chemical properties.
- Predict reaction products, deduce starting materials and diagram reaction mechanism.
- Cite applications and important role of organic reactions in biology.

**CHEM 272L  Organic Chemistry Laboratory I (2)**

Laboratory principles of Organic Chemistry I, the first semester course in organic chemistry intended for science majors. Topics to be covered include structure, properties, nomenclature, reactions, reaction mechanisms, stereochemistry and spectroscopy of alkanes, alkenes, alkynes, alkyl halides, alcohols and their applications to biology. (5-hrs. lab)

**Prerequisite:** A grade of "C" or better or registration in CHEM 272 or instructor's consent. Corequisite: CHEM 272

**WCC:** DY

The student learning outcomes are:

- Perform and develop skills in organic chemistry laboratory methods and techniques used in separation and purification.
- Determine the chemical identity of some organic chemicals through their properties.
- Keep complete and accurate records, manipulate data for mathematical calculations, including reactant recovery and percent yield.
- Apply laboratory safety and safety disposal of waste procedures that can be used in all future laboratory experiences.
Course Descriptions

- Gain experience in conducting synthesis and functional group conversion.
- Interpret experimental data and formulate conclusions as evidenced in laboratory reports.

Economics (ECON)

ECON 120 Introduction to Economics (3)
A one-semester introduction to economics, which combines the macro and micro perspectives and concentrates on application of basic economic principles to analysis of public policy questions. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
- Explain specific tools for microeconomic analysis (e.g. opportunity cost, trade, markets, supply and demand, elasticity, cost-benefit analysis and externalities).
- Analyze, assess and predict the outcome of selected social issues (Globalization, Environment, The Family, Personal Finance, etc.) through the application of specific tools for microeconomic analysis (e.g. opportunity cost, trade, markets, supply and demand, elasticity, cost-benefit analysis and externalities).

ECON 130 Principles of Economics (Microeconomics) (3)
Study of how individuals make decisions which affect their income and wealth; how firms make decisions which affect profits and production. Relationship to demand, supply and prices of goods, and natural resources. (3 hrs. lect.)
Recommended that students also take ECON 131 but not necessarily the same semester.
WCC: DS
The student learning outcomes are:
- Translate important microeconomic terms and theories into various forms.
- Skills needed to achieve this outcome:
  - Writing ability, ability to translate economic terms into their own words
  - Mathematical ability, ability to translate and interpret economic theories in a two dimensional graphical space
- Identify, explore and analyze macroeconomic concepts using economic analysis and research skills.
- Skills needed to achieve this outcome:
  - Research skills
  - Writing skills
  - Ability to formulate a thesis statement
  - Ability to back up arguments using published research and to cite that research appropriately

English (ENG)

ENG 008 Reading and Writing Fundamentals (4)
This course focuses on building basic reading, writing, and life skills for college or employment success. Individualized instruction will supplement regular classroom instruction to provide the necessary practice of reading and writing skills. (3 hrs. lect../3 hrs. lab)
Prerequisite: Placement into ENG 008 or higher; or consent of instructor.
The student learning outcomes are:
- Incorporate newly-learned vocabulary into reading, writing and oral communication activities.
- Apply literal, interpretive, and critical reading skills to comprehend and analyze various types of reading material.
- Apply various study skills strategies, such as a reading-study system to understand and retain information in informative material, time management, and lecture and textbook notetaking strategies.

ECON 131 Principles of Economics (Macroeconomics) (3)
Study of the economic forces which determine a country's income, employment, and prices. Roles of consumers, businesses, banks, and governments are explored. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
- Translate important macroeconomic terms and theories into various forms.
- Skills needed to achieve this outcome:
  - Writing ability, ability to translate economic terms into their own words
  - Mathematical ability, ability to translate and interpret economic theories in a two dimensional graphical space
- Identify, explore and analyze macroeconomic concepts using economic analysis and research skills.
- Skills needed to achieve this outcome:
  - Research skills
  - Writing skills
  - Ability to formulate a thesis statement
  - Ability to back up arguments using published research and to cite that research appropriately

ENG 018 Reading Essentials (3)
This course provides practice in developing basic reading skills and learning strategies to help students succeed in college. Vocabulary development, comprehension skills, and study skills are the focus of this course. (3 hrs. lect.)
Prerequisite: Placement Into ENG 18 or higher, C or better in ENG 008, or consent of instructor.
The student learning outcomes are:
- Incorporate newly-learned vocabulary into reading, writing and oral communication activities.
- Apply literal, interpretive, and critical reading skills to comprehend and analyze various types of reading material.
- Apply various study skills strategies, such as a reading-study system to understand and retain information in informative material, time management, and lecture and textbook notetaking strategies.
ENG 019  Writing Essentials (3)
This course focuses on sentence structure and paragraph development with emphasis on unity, organization, and support. Grammar, mechanics, and punctuation will be covered. (3 hrs. lect.)
Prerequisite: Placement into ENG 019 or higher, C or better in ENG 008, or consent of instructor.
The student learning outcomes are:
• Use a writing process to produce clear, concise, credible, and grammatically correct paragraphs in various organizational patterns.
• Write sentences free of errors in grammar, mechanics, and punctuation.
• Apply various study skills, such as time management, textbook reading and notetaking skills, and lecture notetaking.

ENG 21  Intermediate Reading (3)
Course designed to help the student improve his/her ability to read. Emphasizes vocabulary development, improving reading comprehension, and a more positive attitude toward reading. (3 hrs. lect.)
Prerequisite: Placement into ENG 21 and ENG 97B or higher, or grade of “C” or better in ENG 97A and 97B or ENG 18 and ENG 19, or consent of instructor.
The student learning outcomes are:
• Incorporate vocabulary in reading and writing assignments.
• Apply literal, interpretative, and critical reading skills to comprehend and analyze various types of reading material in different reading situations.
• Apply appropriate study and learning strategies to promote student learning and success.

ENG 22  Introduction to Expository Writing (3)
A refresher course focusing on grammatical form and writing well-formed sentences and paragraphs. Use of reference materials and dictionaries is stressed. (3 hrs. lect.)
Prerequisite: Placement into ENG 22 or higher, or grade of “C” or better in ENG 21 and a grade of “C” or better in ENG 97B or ENG 19, or consent of instructor.
The student learning outcomes are:
• Use a writing process to produce organized and grammatically correct papers and summaries.
• Apply analytical study and life skills to course tasks.
• Apply strategies that include finding, evaluating, and documenting information from various sources.

ENG 100  Expository Writing (3)
A composition course on the writing process including description, narration, exposition, and argument. Course stresses unity, development, organization, coherence, and other basic writing skills necessary for college writing. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in ENG 22 or placement into ENG 100 or approval of designated Language Arts representative.
WCC: FW
The student learning outcomes are:
• Write complex and well-reasoned compositions in language, style, and structure appropriate to particular purposes and audiences.
• Engage in a writing process that includes exploring ideas, considering multiple points of view, developing and supporting a thesis, revising with the help of peer and instructor feedback, editing, and proofreading.
• Find, evaluate, integrate, and properly document information from libraries, the internet, and other sources, with an eye for reliability, bias, and relevance.
• Read for main points, perspective, and purpose, and analyze the effectiveness of a variety of rhetorical strategies in order to integrate that knowledge into their writing.

ENG 204A  Introduction to Creative Writing (Fiction) (3)
English 204A Introduction to Creative Writing (fiction) introduces students to the basic practices and principles involved in the writing and publication of short stories and novels. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in ENG 100, or consent of instructor.
WCC: DA
The student learning outcomes are:
• View the world as a writer, with an eye for detail and an ear for dialogue.
• Exercise the imagination as a tool for creation.
• Write short stories or novels.
• Submit writing for publication.
• Gain and deliver useful writing feedback.

ENG 209  Business Writing (3)
A study of business and managerial writing; practice in writing letters, memos, and reports, including a report requiring research and documentation.
Prerequisite: Grade of “C” or better in ENG 100.
WCC: DL
The student learning outcomes are:
• Understand the nature and functions of business and managerial writing.
• Apply the principles of effective business writing in composing business messages.
Course Descriptions

- Adapt a business message to its context, audience, and purpose.
- Prepare business reports, including a research report involving gathering and analyzing information, drawing conclusions, making recommendations, and documenting sources.
- Proofread and edit business writing for grammatical, spelling, punctuation, and mechanical errors.
- Prepare and make effective use of presentation software.
- Compose an effective resume and employment letters.

ENG 270 Introduction to Literature: Literary History (3)
This course introduces students to the study of significant works of literature in selected historical periods. Emphasis is on discussion of and writing about characteristics and themes of the works. A student may enroll in this course more than one time (for different historical periods); however, only three credits will be applied toward degree. (3 hrs. lect.)
Prerequisite: A grade of “C” or better in ENG 100
WCC: DL

The student learning outcomes are:
- Use concepts and terminology particular to literary study to analyze and interpret imaginative literary works orally and in writing.
- Respond to a work of literature as an expression of a culture’s values and compare those values with the student’s own.
- Enjoy a more creative, enlightened, and fulfilled life through an appreciation of literature’s social, cultural, political, and philosophical themes and techniques.
- Exhibit knowledge about selected writers and their characteristic themes and techniques.

ENGLISH 271 Introduction to Literature: Genre (3)
This course introduces students to the study of significant works of literature in selected genres. Emphasis is on discussion of and writing about characteristics and themes of the works. A student may enroll in this course more than one time (for different genres); however, only three credits will be applied toward degree. (3 hrs. lect.)
A grade of “C” or better in ENG 100
WCC: DL

The student learning outcomes are:
- Use concepts and terminology particular to literary study to analyze and interpret imaginative literary works orally and in writing.
- Respond to a work of literature as an expression of a culture’s values and compare those with the student’s own.
- Enjoy a more creative, enlightened, and fulfilled life through an appreciation of literature’s social, cultural, political, and philosophical themes and techniques.
- Exhibit knowledge about selected writers and their characteristic themes and techniques.

ENGLISH 272 Introduction to Literature: Culture and Literature (3)
This course introduces students to the study of significant works of literature in selected cultures and cultural formations. Emphasis is on discussion of and writing about characteristics and themes of the works. A student may enroll in this course more than one time (for different cultures); however, only three credits will be applied toward degree. (3 hrs. lect.)
A grade of “C” or better in ENG 100.
WCC: DL

The student learning outcomes are:
- Use concepts and terminology particular to literary study to analyze and interpret imaginative literary works orally and in writing.
- Respond to a work of literature as an expression of a culture’s values and compare those with the student’s own.
- Enjoy a more creative, enlightened, and fulfilled life through an appreciation of literature’s social, cultural, political, and philosophical themes and techniques.
- Exhibit knowledge about selected writers and their characteristic themes and techniques.

Family Resources (FAMR)

FAMR 230 Human Development (3)
This course provides students with theories of biological, cognitive, and psycho-social development from infancy to adulthood and with similarities and differences among individuals and their cultures. (3 hrs. lect.)
Recommended Preparation: PSY 100.
WCC: DS

The student learning outcomes are:
- Compare and contrast the various theories of human development and behavior.
- Describe biological, cognitive, and psychosocial development for each life-span period.
- Investigate the existence of similarities, differences, and uniqueness in human development among individuals and their culture.
- Apply human development theories and concepts to personal, social, educational, and occupational experiences.

Food Science & Human Nutrition (FSHN)

FSHN 185 Human Nutrition (3)
An introductory level biological science course which integrates basic concepts of science with the study of human nutrition. Designed for students who want an introduction to nutrition, as well as those who later choose to major in it. Meets natural science core requirement. (3 hrs. lect.)
Prerequisite: Placement into ENG 100 and MATH 25 or consent of instructor.
WCC: DB
The student learning outcomes are:

- Describe the six categories of nutrients and evaluate the nutrient adequacy of a diet.
- Identify factors influencing eating habits.
- Correctly interpret and evaluate information on food labels, packages and product advertising based on generally accepted scientific methods and standards.
- Define various types of malnutrition and discuss their causes, cures, and associated health effects.
- Discuss current issues related to the safety of the food supply, using concepts from toxicology.
- Define physiological changes that occur during the life cycle and explain the changes in nutrient needs that accompany these changes.
- Discuss various environmental and ecological conditions, which interact with human nutrition, both locally and globally.

**Geographic Information Systems (GIS)**

**GIS 150 Introduction to GIS/GPS (3)**
An introductory course in the 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. Students will also gain basic experience with the use of Global Positioning System (GPS). Applications will be cross-disciplinary in nature, including such fields as the environmental sciences, business marketing, geopolitical demography, health/epidemic monitoring and real estate management. (3 hrs. lect.)

*Recommended Preparation: Familiarity with basic computer operations and databases.*

**GIS 150**

**WCC: DS**
The student learning outcomes are:

- Use basic ArcGIS desktop software functions such as displaying, modifying, and analyzing maps.
- Independently plan, organize, and present a GIS research project.
- Use a GPS unit to find locations, and import obtained GPS data into ArcGIS for further investigations.

**Geography (GEOG)**

**GEOG 101 The Natural Environment (3)**
Survey of the natural environment; distribution and interrelationships of climates, vegetation, soil, and land forms. (3 hrs. lect.)

*WCC: DP*
The student learning outcomes are:

- Identify locations on regional and world maps. (Knowledge; assessed by map questions in exams)
- Compare and contrast the major geographic realms of the world, applying theories and concepts of geography. (Analysis; assessed by multiple choice/essay exams)
- Apply a spatial perspective to critically explain current world events and issues and daily events. (Use learned skills to interpret up-to-date facts; assessed by newspaper reports and/or essay exams)

**GEOG 101L The Natural Environment Laboratory (1)**
Analysis by use of maps, air photos, field and laboratory observation, and experimentation. Emphasis on Hawai‘i and on human modification of environment. Required field trips during regular class hours. (3 hrs. lab.)

*Prerequisite: Credit for or registration in GEOG 101.*

*WCC: DY*
The student learning outcomes are:

- Explain critically the interaction of humans and the physical environment.
- Illustrate how his/her views of the physical environment have (or have not) changed.

**GEOG 102 World Regional Geography (3)**
Geography 102 is a survey of the world’s major cultural regions. Environmental, cultural, political, and economic characteristics of each region and regional interactions are explored from a geographic perspective. (3 hrs. lect.)

*WCC: DS*
The student learning outcomes are:

- Identify locations on regional and world maps. (Knowledge; assessed by map questions in exams)
- Compare and contrast the major geographic realms of the world, applying theories and concepts of geography. (Analysis; assessed by multiple choice/essay exams)
- Apply a spatial perspective to critically explain current world events and issues and daily events. (Use learned skills to interpret up-to-date facts; assessed by newspaper reports and/or essay exams)

**GEOG 122 Geography of Hawai‘i (3)**
This course is designed to acquaint the student with basic geographic principles and aid in understanding and appreciating the Hawaiian environment. Fundamental concepts of physical and cultural geography are presented with emphasis on Hawai‘i volcanic land forms, coastal features, climate, and vegetation. Geographic aspects of population, settlement, agriculture economics, and land use are also investigated. (3 hrs. lect.)

*WCC: DS*
The student learning outcomes are:

- Describe the physical, biological and cultural elements and processes responsible for Hawai‘i’s current environment applying theories and concepts of geography.
Course Descriptions

- Compare and contrast the Hawaiian environment with that of a middle latitude region, such as the US mainland, Europe and East Asia.
- Evaluate the Hawaiian environment in terms of how the student would survive on a pre-human Hawaiian island.

GEOG 151 Geography and Contemporary Society (3)
Elements of population geography and urban studies, economic geography and resource management; application to current problems of developed and underdeveloped countries. (3 hrs. lect.)
WCC: DS

The student learning outcomes are:
- Describe and map major themes in human society and culture: population, economy, politics, language, religion, customs, and conflict.
- Apply scientific method, and theories and concepts of geography to explain the nature, history, and diffusion of the major themes.
- Synthesize cross-cultural perspectives on current issues in the major themes.
- Communicate the achievement in written form and/or in other artistic expressions such as photograph.

Geology and Geophysics (GG)

GG 101 Introduction to Geology (4)
Man's natural physical environment; the landscape, rocks and minerals, rivers and oceans, volcanism, earthquakes, and other processes inside the earth; effects of man's use of the earth and its resources. Laboratory study of minerals, rocks, and topographic and geologic maps. Lecture/laboratory/field trip course. (3 hrs. lect.; 3 hrs. lab.)
WCC: DP & DY

The student learning outcomes are:
- Understand the importance of plate tectonics in creating, modifying and recycling the surface of the earth.
- Understand the structure of the earth and how that is known, and its relationship to geophysical, geological, atmospheric and oceanographic processes.
- Comprehend the vastness of geological time and how time is measured thus the time-scale known, in addition to the history recorded in rocks of geological/atmospheric/oceanographic processes in conjunction with those that influenced the organic evolution of life.
- Realize geological hazards and the mitigation of those hazards, as well as the politics of managing a changing landscape.
- Describe the formation of mineral deposits and hydrocarbon accumulations, with an appreciation of their impermanence as resources.
- Know formational processes, types and uses of soils, minerals, fossils and rocks.

GG 103 Geology of the Hawaiian Islands (3)
Hawaiian geology and geologic processes: origin of Hawaiian Islands, volcanism, rocks and minerals, land forms, stream and coastal processes, landslides, earthquakes and tsunamis, ground water, geologic and environmental hazards. Field trips arranged. (3 hrs. lect.)
WCC: DP

The student learning outcomes are:
- Understand formational and evolutionary processes, as well as time-scales for these processes in the construction, modification and destruction of a Hawaiian island and its landscape.
- Relate Hawaiian volcanism to other types of volcanism in terms of plate tectonics, magma/rock types, magmatic plumbing systems, edifice construction/destruction, eruption types, and eruptive products.
- Describe how volcanoes are monitored and eruptions predicted.
- Realize the significance of volcanism in the rock cycle.
- Appreciate the benefits of volcanism to Hawai‘i as in geothermal energy, ground water, soils, and more.
- Appreciate volcanic hazards and mitigation of those hazards with a focus on Hawai‘i.
- Comprehend the vastness of geological time and how time is measured thus the time-scale known.

GG 166 Planetary Geology (3)
Study of the geology and geophysics of earthlike planets and satellites in the solar system, with emphasis on understanding terrestrial geology in a broader, astronomical context. Topics covered: major processes determining structure and surface features of planets and techniques for remote sensing. (3 hrs. lect.)
Prerequisite: Credit for ASTR 110 and GG 101 or consent of instructor.
WCC: DP

The student learning outcomes are:
- Discuss the general characteristics of objects in the solar system and discuss the nature of the sun and its influence planetary systems.
- Outline evolution of planetary surfaces and discuss comparative planetology from a geological perspective.
- Assess the effects and implications of collisional impacts on planetary surfaces.
- Compare and contrast terrestrial and jovian planets and their moons.
- Classify meteorite and discuss their mineral contents; and compare and contrast comets and asteroids.
- Summarize the findings of manned and unmanned space flight.
• Identify the appropriate instruments, detectors and space probes used by astronomers and space scientists to explore the solar system, especially the techniques of remote sensing in planetary exploration.

• Discuss the evidence for extraterrestrial life in the solar system.

Note to Students: Any one of the following courses meets the laboratory/field trip requirement for GG 103. Each lecture and laboratory/field trip course requires a separate registration. In addition to tuition, field costs are approximately $250.

GG 210  O‘ahu Field Geology (1)
10 half-day Saturday field trip and laboratory sessions relating to the Geology of O‘ahu.
Prerequisite: Credit for or registration in GG 101, GG 103, or consent of instructor.
WCC: DY

The student learning outcomes are:
• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.

• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).

• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.

• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.

GG 211  Big Island Field Geology (1)
A four-day field trip on the island of Hawai‘i. A survey of Hawaiian volcanic processes is illustrated by studying Kilauea, Mauna Kea, Mauna Loa, Hualalai, and Kohala volcanoes. Students are responsible for air and ground transportation, meals, and lodging. (Offered alternate years.)
Prerequisite: Credit for or registration in GG 101, GG 103, or consent of instructor. Must have medical clearance.
WCC: DY

The student learning outcomes are:
• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.

• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).

• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.

• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.

GG 212  Maui Field Geology (1)
A four-day field trip on the island of Maui. A survey of Hawaiian volcanology and geomorphology illustrated by field studies of Haleakala and West Maui volcanoes. Students are responsible for air and ground transportation, meals, and lodging. (Offered alternate years.)
Prerequisite: Credit for or registration in GG 101, GG 103, or consent of instructor. Must have medical clearance.
WCC: DY

The student learning outcomes are:

• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.

• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).

• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.

• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.

GG 213  Moloka‘i, Lana‘i, and Kaho‘olawe Field Geology (1)
A four-day field trip on the islands of Moloka‘i and Lana‘i. Field studies of East Moloka‘i, West Moloka‘i, Makanalua (Kalaupapa) and Lana‘i volcanoes, and directed reading on Kaho‘olawe volcano. Students are responsible for air and ground transportation, meals, and lodging. (Offered alternate years.)
Prerequisite: Credit for or registration in GG 101, GG 103, or consent of instructor. Must have medical clearance.
WCC: DY

The student learning outcomes are:
• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.

• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).

• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.

• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.

GG 214  Kaua‘i and Ni‘ihau Field Geology (1)
A four-day field trip on the island of Kaua‘i to study the volcanological evolution and continuing geological history of Kaua‘i and Ni‘ihau volcanoes. Students are responsible for air and ground transportation, meals, and lodging. (Offered alternate years.)
Prerequisite: Credit for or registration in GG 101, GG 103, or consent of instructor.
WCC: DY

The student learning outcomes are:
• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.

• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).

• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.

• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.
Course Descriptions

The student learning outcomes are:

• Understand through field observation, with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.
• Realize the hazards, mitigation of these hazards and benefits of Hawaiian volcanism, and its relationship to island culture(s).
• Appreciate current research and studies of Hawaiian volcanism through visits to appropriate museums and research laboratories.
• Understand the vastness of geological time applied to Hawai‘i, and how time is measured thus the time-scale known.

Hawaiian (HAW)

HAW 101 Elementary Hawaiian I (4)
An elementary course in the Hawaiian language which focuses on rules of grammar, pattern drills, the building of an adequate vocabulary to facilitate conversation, and reading of selected materials at an elementary level. (5 hrs. lect./lab.)
The student learning outcomes are:

• Recognize and reproduce the correct pronunciation of consonants, semivowels, vowels, diphthongs, words and names in Hawaiian.
• Demonstrate the ability to comprehend and respond to basic directions, requests, questions and answers.
• Demonstrate the ability to generate basic phrases and sentences for everyday situations with a vocabulary of 400-500 Hawaiian words, plus idiomatic expressions.
• Demonstrate the ability to read and write Hawaiian sentences at an elementary level on subject matter covered in class.
• Speak Hawaiian with the proper inflection, intonation, and rhythm.

HAW 102 Elementary Hawaiian II (4)
Continuation of HAW 101. (5 hrs. lect./lab.)
Prerequisite: Credit for HAW 101 or consent of instructor.
The student learning outcomes are:

• Listen and sustain comprehension of connected discourse on a variety of topics.
• Demonstrate oral and written proficiency in grammatical patterns of greater complexity, with a working vocabulary of some 2,000 words, plus idiomatic expressions.
• Demonstrate the ability to initiate, sustain and close a general conversation with a number of strategies appropriate to a range of circumstances and topics.
• Demonstrate a basic familiarity with Hawaiian verbal art forms; ‘ōlelo no'eau, mele, oli, pule, mo'olelo, and ka'ao.

Hawaiian Studies (HWST)

HWST 107 Hawai‘i: Center of the Pacific (3)
An introduction to Hawai‘i and Hawaiian culture in the context of the larger Pacific, including Hawaiian origins, settlement, language, land, history, society, religion and the arts. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:

• Compare and contrast cultures and histories of Pacific island peoples in relation to their languages, religious traditions, artistic expressions, material culture, and political and economic development.
• Identify ways in which the environment has shaped Hawaiian and Pacific island culture.
• Describe the integration of land in Hawaiian culture and the historic changes in the relationship between people and land through written and oral communication.
• Describe aspects of Hawaiian relationship with other groups of people in and outside of Hawai‘i. Identify implications of the relationships and develop proposals for possible ways to affect positive change.
• Identify, access, and evaluate major Hawaiian studies sources.
HWST 130  Hula ʻŌlapa: Traditional Hawaiian Dance (3)
In this class students will learn various beginning traditional hula interpretations. Students will be taught the basic footwork and hand gestures of traditional hula accompanied by chanting. Ipu Heke (double gourd) or Pahu (drum). Students may also be required to make accompanying instruments like Ipu (smaller single gourd), Kalau’u (sticks), ‘Ili‘Ili (stones), and Pū‘Ili (split bamboo), and learn accompanying oli (chants) under the direction of the class Instructor. Students will be taught different historical aspects of specific hula, associated hula mythology, aliʻi (chiefl) genealogies, plants and place names. (2 hrs. lect./2 hrs. lb)
WCC: DA

The student learning outcomes are:
- Students will learn a basic understanding of the differences between traditional and modern styles of hula including the significance of hula as part of Hawaiian culture in traditional times.
- Students will learn the histories and mythologies behind the creation and performance of various hula.
- Students will learn how to perform several hula in unison, and the relationship between movements with the significance of lyrical content in a mele or oli combined with the occasions for which one is dancing.
- Students will learn how to prepare adornments for their specific hula.

HWST 135  Kālai Lā‘au: Hawaiian Woodwork and Wood Carving (3)
This is a Hawaiian cultural woodwork and wood carving project class. This class will involve the development of two to three introductory woodworking projects of Hawaiian cultural significance or ceremonial use. Through this class the students will develop both the skills needed to work effectively and safely with wood, and the cultural knowledge important to the pieces developed. As a project class, there will be specific projects and themes set by the instructor of general Hawaiian cultural interest. Students will learn different aspects and solutions in carving and creating Hawaiian cultural projects. (6 hrs. lect./lab.)
WCC: DA

The student learning outcomes are:
- Learn to work with wood in an effective and safe manner.
- Gain a deeper understanding of the cultural significance of the wood-working project the student has undertaken
- Learn to plan and create wood working projects of Hawaiian cultural relevance or significance.

HWST 255  Introduction to the Hawaiian Kingdom: Navigators and Kings (3)
This course covers the origins and features of the Hawaiian state. Starting with Hawai‘i’s roots as a navigator society, this course explores the island kingdoms of Kaua‘i, O‘ahu, Maui and Hawai‘i island. Detailed interaction between Hawaiians and navigators from other countries around the world such as Cook and Vancouver open up an investigation through the reign of Kamehameha I and his powerful wife Ka‘ahumanu. The decision to construct a constitutional monarchy, achieve state recognition and develop a modern nation-state are examined further through the eighty-eight year period of Kingdom of Hawai‘i statecraft. Using tools from history, linguistics, political science and law, students will engage the transition of Hawaiian political systems as they emerged across specific periods with an eye towards developing theoretical frameworks for understanding why Hawaiian political systems progressed as they did. (3 hrs. lect.)
WCC: DH
Prerequisite: Credit for HWST 107 or HIST 224 or HIST 284.

The student learning outcomes are:
- The student will be able to identify and analyze key narratives, historical figures and events in the discovery and settlement of the Hawaiian Islands.
- The student will be able to identify and analyze key historical figures and events in the formation and development of the Hawaiian nation and state through the 19th century.
- The student will be able to describe and analyze the historical interaction between Hawaiian and European values, ideas and technology as they relate to political systems.

HWST 270  Hawaiian Mythology (3)
A survey of gods, ‘aumakua, kupua, mythical heroes, heroines and their kinolau as the basis of traditional Hawaiian metaphor. (3 hrs. lect.)
Prerequisite: Credit for HWST 107 or HAW 102.
WCC: DH

The student learning outcomes are:
- Evaluate and analyze the relationship between Hawaiian mo‘olelo, Hawaiian religion, and Hawaiian social structure.
- Analyze how Hawaiian mo‘olelo illustrate and set precedents for Hawaiian cultural values.
- Compare and contrast Hawaiian and Western concepts of ‘history’ and ‘myth’.
- Identify and access major written and oral sources for Hawaiian mo‘olelo.
- Recount with details at least one Hawaiian mo‘olelo and illustrate similarities with others.
- Describe and classify different characters from Hawaiian mo‘olelo.

HWST 285  Lāʻau Lapaʻau I: Hawaiian Medicinal Herbs (4)
In this class students will learn the basic philosophy and traditions surrounding Hawaiian healing herbs. Students will also learn how to identify, grow, harvest, prepare, store and use these herbs for various human ailments. (3 hrs. lect./3 hrs. lab)
Prerequisite: Credit for HWST 107 or BOT 105.
WCC: DH
Course Descriptions

The student learning outcomes are:

- Students will learn Hawaiian and introduced medicinal herbs and be able to identify them by name, color, smell, taste, and sight.
- Students will learn the beliefs and practices of Hawaiian herbal healing.
- Students will learn planting, growing and harvesting techniques used to raise traditional Hawaiian herbal healing plants.
- Students will be able to prepare, use and store Hawaiian herbal remedies.

Health (HLTH)

HLTH 125 Survey of Medical Terminology (1)
HLTH 125 familiarizes the student with medical terminology used in both human and animal medicine through analysis of prefixes, suffixes, and word roots. This course covers the pronunciation, spelling, and definitions of selected medical words dealing with mammalian body systems. Commonly used medical abbreviations and pharmacological terms are also discussed. (1 hr. lect.)
WCC: VACA
Prerequisites: Grade of “C” or better in ENG 21 or placement into ENG 22 or higher.
The student learning outcomes are:

- Correctly define, spell and pronounce selected medical terms dealing with anatomical planes and regions, anatomy of major body systems and associated diseases and disorders.
- Correctly use plural endings for medical terms.
- Apply knowledge of root words, prefixes and suffixes to identify meaning of novel medical terms.
- Define and give examples of terminology used to describe common surgical and diagnostic procedures.
- Recognize and define common medical and pharmacological abbreviations.

History (HIST)

HIST 151 World Civilization I (3)
A survey course focusing on significant historical events and patterns of development in world civilizations from the prehistoric period to the 1500’s. (3 hrs. lect.)
WCC: FGA
The student learning outcomes are:

- Identify important individuals, events, places, organizations and concepts in modern world history.
- Arrange, in chronological order, significant events in world history.
- Describe and analyze global processes from 1500 C.E. to the present (e.g. human migration, ecological forces, imperialism, decolonization, industrialism, nationalism, globalization).
- Explain cause and effect relationships in history.
- Compare and contrast historical experiences across cultures and time.
- Relate historical events to contemporary issues and events.

HIST 152 World Civilization II (3)
A survey course focusing on the historical development of selected areas of the world from the 16th century to the present. Emphasis placed on analysis of the impact of industrialization, East-West interaction, and the rise of nationalism. (3 hrs. lect.)
WCC: FGB
The student learning outcomes are:

- Identify important individuals, events, places, organizations and concepts in modern world history.
- Arrange, in chronological order, significant events in world history.
- Describe and analyze global processes from 1500 C.E. to the present (e.g. human migration, ecological forces, imperialism, decolonization, industrialism, nationalism, globalization).
- Explain cause and effect relationships in history.
- Compare and contrast historical experiences across cultures and time.
- Relate historical events to contemporary issues and events.

HIST 231 Modern European Civilization I (3)
HIST 231 is a survey of European history from 1500 to 1800. Focus is given to the political evolution and the major economic, social, and cultural development of European States. (3 hrs. lect.)
Prerequisite: ENG 100.
Recommended Preparation: HIST 151 and 152.
WCC: DH
The student learning outcomes are:

- Identify important individuals, events, places, organizations and concepts in modern European history.
- Arrange, in chronological order, significant events in modern European history.
- Describe and analyze the processes that both allowed Europe to transform into a modern state and play a dominant role in the world (e.g., overseas exploration, trade, cross-cultural interactions, colonialism, capitalism, etc.).
- Explain cause and effect relationships in history.
- Relate historical events to contemporary issues and events.

HIST 232 Modern European Civilization II (3)
HIST 232 is a continuation of HIST 231. It is a survey of the political evolution and major economic, social, and cultural development of European States from Napoleon (1800) to the present. (3 hrs. lect.)
Prerequisite: ENG 100.
Recommended Preparation: HIST 151 and 152.
WCC: DH
The student learning outcomes are:

- Identify important individuals, events, places, organizations and concepts in modern European history.
Course Descriptions

HIST 241 Civilizations of Asia I (3)
A survey course covering the development of the major civilizations of East Asia, South and Southeast Asia, and historical personages and events from the earliest periods to the 1500's. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Identify important individuals and events in premodern Asian history, i.e. demonstrate historical literacy.
• Describe cause and effect relationships in Asian history.
• Order chronologically significant events in Asian history.
• Describe major Asian historical processes (e.g. the agricultural revolution, the rise and spread of religions, the development of political institutions, etc.)
• Acquire a sense of historical perspective.
• Demonstrate an understanding of historical concepts as they relate to premodern Asian historical issues and events.

HIST 242 Civilizations of Asia II (3)
A survey course focusing on the changes/development of the major civilizations of East Asia, South and Southeast Asia from the Sixteenth Century to the present. Particular emphasis placed on an analysis of representative Asian societies, the Asian response to the West, and Asian nationalism. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Identify important individuals and events in modern Asian history from the pre-Columbian period, through the colonial era, the American Revolution, early 19th century and the Civil War period.
• Describe, analyze and interpret the major themes in American history from the pre-Columbian period, through the colonial era, the American Revolution, early 19th century and the Civil War period.
• Identify and explain important events in American history through the Civil War.
• Critically analyze primary sources.
• Make connections between contemporary events and American history.

HIST 281 Introduction to American History I (3)
An introduction to American history covering significant events in U.S. history from the colonial to Civil War period. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Describe, analyze and interpret the major themes in American history from the pre-Columbian period, through the colonial era, the American Revolution, early 19th century and the Civil War period.
• Identify important individuals and events in American history through the Civil War.
• Critically analyze primary sources.
• Make connections between contemporary events and American history.

HIST 282 Introduction to American History II (3)
Continuation of HIST 281 focusing on significant events in American history from Reconstruction (1865) to the present. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Describe, analyze and interpret the major themes in American history from Reconstruction through the 20th century to the present.
• Identify important individuals and events in American history from Reconstruction to the present.
• Critically analyze primary sources.
• Make connections between contemporary events and American history.

HIST 284 History of Hawai'i (3)
A general study of the social, political and economic development of Hawai'i from the ancient Hawaiians to the present. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Describe, analyze and interpret the major themes in history of Hawai'i from the pre-contact period to the present.
• Critically analyze primary sources.
• Identify important individuals and events in the history of Hawai'i.
• Make connections between contemporary events and Hawai'i's history.

HIST 285 Environmental History of Hawai'i (3)
History 285 investigates human interactions with the natural world in the Hawaiian Islands. It is interdisciplinary, drawing on insights from history, geography, anthropology and the natural sciences. Topics covered will include island biogeography and evolution; the natural and human histories of Hawai'i; Hawaiian and American attitudes toward the environment; the impact of introduced diseases, plants and animals in Hawai'i. (3 hrs. lect.)
Prerequisites: Credit for HIST 151 or HIST 152 or consent of the instructor.
The student learning outcomes are:
• Describe cause and effect relationships in the interaction between humans and their environment.
• Understand global processes as humans, plants, animals and diseases move around the world.
Course Descriptions

- Investigate traditional Hawaiian attitudes toward nature.
- Understand the evolution of American attitudes toward nature.
- Apply outcomes 1 through 4 to historical events specific to Hawai’i and the Windward side of O’ahu.
- Acquire a sense of historical perspective for current environmental problems.

Humanities (HUM)

HUM 100 Introduction to Humanities (3)
HUM 100 is for students seeking a multicultural integration of the arts. It is a global, historical and comparative exploration of music, art, literature, drama, philosophy, religion, architecture and related artistic expressions. It is designed to deepen awareness of how human beings symbolize essential ideas. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:

- Describe the similarities and differences between Eastern and Western art forms.
- Explain how the arts symbolize cultural identity.
- Trace the historical development of an area of the humanities (art, music, literature, architecture, drama, dance, philosophy or religion).

HUM 269V Study Abroad (Designated Region, Variable Credit) (1-6)
An on-site study of designated society’s values, arts and culture. (30 hrs. lect./lab per credit trip total) Prerequisite: Meet with instructor for approval.
WCC: DA

The student learning outcomes are:

- Demonstrate understanding of and sensitivity to the peoples and culture of the designated location(s) visited.
- Demonstrate awareness of internationalism and an interdependency of cultures.
- Compare cultural values and methods of coping with our changing world.
- Discuss orally and in writing, ways in which the humanities enrich daily life in the societies visited, and in his or her own society.

Independent Studies

———, 99V, 199V, 299V Independent Studies (1-4)
Independent study courses offer the student an opportunity to create and participate in academic learning experiences geared to individual needs, interests, aptitudes, and desired outcomes. 199, 299–any combination repeatable up to 12 credits, 12 credits applicable toward A.A. degree. No more than 12 credits in any combination of Independent Studies or Cooperative Education may apply to the degree requirements.

Exception: English 199V, 299V, any combination repeatable up to 6 credits, 6 credits applicable to the A.A. degree.

Information and Computer Sciences (ICS)

ICS 100 Computing Literacy and Applications (3)
This course is an introduction to information technology. Upon completion of the course, the student should be able to: Describe the process of changing data into information; Identify the benefits of being computing literate and how computing competency will affect their future; Describe how computers have affected society; Discuss computer ethics; Demonstrate an understanding of computer terminology; Identify hardware components; Identify and describe a variety of software programs; Produce word processing, spreadsheet and database documents; Manipulate graphical objects in the above; Demonstrate an understanding of online and multimedia communication; Manage assignments using the World Wide Web and the Internet; (3 hrs. lect.)

Recommended Preparation: ENG 22 and MATH22.
WCC: DS

The student learning outcomes are:

- Utilize the basic features of computer applications to communicate effectively (major content area).
- Utilize operating system interfaces to manage computer resources effectively.
- Utilize online resources for research and communication.
- Define, explain, and demonstrate proper computer terminology usage in areas such as hardware, software, and communications.
- Describe ethical issues involved in the use of computer technology.

ICS 101 Digital Tools for the Information World (3)
Hands-on computer class with emphasis on producing professional-level documents, spreadsheets, presentations, database, and web pages for problem solving. Includes concepts, terminology, and a contemporary operating system. Meets requirement for College of Business (UHM and UHH) and UHM’s Biology program and Botany Department. (3 hr. lect).

Recommended Preparation: High School algebra.

The student learning outcomes are:

- Utilize the appropriate computer applications to produce professional-level documents, spreadsheets, presentations, databases, and web pages for effective communication (major content area).
- Produce documents in a variety of formats.
- Create, edit, and format electronic spreadsheets using formulas, functions, and charts.
- Utilize a database with queries and reports that display required data.
- Create and organize a variety of electronic slides using templates, background styles, graphics, photos, and animation effects.
• Create web pages that contain hyperlinks and images that are suitable for publication.
• Utilize operating system interfaces to manage computer resources effectively.
• Extract and synthesize information from available Internet resources using intelligent search and discrimination.
• Define, explain, and demonstrate proper computer terminology usage in areas such as hardware, software, and communications to effectively interact with other computer users and to prepare for higher-level computer courses.
• Describe ethical issues involved in the use of computer technology.

ICS 105 Computer and Information Literacy Exam Preparation (3)
By the end of the course, the student will be able to: Use and understand computer and information literacy terminology; Manage computer files; Send, receive, and reply to e-mails, including attachments; Find information using appropriate search tools; Evaluate information sources; Create, save, edit, and print documents such as e-mails, word processing, and spreadsheets. The four parts of the Computer and Information Literacy exam are administered during this course. Students may earn elective credit for ICS 105 OR for ICS 105B, ICS 105C and ICS 105E. Credit may NOT be earned for both ICS 105, ICS 105B and ICS 105C and ICS 105E courses. (3 hrs. lect.)
Prerequisite: Placement into ENG 22 or consent of instructor.
The student learning outcomes are:
• Pass the Computer and Information Literacy Exam required for the AA degree at WCC.
• Use E-mail to send and receive messages with attachments.
• Navigate a computer’s file management system and perform basic file management tasks.
• Create, edit and format word processing documents such as a college research paper.
• Identify what information is needed for a given situation, and find, evaluate and use information ethically.
• Use a spreadsheet to make simple computations and create a graphical display of data.

ICS 107 Web Site Development (3)
This course presents concepts for creating web sites from design through publishing. Hands-on activities will include working with graphics and other multimedia elements, and developing professional web sites. Web pages will be designed for marketing, providing news, showing information, and sharing opinions. A variety of Internet resources will be demonstrated and subsequently explored by students. Design, usability, accessibility, web markup language, and integrating other elements will be emphasized. (3 hrs. lect.)
Recommended Preparation: Basic computing skills.
The student learning outcomes are:
• Demonstrate the Web development cycle of defining, planning, building, testing, publishing, and maintenance.
• Recognize the differences between browsers, monitor size and resolutions, and other aspects which affect web site design.
• Evaluate and utilize Web development software tools.
• Create an effective Web site incorporating usability and ADA accessibility standards and utilizing appropriate multimedia elements.
• Describe ethical issues involved in the development and use of websites.

ICS 111 Introduction to Computer Science (4)
This is an introductory course for students intending to major in computer science and requiring a computer programming course. Emphasis will be on problem solving, algorithm/pseudocode development, structured programming, computer language coding, implementation and debugging/testing. Students will develop application programs in an IBM microcomputer/DOS/Windows operating system environment. Students will be taught to develop appropriate programs using accepted standards and methodologies. Actual programming is a part of this course. (3 hrs. lect./1 hr. lab.)
Prerequisite: Credit for MATH 103 or higher; or consent of instructor.
The student learning outcomes are:
• Use an appropriate programming environment to design, code, compile, run and debug computer programs.
• Demonstrate basic problem solving skills: analyzing problems, modeling a problem as a system of objects, creating algorithms, and implementing models and algorithms in an object-oriented computer language (classes, objects, methods with parameters, abstract classes, interfaces, inheritance and polymorphism).
• Illustrate basic programming concepts such as program flow and syntax of a high-level general purpose language.
• Identify relationships between computer systems programming and programming languages.
• Demonstrate working with primitive data types, strings and arrays.

ICS 113 Database Fundamentals (3)
This course examines file organization and the use of computer databases. It also examines the handling of information through its organization, management and control. A substantial part of the course develops an understanding of the data processing building blocks: files, records and fields. Techniques to report and maintain data are also covered. (Offered spring semester only.) (3 hrs. lect.)
Prerequisite: ICS 100 or 101; placement in MATH 24.
The student learning outcomes are:
• Show conversion of computer files into a database system by creating a simple database.
• Compare a relational database to a flat database.
• Dissect a database into tables, records, fields, keys, views and relationships.
• Demonstrate the normalization process.
Course Descriptions

- Find records using Structured Query Language (SQL) in a database.
- Create reports with specific records.

ICS 115 Advanced Microcomputer Applications (3)
Expands the concepts of computing introduced in ICS 101 or ICS 100. Develops greater proficiency in creating and modifying word documents, spreadsheets, database queries, reports, forms and presentation software. Broadens knowledge of the above packages by integrating the applications with one another and utilizing timely Internet Web technologies with each. Web technologies will include creating online blogs, dynamic Web spreadsheets, basic Web pages, Web podcasts, and videos. (3 hrs. lect.)
Prerequisites: ICS100 or ICS101; placement into Math 25.
The student learning outcomes are:
- Define technical terminology relating to application packages and their relationship with Web 2.0 tools.
- Demonstrate file management competency in a networked environment.
- Use backup and recovery programs necessary to safeguard user data files in a networked environment.
- Use a word processor to produce a desktop publishing document.
- Use a spreadsheet to analyze and present dynamic interactive numeric information, graphs and charts.
- Use a database program to create forms, queries and reports that can retrieve Web-based data.
- Use a presentation graphics program with appropriate audio and visual components that can be viewed on the Web.
- Use integration tools for sharing information between different applications programs.
- Use data acquisition tools such as scanners, optical character recognition, and Internet searching to retrieve data.

ICS 120 Spreadsheet Fundamentals (3)
Students who complete this course will be able to accomplish the following: Simulate “what if” scenarios; Create spreadsheet templates; Design worksheets to solve complex tasks; Develop spreadsheet workbooks composed of several related worksheets; Minimize redundant data by linking information among worksheets; Utilize complex spreadsheet functions to solve problems; Utilize spreadsheet tools to analyze data; Create macros to complete repetitive tasks; Integrate spreadsheet data to the World Wide Web or a corporate Intranet. (3 hrs. lect.)
Prerequisite: ICS 100 or 101; placement in MATH 25.
The student learning outcomes are:
- Create a spreadsheet to solve a complex problem.
- Link data in workbook worksheets to minimize redundant data.
- Solve mathematical, statistical, logical problems using built-in spreadsheet functions.
- Publish data to the WWW or an intranet to show a dynamic vs. static worksheet.

ICS 121V Microcomputer Topics (1-4)
This course covers current microcomputer topics. The course is designed to have variable credits to coincide with the rigor of the topic. A student may enroll and receive credit for this course more than one time (for different topics). A course description will be on record to designate the various topics for a student’s transcript. (1-4 lect. hrs.)
Prerequisite: Credit for ICS 100 or ICS 101 or consent of instructor.
Prerequisite for specific courses will be announced. (See department chair or instructor.)
The student learning outcomes are:
- Study a computer topic offered at WCC.
- Produce a final project to demonstrate knowledge of the computer topic.

ICS 123 Introduction to Audio and Video Editing (3)
This is an introductory computer class covering digital audio and video editing. This introduction to digital software includes principles of recording, editing, and publishing to the Web. Subjects include basic editing functions, customizing settings, capturing video and audio, trimming techniques and final output. (3 hrs. lect.)
Recommended Preparation: Basic computer skills including file management.
The student learning outcomes are:
- Use audio and visual editing terminology.
- Contrast differences between digital and analog terminology.
- Apply media principles in recording, editing and printing to video.
- Incorporate different editing components to develop an effective product.
- Compare and contrast the different modes of capturing data and various file formats.
- Apply ethical practices in the use of multimedia.

ICS 140 Elementary Operating Systems (3)
This course examines and compares several operating systems used on computers. Comparisons of graphics user interface and command user interface operating systems will be made. Students will work with the Windows and Unix systems. Other systems will be researched. (3 hrs. lect.)
Recommended Preparation: ICS 100 or ICS 101.
The student learning outcomes are:
- Identify and utilize current popular operating systems and interactions.
- Describe and evaluate hardware, software and operating system in meeting user objective.
- Describe the processes of installing, configuring and troubleshooting software problem.
- Demonstrate effective file management and develop backup strategies.
- Illustrate network interconnectivity.
ICS 141 Discrete Mathematics for Computer Science 1 (3)
This course covers logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting techniques, and probability theory.
Prerequisites: Grade of “C” or better in MATH 103, placement into MATH 135 or higher, satisfactory placement test score, or consent of instructor.
WCC: FS
The student learning outcomes are:
- Upon completion of ICS 141, the student should be able to analyze issues and apply mathematical problem solving skills to plan courses of action in decision-making situations, using basic mathematical formal logic, proofs, recursion, analysis of algorithms, sets, combinatorics, relations, functions, matrices and probability

ICS 163 Desktop Publishing (3)
Upon completion of this introductory desktop publishing course, the student will be able to do the following: Demonstrate an understanding of the relationship between typography, text and space; Describe the concepts of color theory; Demonstrate the ability to operate a desktop publishing software program to layout business cards, fliers, ads, brochures, and multi-page documents; Demonstrate the ability to operate a graphic program to edit clipart and photos; Demonstrate the steps to scan a photo or line drawing; Analyze and design a project for a target group; Demonstrate the ability to create a file to take to a printer.
(3 hrs. lect.)
Recommended Preparation: Basic computing skills.
The student learning outcomes are:
- Produce documents and other projects for a target audience, using desktop publishing software and applying creative and aesthetic elements.
- Use the computer’s operating system to manage document and folders, print hard copies, and scan graphics.

ICS 193V Cooperative Education/Internship/Practicum (1-3)
Cooperative program between the student, an employer, and the College that integrates classroom learning with supervised practical experience. Reflects the student’s major interest area and availability of job assignments. Offers the opportunity to develop workplace employability skills dependent on job assignments and course of study. (1-3 hrs. lect.)
Prerequisite: Various as determined by the particular course of study and placement of the cooperative education/internship practicum in the sequence of courses.
The student learning outcomes are:
- Complete computer assignments in a job that is cooperatively supervised by the employer and College.
- Demonstrate the skills in the above assignments to both the College and the employer.

ICS 211 Introduction to Computer Science II (3)
Reinforce and strengthen problem solving skills using more advanced features of programming languages and algorithms such as recursion, pointers, and memory management. Emphasize the use of data structures such as arrays, lists, stacks and queues.
(3 hrs. lect.)
Prerequisites: A grade of “C” or better in ICS 111 or consent of instructor.
The student learning outcomes are:
- Recognize the use of arrays, lists, stacks, queues, and other data structures.
- Select the appropriate searching and sorting algorithm based on the algorithm’s behavior.
- Develop recursive algorithms and programs.
- Select appropriate data structure for a given application.
- Use advanced object-oriented programming techniques (polymorphism, inheritance, and encapsulation) and standard libraries.
- Produce robust programs using exception handling and extensive program testing.
- Create simple graphical user interface (GUI) program.

ICS 214 Fundamentals of Design for Print and Web (3)
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. (3 hrs. lect.)
Prerequisite: ICS 100 or ICS 101.
The student learning outcomes are:
- Demonstrate understanding of important design techniques, visual thinking, concept development and composition.
- Understand conceptual knowledge about elements of art such as objects, texture, color theory, space, and character design.
- Learn next generation image editing tools, edit and retouch images, apply special affects, adjust color balance to produce images that resemble water color and oils, rapidly produce dynamic graphics for the web with interactive buttons and rollovers.
- Create graphics that heighten the appearance of web content, product design, business graphics, logo designing, graphics for print brochures, artwork and corporate presentations.
- Develop a personal style and vision, and design.
- Integrate and produce professional publishing, create graphic-intensive documents with precision and control for pre-press.
Course Descriptions

- Create projects based on case studies in the following areas:
  - Print and Publishing
  - Broadcast and Web Media
  - Use planning and appropriate processes in web site designing, and then apply to the design and creation of web pages.
  - Use planning and appropriate processes in publication designing, and then apply to the design and creation of publications.
  - Present information based on work done for projects.
  - Create animated graphics, designing interactive elements, add sound and integrate movies into web sites.
  - Illustrate how their career search relates to job shadowing and service learning activities choices.
  - Evaluate the effectiveness of the career decision making process by keep a journal and responding to evaluations of the instructor.

IS 105C Professional Employment Preparation (1)
Facilitates employment search by emphasizing professional techniques and standards in the preparation of application forms, resumes, cover letters, and employment interviews. (Cross-listed as BUSN 166.) (1 hr. lect.)
Recommended Preparation: ENG 22, keyboarding skills, and knowledge of word processing.
The student learning outcomes are:
- Integrate job interview preparation techniques into a live interview.
- Utilize resources needed to find a job.
- Assemble a career portfolio for ongoing career development.

IS 105B Career Decision Making (2)
An introductory course designed to prepare students to make more focused career/life decisions through self analysis and world of work examinations. (2 hrs. lect.)
Recommended Preparation: Placement in ENG 22 or higher.
The student learning outcomes are:
- Describe the career development process, current labor market trends, and issues related to economic self-sufficiency.
- Identify personal, family, cultural, and financial influences that relate to their career and educational decisions.
- Carefully justify one’s own interpretation of the Common Book.

IS 160A Polynesian Voyaging and Seamanship (3)
This course focuses on the fundamentals of voyaging and seamanship by blending the traditions of Polynesian culture, history and skills with modern science and technology. An interdisciplinary approach is used in treating topics in Hawaiian studies, astronomy, geology, oceanography, meteorology, marine biology, ethnobotany and archaeology of Polynesia and Hawai‘i. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
- Describe the basic geography of Polynesia.
- Apply the fundamental concepts in positional astronomy (including the seasons) and identify of two of the four recognized star lines used for navigation.
- Explain the basic principals in wayfinding (non-instrument navigation).
• Discuss Polynesian migration as gleaned from archaeological findings.
• Discuss Polynesian mythology and cosmology, especially as related to voyaging.
• Apply the basic concepts in geology, especially of the Pacific area.
• Discuss fundamentals of weather forecasting as related to the Pacific Ocean.
• Identify native and Hawaiian plants, especially those used in voyaging.

**IS 160B Polynesian Voyaging and Seamanship (3)**

This course focuses on the fundamentals of voyaging and seamanship by blending the traditions of Polynesian culture, history and skills with modern science and technology. An interdisciplinary approach is used in treating topics in Hawaiian studies, astronomy, geology, oceanography, meteorology, marine biology, ethnobotany and archaeology of Polynesia and Hawai’i. 3 hrs. lect.)

Prerequisite: 1. Minimum water skills and survival requirements: Pass the following water survival tests, which will be administered during the lab corequisite for this course; ability to swim a minimum of 500 yards in the open ocean using any strokes; ability to tread water for 30 minutes in the open ocean. 2. Health clearance: A written statement must be signed by a medical physician certifying that the student is physically capable of participating in the sailing activities scheduled for the lab. Health clearance must be submitted by the date of the first sailing lab.

Co-requisite: IS 160B

WCC: DH

The student learning outcomes are:

• Apply both traditional Polynesian skills and modern scientific methods when engaged in sailing and environmental exploring activities.
• Apply basic sailing and navigational skills to prepare and carry out a sailing plan.
• Apply water safety skills.
• Conduct basic canoe operations, including rigging, sailing and maintenance.
• Identify Polynesian-introduced plants and native plants that are valuable for voyaging and discuss their value as food source, medicine, building material, and cordage.

**IS 204 Themes in Popular Culture (3)**

An interdisciplinary study of a specific event, person, idea, or process in popular culture which will bring together various methodologies and conceptual tools to create a complex analysis. Topics covered will include: the concept of popular culture, how elements of popular culture are created and circulated, how elements of popular culture connect to historical, political, social, symbolic and intellectual
Course Descriptions

history, how different groups in society are related to the elements of popular culture, and how popular culture plays a role in the lives of individuals. (3 hrs. lect.)
The student learning outcomes are:

- Identify the connection between the theme in popular culture with larger political, social, and intellectual patterns in society.
- Analyze the connection between the theme in popular culture and other themes, either contemporary or historical.
- Participate effectively in group discussions, given evidence of thoughtfulness and an engagement with other people’s positions.
- Connect local elements of popular culture to global economic and political systems.
- Explain and justify an evaluation of the role of popular culture in the student’s life.

IS 205 Advanced Career Seminar (3)
This course is designed to serve the needs of the adult learner and worker with life and/or work experience. Topics such as career assessment and planning, career transition, work alternatives and personal marketing will be covered. The course will be taught using a combination of seminar style group meetings and independent studies. (3 hrs. lect.)
Prerequisite: Placement into ENG 100.
The student learning outcomes are:

- Describe the career development process for adults and returning students, concerns of dislocated workers, current labor market trends affecting career transition, and issues related to economic self-sufficiency.
- Identify cultural influences, personal values, relevance of life stages, and financial factors influencing career needs of adults in transition.
- Apply information related to concerns and needs of adults in transition by exploring their interests, skills, values, personality traits, and in participating in relevant service learning activities.
- Illustrate how their career exploration is part of an on-going and life-long process
- Evaluate the effectiveness of their career decision making process by keep a journal and responding to evaluations of the instructor.

IS 260B Polynesian Voyaging and Stewardship (3)
This course focuses on the fundamentals of voyaging and the impact of human activity on the environment of Hawai'i, with emphasis on Ka‘ne‘ohe Bay and the Windward coast. An interdisciplinary approach is used in blending the traditions of Polynesian culture, history and skills with modern science and technology. Topics covered include Hawaiian studies, astronomy, geology, oceanography, meteorology, marine biology, ethnobotany and archaeology of Polynesia and Hawai‘i. (3 hrs. lect.)
Prerequisite: Credit for IS 160A or IS 160B (Polynesian Voyaging & Seamanship) or consent of instructor. WCC: DH
The student learning outcomes are:

- Identify the remaining two of the four recognized star lines used for navigation
- Contrast and compare wayfinding, celestial navigation and GPS.
- Discuss and explain the lunar phases and the causes and effects of tides
- Explain and apply the physics of sailing, as related to Bernoulli’s principle and Newtonian physics.
- Discuss the settlement of Hawai‘i with emphasis on the Kane‘ohe Bay area, including place names and voyaging chiefs.
- Apply the basic concepts in oceanography and meteorology, especially of the Pacific area.
- Apply basic sailing and navigational skills to prepare and carry out a sail plan.
IS 260L  Polynesian Voyaging and Stewardship Lab (1)
Laboratory/field trip course designed to apply knowledge of Polynesian skills and modern science to the impact on the environment due to human settlement, especially in Hawai‘i. Laboratory activities will further develop student skills in sailing, sail planning and navigation. Students are expected to undertake mentorship roles in disseminating their newly acquired knowledge and skills to the community. Optional coastal and/or inter-island voyaging field trips may be offered. (Students will be responsible for fees for each activity.) (3 hrs. lab.)
Prerequisites: 1. Credit for IS 160L or consent of instructor. 2. Minimum water skills and survival requirements: Students must demonstrate an ability to swim a minimum of 500 yards in the open ocean using any strokes, except back stroke; ability to tread water for 30 minutes in the open ocean. (Note. Accredited water skill and survival tests passed within the past year are acceptable upon instructor approval. The ‘swim test’ must be completed by the date of the first sailing lab.)
Health clearance: from a licensed physician must be provided. (Note. Health clearance submitted within the past year is acceptable upon instructor approval. Health clearance must be submitted by the date of the first sailing lab.)
Co-requisite: IS 260B.
WCC: DY

The student learning outcomes are:
- Respond to navigational and environmental problems using knowledge of constellations, wayfinding geology, oceanography, weather forecasting, and ecology.
- Apply basic sailing and navigational skills to prepare and carry out a sailing plan
- Plan and prepare a balanced diet for voyaging.
- Strengthen swimming skills and water safety skills.
- Mentor others in the basics of Polynesian sailing and environmental stewardship.

Japanese (JPNS)

JPNS 101  Elementary Japanese I (4)
Covers rules of grammar, vocabulary sufficient to maintain conversation and understanding at an elementary level. Provides for recognition and writing of kana. (5 hrs. lect./lab.)
The student learning outcomes are:
- Understand learned phrases and sentences in various social and academic contexts.
- Read and understand learned materials written in hiragana, katakana and approximately 50 kanji with references.
- Write short phrases and sentences using the three learned writing systems with one reference. Compose short notes and memos.

JPNS 102  Elementary Japanese II (4)
Continuation of JPNS 101. (5 hrs. lect./lab.)
Prerequisite: Credit for JPNS 101 or consent of instructor.
The student learning outcomes are:
- Understand sentences in combinations of learned and new vocabulary and grammatical structures in various contexts.
- Perform basic communication and exchanges in the context of learned material.
- Read material in hiragana, katakana and learned kanji, such as menus, short memos and messages and postcards. Have a functional command of approximately 125 essential kanji.
- Write sentences and paragraphs integrating new and learned material and structures, with master of hiragana, katakana, and a good grasp of kanji.

JPNS 201  Intermediate Japanese I (4)
Continuation of JPNS 102. Emphasis on increasing proficiency in reading, speaking and writing. (5 hrs. lect./lab.)
Prerequisite: Credit for JPNS 102 or consent of instructor.
The student learning outcomes are:
- Understand written material previously learned and new vocabulary and kanji in the context of various experiences.
- Understand and write paragraphs on topics grounded in personal experience or from learned material.
- Handle basic communicative tasks and social situations within given contexts.
- Read with increasing understanding longer material based on learned contexts. Material is written in the three writing systems with approximately 225 kanji, including 100 new ones learned each semester.

JPNS 202  Intermediate Japanese II (4)
Continuation of JPNS 201. (5 hrs. lect./lab.)
Prerequisite: Credit JPNS 201 or consent of instructor.
The student learning outcomes are:
- Sustain understanding on topics, such as automobiles and its parts; houses and household furnishings and appliances; the body, its parts, health and medicine; education, careers and the workplace.
- Handle most communicative tasks and social situations.
- Initiate, sustain and close most communicative tasks or general conversation, in given and learned contexts.
- Read written material in the three writing systems in learned and new contexts with an additional number of kanji now totaling approximately 325.
- Write simple letters, paragraphs on personal experiences, summaries, and paraphrases of written materials.

Journalism (JOUR)

JOUR 205  News Writing (3)
An introductory course in news writing, news gathering and journalistic ethics. (3 hrs. lect.)
Prerequisite: Credit for ENG 100.
The student learning outcomes are:
- Analyze the quality of coverage in stories produced by the mass media and other students to become a more informed consumer of news.
The student learning outcomes are:

- Prerequisite: Placement in LSK 35 or consent of instructor.
- Apply basic journalistic concepts and principles to produce a range of articles (press release, short news, profile, timed deadline pieces, news story and in-depth news or feature) that meet standards for readability, accuracy, news style, and mechanics.
- Conduct background research and interviews to gather information accurately and comprehensively.
- Edit and proofread their own and others’ stories for readability, clarity, accuracy, news value, conciseness, and mechanics.

**JOUR 285V Newspaper Laboratory (1-3)**
Complete production of the student newspaper, including fact gathering, writing, layout, editing, and photography. Repeatable up to 6 credits, 6 credits applicable toward A.A. degree.
Prerequisite: Credit for ENG 100. Credit for or registration in JOUR 205 or consent of instructor.
The student learning outcomes are:

- Apply basic journalistic concepts and principles to produce a range of articles that meet standards for publication, including readability, accuracy, news style, and mechanics.
- Demonstrate a working knowledge of page design principles and software to produce pages for a tabloid publication.
- Apply knowledge of photography to take pictures using a digital camera, crop photos and adjust them using Photoshop software.
- As part of a team, produce a monthly publication that meets journalistic standards for news value, readability, accuracy, objectivity, clarity, balance, and fairness.
- Demonstrate an ability to generate story ideas, meet deadlines, gather and organize information, and follow through on assignments.

**Learning Skills (LSK)**

**LSK 35 Learning Skills for College Success (4)**
An integrated reading, writing, and study skills course designed to increase vocabulary, strengthen reading comprehension, and improve writing skills with an emphasis on sentence structure and patterns to ensure student success in college. (4 hrs. lect.)
Prerequisite: Placement in LSK 35 or consent of instructor.
The student learning outcomes are:

- Incorporate newly learned vocabulary in reading and writing assignments.
- Apply literal, interpretative, and critical reading skills to comprehend and analyze various types of reading materials.
- Use various study skills strategies, such as an appropriate reading-study system to understand and retain information in informative material, time management, and notetaking.
- Select and recode relevant key ideas in linear or visual form.
- Use a writing process and produce clear, concise, credible, and grammatically correct paragraphs.

**LSK 110 College Study Skills (3)**
This course assists students to deal more effectively with the rigors of the academic expectations of college. Students will carefully assess their work habits, attitudes, and learning styles and will learn specific strategies to achieve academic success. (3 hrs. lect.)
Prerequisite: Placement in ENG 201 or higher or consent of instructor.
The student learning outcomes are:

- Analyze and evaluate one's own academic strengths and weaknesses in processing information, preparing for learning, textbook and lecture note taking techniques and strategies, and test taking skills.
- Apply various study skills strategies and techniques.
- Complete the required library research units in order to write a short research paper involving strategies that include finding, evaluating, and documenting information from various sources.

**Linguistics (LING)**

**LING 102 Introduction to Language (3)**
An investigation of the nature and function of language, its sounds, structures and semantics, oral and written expression, acquisition and change. General linguistic principles applicable to all languages will be covered. We will learn ways of talking about language that will enable us to discuss language and understand what linguists do and say. (3 hrs. lect.)
Prerequisite: Credit for ENG 22 or higher or consent of instructor.
WCC: DH
The student learning outcomes are:

- Examine and appreciate humanity’s supreme achievement—human language—and its repercussions.
- Articulate an appreciation of human languages and how they work.
- Articulate the diversity of communication systems in daily lives.
- Examine and assess one’s own language beliefs, capabilities, and learning.

**Management (MGT)**

**MGT 120 Principles of Management (3)**
This course is a practical introduction to and study of management principles and practices. The student will learn the elements needed to manage effectively as well as better understand the decision making process in business. (3 hrs. lect.)
The student learning outcomes are:

- Understand and be able to apply the basic functions of management (i.e. planning, organizing, staffing, leading, and controlling).
- Demonstrate and understand the skills necessary to become a successful manager (i.e. technical, human relations, administrative, communications and problem-solving).
- Describe and recognize the changing nature of the supervisor’s environment including information availability, workforce demographics and managing diversity.
Mathematics (MATH)

MATH 20 - Basic Mathematics (3)
This course is designed to help students review and master the basics of mathematics. Emphasis will be placed on numeration, whole numbers, fractions, mixed numbers, and decimals. Also includes the concept of variables; ratios; proportions; solving simple equations in one variable; percents; basic geometry; solving basic applied problems; and basic operations with integers. (3hrs. lect.)
Prerequisite: Satisfactory math placement test score or consent of instructor.

The student learning outcomes are:
- Utilize precise mathematical language and symbols in written and/or oral form.
- Demonstrate proficiency in performing operations with whole numbers, fractions, mixed numbers, decimal numbers, and integers.
- Utilize fundamental properties to solve simple questions.
- Use algebraic techniques to analyze and solve basic applied problems.
- Apply concepts and principles of percents to solve basic applied problems.
- Apply concepts and principles of basic geometry to determine measurements in geometric figures.

MATH 22 Pre-Algebra Mathematics (3)
This course is designed to help students who want to strengthen computation and problem solving skills before proceeding to an elementary algebra course. Includes a brief review of arithmetic, the concept of variables, using rational numbers, solving simple equations in one variable, percent, measure, ratio and proportion, geometry formulas, square roots and word problems. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 20 or MATH 21A or equivalent, satisfactory math placement test score, or consent of instructor.

The student learning outcomes are:
- Utilize precise mathematical language and symbols in written and/or oral form.
- Demonstrate proficiency in performing operations with rational numbers, and variable expressions.
- Interpret equations/inequalities geometrically and find solutions to equations/inequalities algebraically.
- Use algebraic techniques to analyze and solve applied problems.
- Find slope and apply it to finding the equation of a line.
- Utilize introductory function concepts.
- Demonstrate familiarity in the use of the rules of exponents and its applications.

MATH 24 Elementary Algebra I (3)
This course represents approximately half of a typical year algebra course. Topics include real numbers and their properties, linear equations and inequalities in one variable, the coordinate plane, linear systems in two variables, and exponents. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 22 or MATH 21B or equivalent, satisfactory placement test score, or consent of instructor.

The student learning outcomes are:
- Utilize precise mathematical language and symbols in written and/or oral form.
- Demonstrate proficiency in performing operations with rational numbers, and variable expressions.
- Interpret equations/inequalities geometrically and find solutions to equations/inequalities algebraically.
- Use algebraic techniques to analyze and solve applied problems.
- Find slope and apply it to finding the equation of a line.
- Utilize introductory function concepts.
- Demonstrate familiarity in the use of the rules of exponents and its applications.

MATH 25 Elementary Algebra II (3)
This course is a continuation of MATH 24 Elementary Algebra I representing approximately the second half of a typical first year course in algebra. Topics include exponents, polynomials, factoring, rational expressions and equations, radical expressions and equations and quadratic equations. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 24 or equivalent, satisfactory math placement test score, or consent of instructor.

The student learning outcomes are:
- Utilize precise mathematical language and symbols in written and/or oral form.
- Demonstrate proficiency in performing operations with real numbers and variable expressions.
- Interpret quadratic equations geometrically and identify key characteristics.
- Employ algebraic techniques to find the solution for equations.
- Use algebraic techniques to analyze and solve applied problems.
- Demonstrate proficiency in the use of the rules of exponents and its applications.
- Employ algebraic techniques to factor a polynomial.
- Graph a linear equation in two variables, find slope and apply it to finding the equation of a line.

MATH 100 Survey of Mathematics (3)
An introduction to quantitative and logical reasoning for the nonscience/nonmathematics major. The question, “What is mathematics?” is explored, while focusing on mathematical systems or models, cultivating an appreciation for mathematics as an aesthetic art, and developing skills in problem-solving and analysis. (3 hrs. lect.)
Course Descriptions

**Math 101 Mathematics for Veterinary Assistants (1)**
This course is designed for students that enroll in the Veterinary Assistant Certificate program. Topics include the application of mathematical skills to solve applied problems for veterinary assistants with emphasis on dosage, concentration, dilution and drip rates. Also included is mathematical and laboratory terminology. **Prerequisite:** Grade of “C” or better in MATH 25 or equivalent, satisfactory math placement test score, or consent of instructor. **WCC: VACA**
The student learning outcomes are:
- Define terminology and abbreviations used in measurements and convert from one measurement to another with accuracy on the fly
- Understand oral and written requests to calculate dosages accurately and quickly
- Use mathematical formulas to calculate stock solutions to a desired concentration with accuracy
- Demonstrate proficiency in calculating infusion rates for fluid replacement therapy and for surgery
- Identify parts of a basic graph to understand medical charts
- Identify basic statistical terms to make informed decisions from numerical data and information
- Demonstrate proficiency in performing operations with fractions, decimals, percentages, ratios and proportions without the use of a calculator.

**Math 103 College Algebra (4)**
Linear equations, inequalities, systems of equations, polynomials, functions, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions; rational, exponential and logarithmic functions. (4 hrs. lect.) **Prerequisite:** Grade of “C” or better in MATH 25 or equivalent, satisfactory math placement test score, or consent of instructor. **WCC: FS**
The student learning outcomes are:
- Demonstrate proficiency in writing math expressions into different forms.
- Employ algebraic techniques to find the solutions to equations and/or inequalities, using complex numbers where appropriate.
- Use algebraic techniques to analyze and solve applied problems.
- Interpret equations geometrically and use geometrical information to obtain the equation of lines and circles.
- Utilize introductory function concepts and draw the graphs of selected functions.
- Utilize the definition of a logarithm and the properties of logarithms to simplify logarithmic expressions or to solve logarithmic and exponential equations.
- Demonstrate proficiency in solving systems of linear and second degree equations and inequalities.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

**MATH 111 Mathematics for Elementary Teachers I (3)**
Math 111 is the first of a two-course sequence designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics include number (natural numbers, integers, fractions, and real numbers) and operations, sets, patterns, functions and algebra. Emphasis will be on communication, connections and problem solving, representations, and reasoning and proof. (3 hrs. lab.) **Prerequisite:** Grade of “C” or better in MATH 25 or placement into MATH 100 or equivalent, and grade of “C” or better in ENG 22 or placement in ENG 100. **WCC: FS (up to and including Spring 2008)**
The student learning outcomes are:
- Explain and utilize numbers, ways of representing numbers, relationships among numbers, and number systems.
- Explain the meaning of operations and how they relate to each other.
- Describe various types of patterns and functional relationships.
- Utilize symbolic forms to represent, model, and analyze mathematical situations to solve problems.
- Communicate mathematical ideas verbally, in writing, and through mathematical representations to various audiences.

**MATH 112 Mathematics for Elementary Teachers II (3)**
Math 112 is the second of a two-course sequence designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics include the representation of and operations on the natural numbers, integers, rational numbers and real numbers, and properties of those operations. Emphasis will be on communication, connections and problem solving, representations, and reasoning. (3 hrs. lect.) **Prerequisite:** Grade of “C” or better in MATH 111. **WCC: FS**
Course Descriptions

The student learning outcomes are:

- Communicate about arithmetic operations using set theory and counting in written and/or oral form.
- Explain the relationship between addition and subtraction; and between multiplication and division.
- Represent operations of addition and multiplication using translations along a line and composition of translations.
- Interpret new functions created by magnification and reflection.
- Discuss primes and their relationship to composite numbers.
- Interpret a rational number as a ratio when connected to probabilities, or as a rate such as speed and averages.
- Use dimensional analysis to help solve a problem.
- Define an irrational number and explain the significance of specific irrational numbers such as pi.

**MATH 115 Statistics (3)**
An introduction to topics in statistics, with a brief look at elementary probability. This is a valuable course for business, natural science, social science, health science and computer science majors. (3 hrs. lect.)

**Prerequisite:** Grade of “C” or better in MATH 25 or equivalent, satisfactory math placement test score, or consent of instructor.

**WCC: FS** (up to and including Spring 2009)

The student learning outcomes are:

- Demonstrate proficiency in graphing, statistical data, calculating measures of central tendency, measures of variation, percentiles, correlation coefficients, and regression line.
- Interpret statistical information provided in graphs, in summary measures (central tendency, dispersion, percentile), and in the correlation coefficient.
- Solve probability problems involving compound events, independent events, mutually exclusive events, and conditional probability.
- Calculate and interpret probabilities for normal or binomial distributions, including the use of the Central Limit Theorem.
- Demonstrate the use of inferential statistics.
- Utilize appropriate statistical terminology and mathematical symbols to effectively communicate mathematics in written and/or oral form.

**MATH 135 PreCalculus: Elementary Functions (3)**
An analysis of elementary functions. A study of polynomial, rational, exponential and logarithmic functions. Topics also include graphing techniques, transformations, applications and related topics. Emphasis is placed on topics which will prove useful to students planning to take calculus and also to those who are interested in pursuing math-related careers. (3 hrs. lect.)

**Prerequisite:** Grade of “C” or better in MATH 103 or equivalent, satisfactory math placement test score, or consent of instructor.

**WCC: FS**

The student learning outcomes are:

- Demonstrate proficiency in writing math expressions into different forms and finding the solutions to an equation and inequality using complex numbers where appropriate, by applying formal rules or algorithms.
- Use appropriate symbolic techniques (such as algebraic techniques) to analyze and solve applied problems, and in the critical evaluation of evidence.
- Interpret equations geometrically and use geometrical information to obtain the equation of lines and circles.
- Utilize function concepts.
- Draw the graphs of functions utilizing behavior information and/or transformations.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form and in the presentation of evidence.
- Traverse the bridge from theory to practice by using theorems related to polynomial functions and demonstrate proficiency in working with polynomial functions.
- Apply concepts and properties of the logarithm functions.
- Understand the concept of proof as a chain of inferences by doing some proofs.

**MATH 140 Pre-Calculus: Trigonometry and Analytic Geometry (3)**
Study of the elements of trigonometry and analytic geometry including trigonometric functions and their inverses, relations, graphs, and applications; conic sections; vector applications; cartesian and polar coordinate systems; parametric equations and applications; and related topics. (3 hrs. lect.)

**Prerequisite:** Grade of “C” or better in MATH 135 or equivalent, satisfactory math placement test score, or consent of instructor.

**WCC: FS**

The student learning outcomes are:

- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form and in the presentation of evidence.
- Traverse the bridge from theory to practice by applying concepts and properties of trigonometry, vectors, and complex numbers to solve problems.
- Analyze and graph trigonometric functions, inverse trigonometric functions, conics, polar equations, and parametric equations.
- Apply formal rules or algorithms by demonstrating proficiency in performing operations with trigonometric expressions and equations.
- Use appropriate symbolic techniques to analyze and solve application problems requiring the use of trigonometry and analytical geometry and in the critical evaluation of evidence.
- Understand the concept of proof as a chain of inferences by demonstrating proficiency at proving trigonometric identities and other types of proofs.
Course Descriptions

MATH 203  Calculus for Business and the Social Sciences (3)
Basic mathematical concepts, topics in differentiation and introductory integration of algebraic, exponential and logarithmic functions. Related applications to management, finance, economics and social science will be considered. (Usually offered fall semester only.) (3 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 135 or equivalent, satisfactory math placement test score or consent of instructor.
WCC: FS
The student learning outcomes are:
• Understand and use the intuitive definition of limits and apply them in limit calculations and in determining continuity.
• Demonstrate proficiency in determining derivatives and apply different interpretations of the derivative.
• Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.
• Use calculus techniques to analyze and solve applied problems.
• Use derivatives to analyze graphs and sketch graphs.
• Demonstrate proficiency in determining antiderivatives and integrals.
• Utilize integration in applied problems.
• Utilize techniques of differentiation with functions of several variables.

MATH 205  Calculus I (4)
Basic mathematical concepts, topics in differentiation, and introductory integration of algebraic and trigonometric functions. Applications of differentiation and integration will be demonstrated. (4 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 140 or equivalent, satisfactory math placement test score, or consent of instructor.
WCC: FS
The student learning outcomes are:
• Understand and use the formal and intuitive definitions of limits and apply them in limit calculations and in determining continuity.
• Demonstrate proficiency in determining derivatives and apply different interpretations of the derivative.
• Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.
• Use calculus techniques to analyze and solve applied problems.
• Use derivatives to analyze graphs and sketch graphs.
• Demonstrate proficiency in determining antiderivatives and integrals.
• Utilize integration in applied problems.
• Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

MATH 206  Calculus II (4)
Differentiation and integration concepts of trigonometric, exponential, logarithmic and hyperbolic functions. Integration implements, infinite series, and applications of derivatives and integrals are also featured. (Usually offered spring semester only.) (4 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 205 or equivalent or consent of instructor.
The student learning outcomes are:
• Apply limits, derivatives, and integrals to inverse functions, logarithmic, exponential, hyperbolic, and inverse trigonometric functions.
• Utilize various techniques of integration.
• Determine whether a sequence or series converges.
• Use concepts from the course to solve problems.
• Solve differential equations.
• Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

MATH 206L  Calculus Computer Lab (1)
Introduction to symbolic computer software for solving calculus problems, graphic functions and experimenting with calculus concepts. No knowledge of computer required. (2 hrs. lect./lab.)
Prerequisite: Grade of “C” or better in MATH 205, or consent of instructor. Co-requisite: MATH 206.
The student learning outcomes are:
• Graph a function and solve an equation or inequality, and system of equations by using DERIVE.
• Utilize the geometric significance of the derivative by using DERIVE.
• Analyze and apply curve fitting methods by using DERIVE.
• Utilize DERIVE to solve problems and effectively communicate mathematics in written and/or oral form.

MATH 231  Calculus III (3)
Vector-oriented study of functions of several variables; partial differentiation and line integrals; multiple integrals. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in MATH 206 or equivalent or consent of instructor.
The student learning outcomes are:
• Analyze and apply principles, concepts, and properties from algebra, geometry, trigonometry, and calculus to solve problems.
• Apply concepts and calculus properties of Cartesian space coordinates and vectors.
• Apply principles and concepts from calculus to multivariable functions.
• Use various strategies from this course to solve problems.
• Utilize precise mathematical language and symbols and effectively communicate in written and/or oral form.
Meteorology (MET)

MET 101 Introduction to Meteorology (3)
Introduction to Meteorology (MET 101) studies basic atmospheric physics, Sun-Earth-atmosphere-ocean-human interrelationships, major weather systems and forecasting, with special emphasis on Hawai‘i. For both science and non-science majors and prospective science teachers. (3 hrs. lect.)
WCC: DP
The student learning outcomes are:
• Describe the components, processes and resulting weather patterns in the atmosphere.
• Interpret the components of weather maps, and forecast weather.
• Apply the scientific method and theories and concepts of meteorology (atmospheric physics) to explain major weather systems.
• Explain critically the relationship between humans and the atmospheric environment.

MET 101L Introduction to Meteorology Lab (1)
Introduction to Meteorology Lab (MET 101L) is an introductory lab intended for non science majors and prospective science teachers. This lab includes exercises with meteorological data and measurement systems. Characteristics of Hawaiian winds, temperatures, and rainfall will be covered. (3 hrs. lab.)
Prerequisite: Credit for or registration in MET 101.
WCC: DY
The student learning outcomes are:
• Apply the scientific method to study Earth’s atmosphere: Define a problem for a study, gather and record data, analyze the data, arrive at appropriate conclusions, and report the findings in written or other appropriate form.
• Use various meteorological data, such as satellite imagery, radar imagery, Stuve diagrams and surface pressure maps, to analyze the atmosphere and forecast weather.
• Use the metric system, scientific notation, graphs, and meteorological and basic statistical measurements.
• Write a lab report using the standard scientific format.

Microbiology (MICR)

MICR 130 General Microbiology (3)
Fundamentals of microbiology, growth, development, and classification of bacteria, viruses, protozoa, fungi and algae; roles of microorganisms in the environment and human affairs: medical microbiology, immunology, and applied microbiology for food sanitation and public health. (3 hrs. lect.)
WCC: DB
The student learning outcomes are:
• Describe the main morphological characteristics, growth, reproduction and classification of algae, bacteria, fungi, protozoa, viruses and helminthes.
• Discuss etiologies, reservoirs of infection, modes of transmission, signs, symptoms, and treatments and/or methods of prevention of common infectious diseases of humans.
• Describe the basic principles of molecular genetics as they relate to cell division, mutation, genetic engineering, protein synthesis, bacterial virulence, and antibiotic resistance.
• Describe pathogenicity, immunity and allergies.

MICR 140 General Microbiology Laboratory (2)
Laboratory course illustrating fundamental techniques and concepts of microbiology, such as microscopy, aseptic culture methods, microorganism classification and identification, environmental factors influencing microorganisms, biochemistry of microorganisms, ecological microbiology, and medical microbiology. This course is designed to complement MICR 130. Primarily for students in nursing, dental hygiene and nutrition. Science laboratory course. (4 hrs. lab.)
Prerequisite: Credit for or concurrent registration in MICR 130; placement into MATH 24.
WCC: DY
The student learning outcomes are:
• Operate equipment used in microbiology laboratory.
• Prepare growth media.
• Perform aseptic transfer.
• Identify microorganisms using morphological and physiological tests.
• Follow biosafety procedures.
• Produce lab reports using the standard scientific format.

Military Science (MSCI)

MSCI 105 Introduction to Military Science I (2)
Introduction to the Army ROTC program providing instruction in military-related subjects of general student interest. Topics covered include the organization and role of the Army, customs, and courtesies of the Army, the Army writing style, and an introduction to military briefings. Basic skills including map reading, orienteering, rifle marksmanship, first aid, and tactics are also emphasized. (2 hrs. lect.)

MSCI 105L Introduction to Military Science I (1)
Practical application of classroom instruction. Activities emphasized include drill and ceremony, first aid, rifle marksmanship, physical fitness, and small unit tactics. (2 hrs. lab.)

MSCI 106 Introduction to Military Science II (2)
Continuation of MSCI 105. Topics covered previously are explored in more detail. In addition, instruction is given in military leadership, professional ethics, developing a physical fitness program, and the role of officers in the Army. Students have the opportunity to participate in adventure training activities including rappelling, helicopter operations, water operations, water survival, construction of one-rope bridges, and field training exercises. (2 hrs. lect.)
Course Descriptions

MSCI 106L  Introduction to Military Science II (1)
Practical application of classroom instruction. Activities emphasized include drill and ceremony, first aid, rifle marksmanship, physical fitness, and small unit tactics. (2 hrs. lab.)

MSCI 205  Intermediate Military Science I (3)
Instruction which emphasizes the basic concepts of military leadership to include the military decision making process and the types and styles of leadership. Basic skills including map reading, first aid, and rifle marksmanship are further developed. Students are given the opportunity to experience a variety of leadership positions within the ROTC battalion and are encouraged to participate in field training exercises and other extracurricular activities. (2 hrs. lect.; 2 hrs. lab.)

MSCI 206  Intermediate Military Science II (3)
Continuation of MSCI 206. Topics introduced include military operations orders, wilderness survival skills, individual and squad level tactics, and the key jobs and responsibilities of Army officers. Further expertise in basic skills is developed. Students are encouraged to improve their physical conditioning, to seek a leadership position in the ROTC battalion, and to participate in field exercises and other extracurricular activities. (2 hrs. lect.; 2 hrs. lab.)

Music (MUS)

MUS 101  Music Sightreading (1)
Individualized computer-assisted instruction/practice in rhythmic sight reading, pitch notation, and ear training. Student will complete ten quizzes for each of the eight modules at either beginning or advanced level. Students taking Music 114, 121B, 122B, 121-122C, or 221-222C are encouraged to also register for MUS 101. Students progress through four levels (8 modules, 10 quizzes for each module) successively with the MusicLab Melody system. May be repeated for a total of 4 credits, 4 credits applicable toward A.A. degree. (2 hrs. lect./studio)
WCC: DA
The student learning outcomes are:
• Identify pitches played within an octave.
• Identify notated pitches and match pitch names with sounded pitches.
• Accurately repeat rhythms as played.
• Play and sing from sight notated rhythms and melodic phrases.

MUS 106  Music Appreciation (3)
Elements, styles, and forms of music, from the listener's standpoint. Focus on classical music literature. Concert attendance and written critique required for two live performances during semester. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Identify masterpieces of classical music repertoire.
• Distinguish the essential compositional characteristics of the several stylistic periods in music/art history and representative composers from each period, which help place unfamiliar repertoire into familiar periods.
• Contrast/compare music of any type (i.e., classical, popular, ethnic, seasonal) for texture, form, melodic contour, harmonic orientation and time of composition.
• Compare/contrast the live performances seen during the semester.
• Define the elements that make up classical performance tradition and etiquette.

MUS 107  Music in World Cultures (3)
Music as organized sound and as a cultural object. Role of music in various societies: ancient and modern, sophisticated and non-sophisticated, child and adult, Western and non-Western. Representative styles and regional characteristics viewed in terms of musical characteristics and related cultural factors; a conceptual introduction to music and culture. Attendance at one ethnic performance is required. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Describe the role of music in different cultures.
• Describe the distinctive aural features and music aesthetics of a music culture.
• Describe the historical, religious, social, and political aspects of a society that contribute to the development of a music culture.
• Affirm the validity of other music traditions.
• Contrast/compare one’s own music within the broader context of other music traditions.

MUS 108  Fundamentals of Western Music (3)
A music theory course. Emphasis on learning basic concepts involved in reading and writing music. Application of concepts in learning simple skills necessary for playing three musical instruments. Student will complete one level of TAP (MUS 101) and may take MUS 101 for credit. (3 hrs. lect.)
WCC: DA
The student learning outcomes are:
• Identify and write the basic components of Western music notation.
• Apply basic theoretical components of Western music notation to written examples of music.
• Notate and read basic melodic and rhythmic patterns in both simple and compound meters.
• Use the components of music in both the performance and creation of music.
• Compose and harmonize two melodies of at least 32 measures.

MUS 114  College Chorus (1)
Rehearsal and performance of classical, popular, and Polynesian/ethnic choral literature. Elementary Polynesian dance may be included as part of performance. Open to all students. No previous choral experience
required. Extra curricular concert attendance required. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). May be repeated any number of times; up to 7 credits applicable toward A.A. degree. (3 hrs. rehearsal) any number of times.

WCC: DA

The student learning outcomes are:
- Read pitch and rhythmic notation in simple choral parts.
- Learn choral parts using basic music elements.
- Demonstrate the importance of ensemble singing in terms of musicianship and performance practice by learning all choral parts thoroughly and attending all rehearsals and performances.
- Experience the transformative nature of choral performance in the human experience.

MUS 121B  Voice 1 (2)
Performance class designed for students with little or no vocal experience. Deals with vocal production and literature for voice. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). May be repeated up to 4 credits; 2 credits applicable toward A.A. degree. (3 hrs. lect./studio)

WCC: DA

The student learning outcomes are:
- Demonstrate basic vocal techniques of physical alignment, breath support, breath control, and tone production in performances of several songs.
- Apply basic concepts of rhythm and pitch accuracy in performances.
- Employ basic concepts of sight reading in learning music for performance.
- Perform in class and the semester recital with some confidence.

MUS 121C  Piano 1 (2)
Basic principles of performance. Relevant problems in piano literature at elementary level. MUS 121C, 122C must be taken in sequence. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). May be repeated up to 6 credits; 2 credits applicable toward A.A. degree. (3 hrs. lect./studio)

WCC: DA

The student learning outcomes are:
- Identify and write the basic concepts of music notation.
- Demonstrate knowledge of basic concepts in accurate performances.
- Demonstrate knowledge of the history of classical guitar development.
- Perform with growing confidence in class performances.

MUS 121D  Beginning Classical Guitar (1)
Basic principles of classical guitar performance; relevant problems in literature. Repeatable up to 2 credits, 2 credits applicable toward A.A. degree. (4 hrs. studio–8 wk. term)

WCC: DA

The student learning outcomes are:
- Discuss the origin and development of vocal music.
- Demonstrate intermediate level vocal techniques of diction, tone production, and breath control in performance situations.
- Sight read and learn music at an intermediate level.
- Perform with greater confidence in public performances.

MUS 121F  Beginning Slack Key Guitar (1)
Basic principles of performance; relevant problems in literature. Student learns to play two G tunings. This course is intended for students with little or no background in this style of guitar playing. Ability to read music is not required. (4 hrs. studio–8 wk. term)

WCC: DA

The student learning outcomes are:
- Demonstrate knowledge of the history of slack key guitar development.
- Apply knowledge of basic concepts in accurate performances.
- Use knowledge of slack key techniques and music concepts (music theory) to complete in-class recitals.
- Perform with growing confidence in class performances.

MUS 121Z  Beginning Ukulele (1)
Basic principles of performance; relevant problems in literature. Introductory course in ukulele. Focus on principles of performance. Course is intended for students with little or no experience in playing the ukulele. (1 hr. lect., 4 hrs. studio–8 wk. term)

WCC: DA

The student learning outcomes are:
- Demonstrate knowledge of the history of 'ukulele development.
- Apply knowledge of basic concepts in accurate performances.
- Strum chords for three (3) Hawaiian songs (in different keys) that demonstrate an understanding of major scale (music theory) applications.
- Perform with growing confidence in class performances.

MUS 122B  Voice 2 (2)
Performance class designed for students with previous vocal experience or training. Deals with vocal production and literature for voice. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). May be repeated up to 4 credits; 2 credits applicable toward A.A. degree. (3 hrs. lect./studio)

Prerequisite: Credit for MUS 121B or consent of instructor.

WCC: DA

The student learning outcomes are:
- Identify and write the basic concepts of music notation.
- Demonstrate knowledge of basic concepts in accurate performances.
- Perform with growing confidence in class performances.
**Course Descriptions**

**MUS 122C  Piano 2 (2)**
Designed for further study of principles and basic skills of piano performance established in first semester piano. Continues the group participation chord approach with greater emphasis on ensemble playing and improvisation. MUS 121C and 122C must be taken in sequence. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). (3 hrs. lect./studio)

**Prerequisite:** Credit for MUS 121C.

WCC: DA

The student learning outcomes are:
- Incorporate additional theoretical concepts in the performance of piano music.
- Display intermediate level concepts in performances.
- Sight read music with increasing accuracy and musicianship.
- Exhibit greater confidence in performing level-two repertoire.

**MUS 122D  Intermediate Classical Guitar (1)**
Continuation of MUS 121D. Increased emphasis on guitar literature. Recommended that students register for MUS 101 concurrently. (4 hrs. studio/8 wk. term)

**Prerequisite:** Credit for MUS 121D or consent of instructor.

WCC: DA

The student learning outcomes are:
- Incorporate additional theoretical concepts in the performance of classical guitar music.
- Demonstrate knowledge of intermediate level concept in performances.
- Sight read music with increasing accuracy and musicianship.
- Exhibit greater confidence in performing level-two repertoire.

**MUS 122F  Intermediate Slack Key Guitar I (1)**
Intermediate slack key guitar: level I. Student learns to play solos in C tunings and intermediate solos at level I in tunings learned in the elementary class. (4 hrs. studio–8 wk. term)

**Prerequisite:** Credit for MUS 121F or consent of instructor.

WCC: DA

The student learning outcomes are:
- Incorporate additional theoretical concepts in the performance of slack key music.
- Demonstrate knowledge of intermediate level concepts on performances.
- Sight read tablature notation with increasing accuracy and musicianship.
- Exhibit greater confidence in performing level-two repertoire.

**MUS 130F  Slack Key Guitar Ensemble (1)**
Continuation of Music 122F. Increased emphasis on slack key literature, techniques, and tunings. Advanced intermediate techniques of slack key guitar as applied to ensemble playing. (4 hrs. studio–8 wk. term)

**Prerequisite:** Credit for MUS 122F.

WCC: DA

The student learning outcomes are:
- Identify and define the basic concepts, terminology and distinguishing features of Western European and Hawaiian music.
- Identify (a) the distinguishing features of indigenous Hawaiian music, (b) the musical instruments indigenous to Hawai‘i, (c) acculturated Hawaiian music, and (d) acculturated musical instruments.
- Explain or discuss the functions of music in pre-contact Hawaiian society and in contemporary Hawai‘i.
- Discuss the interplay of Hawaiian music and Hawaiian dance performance.
- Identify and discuss important events and personalities in the evolution of Hawaiian music.
- Discuss the composition, recording, production, and commercialization of Hawaiian music.

**MUS 166  Popular Music in America (3)**
A survey of Pop Music (including Blues, Jazz, Rock and Folk), in the United States in the twentieth century. Activities will include listening to recordings, writing lyrics and tunes and learning various aspects of the business of music. Field trips and concert attendance required. (3 hrs. lect.)

WCC: DH

The student learning outcomes are:
- Describe the role of music in different communities.
- Describe and compare the distinctive aural features and music aesthetics of the various style of popular music.
- Describe the historical, religious, social and political aspects of society that contribute to the development of diverse musical styles.
- Compare/contrast different styles of popular music.

**MUS 177  Introduction to Hawaiian Music (3)**
A survey of Hawaiian music from Polynesian origins and pre-contact traditional forms to acculturated and contemporary forms and expressions including vocal, instrumental and dance music in their social, cultural and religious contexts. (3 hrs. lect.)

The student learning outcomes are:
- Analyze repertoire for articulation, phrasing and fingering difficulties.
- Incorporate intermediate level theoretical and technical concepts in the performance of chosen repertoire.
- Sight read tablature notation with greater accuracy and musicianship.
- Exhibit confidence in performing intermediate-level repertoire.

**MUS 221C  Piano 3 (2)**
Continuation of MUS 122C. Increased emphasis on piano literature up to the intermediate level. MUS 221 and MUS 222C must be taken in sequence. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). May be repeated up to 6 credits; 2 credits applicable toward A.A. degree. (Offered fall semester only) (3 hrs. lect./studio)
Prerequisite: Credit for MUS 122C or consent of instructor.

The student learning outcomes are:
- Analyze repertoire for articulation, phrasing and fingering difficulties.
- Incorporate intermediate level theoretical and technical concepts in the performance of chosen repertoire.
- Sight read music with greater accuracy and musicianship.
- Exhibit confidence in performing intermediate-level repertoire.

MUS 222C  Piano 4 (2)
Continuation of MUS 221C. Increased emphasis on piano technique and literature up to the intermediate level. Introduction to accompanying. MUS 221C and MUS 222C must be taken in sequence. Student will complete one level of MusicLab Melody (8 modules of 10 quizzes each). (Offered every spring semester) (3 hrs. lect./studio)

Prerequisite: MUS 221C

WCC: DA

The student learning outcomes are:
- Analyze and discuss the form, articulation, harmonic rhythm, and phrasing of performance repertoire.
- Provide logical fingering for repertoire pieces when needed.
- Apply advanced theoretical and technical concepts to performance of chosen repertoire.
- Perform with poise and confidence in front of an audience.

MUS 240  Introduction to Digital Music Production (3)
Introduction to digital music and sound production on the Macintosh platform: music notation, MIDI sequencing, audio recording, editing, mixing and mastering; preparing audio files for CD, video and web applications; sound synthesis and programming using virtual instruments. (3 hrs. lect.)

Prerequisite: MUS 108, 121 (alpha) or 253; or consent of instructor.

WCC: DA

The student learning outcomes are:
- Use MIDI sequencing and audio recording software, and/or notation software, as tools for music composition, arranging and performance.
- Apply basic skills in MIDI sequencing and editing, and digital audio recording and editing to audio mixing and mastering projects.
- Prepare audio files for CD burning, and video and web applications.
- Apply understanding of sound synthesis to create original sounds for music projects.
- Transfer skills to other MIDI sequencing and digital audio software programs across PC and Mac platforms.

MUS 241 Digital Music Production II (3)
Continuation of principles and skills introduced in MUS 240. Digital music composition and audio production on the Macintosh platform with emphasis on advanced MIDI and mixing techniques, audio editing, sound synthesis, and programming of virtual instruments and effects. (3 hrs. lect.)

Prerequisite: MUS 240 or consent of instructor.

The student learning outcomes are:
- Advanced use of MIDI sequencing and audio recording software, or notation software, as tools for music composition, arranging and performance.
- Apply advanced skills in MIDI sequencing and editing, and digital audio editing to music composition projects.
- Effectively mix, bounce and prepare audio files for appropriate media and applications.
- Create and edit original sounds and effects for music projects.
- Transfer skills to other MIDI sequencing and digital audio software programs across PC and Mac platforms.

MUS 253  Elementary Music In Action (3)
Deals with musical concepts, philosophy & pedagogy; the use of media, singing, movement, and instruments; and resources for an active elementary classroom. Presents correlation between music and brain development in early childhood. Intended for Education majors. Music is a vital stimulus to the developmental process and contributes to the emergence of positive self-esteem. Elementary education candidates learn to apply appropriate strategies in order to provide music making as part of everyday classroom activities. (3 hrs. lect.)

WCC:DA

Natural Resources and Environmental Management (NREM)

NREM 250  GIS Application in Environmental Science and Natural Resource Management (2)
An overview of geographic information system (GIS) applications in environmental science and natural resource management by examining case histories and completion of a GIS project. Students are also introduced to the basics of integrating the global position system (GPS) and remote sensing (RS) into a GIS to solve problems in environmental science and natural resource management. (4 hrs. lect./lab.)

Prerequisite: Credit for GIS 150, equivalent coursework, working knowledge of GIS, or consent of the instructor. Recommended Preparation: BIOL 124, GEOG 101, or similar environmental science coursework.

WCC:DY

The student learning outcomes are:
- Describe and analytically discuss specific case histories in the application of GIS, GPS and RS in environmental science and natural resource management.
- Use GPS technologies and remotely sensed imagery in GIS development to understand and solve environmental science and natural resource management problems.
- Develop and explain a GIS that deals with a problem in environmental science and/or natural resource management.
Course Descriptions

Oceanography (OCN)

**OCN 101 Introduction to the Marine Option Program (1)**
This course provides an overview of statewide and organizations involved with ocean and freshwater activities, including management, education, research, and business. It also provides an orientation to the Marine Option Program (MOP) and reviews the requirements of the MOP certificate. The course explores opportunities for internships, projects and careers related to water environments. The course will present guidelines on proposal writing, project implementation, data collection and interpretation, and final report preparation and presentation. The course is taught via HITS interactive television with participation of students and faculty throughout the UH system. (1 hr. lect.)

*Recommended Preparation: Grade of "C" or better in ENG 21 or higher, and MATH 24.*

The student learning outcomes are:
- Develop a curriculum/program to facilitate the completion of a Marine Option Program (MOP) Certificate at WCC and other MOP campuses.
- Describe the ocean and freshwater related activities that are being undertaken statewide and on other UH campuses.
- Find information about statewide/nationwide/international projects, organizations, and career opportunities relating to marine and freshwater systems.
- Find information about internship and scholarship opportunities relating to water environments.
- Identify an appropriate MOP project topic.
- Identify appropriate mentors and experts in the project area.
- Complete a written MOP project proposal.
- Prepare and deliver an oral presentation.

**OCN 201 Science of the Sea (3)**
An introductory course to oceanography covering the dimensions of the science of oceanography, the physical and chemical properties of sea water, waves, tides, currents, life in the ocean, and the geologic structure of the ocean floor, environmental concerns, and human use of the oceans. Field trips are scheduled concurrently with OCN 202. (3 hrs. lect.)

*WCC: DP*

The student learning outcomes are:
- Describe and understand formational processes of major physiographic features on the seafloor.
- Understand the origin and destruction of oceanic crust and basins in plate tectonics theory.
- Describe sediments on the seafloor, their biology, sedimentology, dispersal, distribution and significance as a record of paleo-oceanographic history.
- Realize the influence of physical, chemical and geological factors in life processes, and the control of these factors in the distribution of life in the global ocean.

- Appreciate the significance of hydrothermal vents for biology and in the cleansing of seawater.
- Understand the physical and chemical properties of water.
- Realize the significance of density in atmospheric and thermohaline circulation.
- Understand the role of climate and Coriolis Effect in oceanic mixing, and the significance of this to global climate.
- Understand wave types, formation, propagation, interaction, as well as ultimate effects on the coastal zone and nearshore processes.
- Comprehend the ecology, politics, legislative concerns, pollution, hazards and use of the oceans.

**OCN 201L Science of the Sea Laboratory (1)**
Experiments, computer exercises and field trips demonstrating the geological, physical, chemical and biological principles, and equipment, of earth and ocean sciences. (3 hrs. lab.)

*Prerequisites: Credit for or registration in OCN 201 or equivalent preparation or consent of instructor. Recommended Preparation: High school algebra and chemistry; ability to use a computer.*

*WCC: DY*

**OCN 260 Pacific Surf Science and Technology (3)**
Pacific Surf Science and Technology is a lecture-based course that showcases scientific and industry aspects of the surfing world for surfers and non-surfers. The course takes a scientific approach to understanding the natural processes that create and influence waves and surf conditions, while also introducing many ocean safety concepts relating to the environment and the popularity of ocean recreation. A weather and surf journal along with weekly campus field excursions dedicated to studying weather phenomena adds an essential experiential component to the course. (3 hrs. lect.)

*Recommended Preparation: Ability to access information from the Internet.*

The student learning outcomes are:
- Discuss the basic principles of meteorology, oceanography, and geology as they apply to the creation and shaping of waves and surf.
- Predict surf conditions using Internet web sites and local weather station reports.
- Compare and contrast past and present surfboard technology and production.
- Apply the principles of design, production, and retail marketing within surfing related industries.
- Assess the various multimedia applications related to surfing.
- Demonstrate water safety issues related to surfing.
- Apply the basic techniques of surfing.
- Maintain logs of weather and surf observations to use in future forecasts.

**OCN 260L O'ahu Surf Science and Technology Lab (3)**
OCN 260L is a field lab designed to run concurrently with OCN 260, Pacific Surf Science and Technology. The course presents the surfing world through laboratory and field activities, including
surfing demonstrations and instruction, learning water safety techniques, studying board design at surfboard manufacturing shops, and speaking with local industry professionals. Meteorology and surf forecasting techniques are covered through onsite weather observation activities, and physical processes involved in shaping waves as they approach a shoreline will be examined through several coastal studies. (3 hrs. lect.)

Prerequisite: Credit for or registration in OCN 260.

The student learning outcomes are:

• Distinguish between pre-historic, traditionally built he’e nalu, historic-era, and modern surfboards.
• Outline the procedures involved in surfboard production.
• Operate safely a surfboard using the basic techniques of surfing.
• Access information on and identify local weather phenomena and ocean/surf conditions around O’ahu.
• Describe at least five ocean and surf industries.
• Access the journal of surfing experiences.

Pharmacology (PHRM)

PHRM 203 General Pharmacology (3)
Covers a wide range of drugs with emphasis on sites and mechanism of action, toxicity, fate and uses of major therapeutic agents. This course is intended for students in nursing and allied health fields. (3 hrs. lect.)

Prerequisites: Grade of “C” or better in ZOOL 141 and ZOOL 142.

Recommended Preparation: College level chemistry.

The student learning outcomes are:

• Describe the basic mechanisms of drug action.
• Demonstrate knowledge of the terminology and special concepts useful in the study of pharmacology.
• Describe how differences between individuals govern their response to drugs.
• Define how drugs are processed and biotransformed by the body.
• Identify frequent complications and side effects associated with the major drug classes.
• Describe significant interactions between drugs.
• Use information from the pharmacokinetics of a specific drug to determine dosing schedules and best route of drug administration.
• State the therapeutic uses for each major drug group.

Philosophy (PHIL)

PHIL 100 Introduction to Philosophy: Survey of Problems (3)
Great philosophical issues, theories, and controversies. Course will focus on issues such as the problem of determinism, the problem of induction, the problem of distributive justice, the problem of the highest good, and the problem of the function of government. (3 hrs. lect.)

WCC: DH

The student learning outcomes are:

• Analyze contemporary issues and events using philosophical concepts and theories.
• Defend a position on a philosophical problem in philosophy.
• Identify important individuals, events, theories, and concepts in Western philosophy.
• Apply critical thinking skills (i.e. clarify concepts, raise normative questions, evaluate ideas presented in the text and handouts, and identify philosophical issues and concerns.

PHIL 101 Introduction to Philosophy: Morals and Society (3)
Social and individual values, obligations, rights, and responsibilities. Course will cover normative theories and their applications to business, medicine, ethics and sexual relations. (3 hrs. lect.)

Recommended Preparation: College level reading ability.

WCC: DH

The student learning outcomes are:

• Recognize the major views that have defined the Western debate on ethical matters to include: virtue ethics, teleological theory, and deontological theory.
• Use logical reasoning and ethical concepts to analyze contemporary ethical problems.
• Defend a position on a fundamental problem in ethics.
• Compare, contrast, and evaluate virtue ethics, teleological theory, and deontological ethics in terms of their respective views of (a) human nature, (b) the nature of goodness, (c) the good life.

PHIL 102 Introduction to Asian Philosophy: Asian Traditions (3)
Introductory course in selected schools of Asian thought. Universal issues/problems examined from Asian perspective. Focus will be on Indian, Chinese, and Japanese traditions. (3 hrs. lect.)

WCC: DH

The student learning outcomes are:

• Compare, contrast, and evaluate Indian, Chinese, Japanese, and European thought in terms of their respective views of (a) human nature, (b) the nature of goodness, (c) the good life.
• Identify and discuss contributions of schools of Asian philosophy and the influence of each on the other through a historical perspective.
• Discuss terms and concepts like “satori”, “anatta”, “jen” and evaluate their relevance (significance) for the West.
• Analyze Indian, Chinese, and Japanese thought in terms of (a) methodology, metaphysics, and ethics in order to better understand Asian concerns.

PHIL 110 Introduction to Logic (3)
A study of the foundations and development of rational thought and communication and their applications. Includes analysis of
deductive reasoning, formal and informal fallacies, and the use of symbolic systems. (3 hrs. lect.)

WCC: FS

The student learning outcomes are:
• Recognize fallacies of relevance, presumption, and ambiguity.
• Employ rules of logic in deductive analysis.
• Construct truth tables for deductive analysis.
• Use symbolic systems for deductive analysis.

PHIL 211 Ancient Philosophy (3)
The philosophical traditions of Greece and Rome between the 5th century BCE and the 5th century CE. Important works by four representative figures (two from Classical Greece and two from the Roman tradition). (3 hrs. lect.)

Recommended Preparation: Completion of ENG 100 or equivalent.

WCC: DH

The student learning outcomes are:
• Discuss terms and concepts like the “doctrine of homo mensura” and the “doctrine of ideas or forms” and evaluate their relevance (significance) for modern times.
• Identify and discuss contributions of selected philosophers and the influence of each on the other through a historical perspective.
• Trace some of the roots of present day thought through the application of concepts and points of view forwarded in this class.
• Discuss the major tenets of the “classical mind” as well as those that made up the “medieval mind” in order to characterize these periods of time in an orderly and meaningful pattern.

PHIL 213 Modern Philosophy (3)
Introduction to the history of philosophy based on texts or translations of “modern” works, that is works originally written in a modern European language. (3 hrs. lect.)

WCC: DH

The student learning outcomes are:
• Describe the nature and significance of major controversies in epistemology, ethics, metaphysics, aesthetics, and method that define the period of modernity.
• Clearly explain, synthesize, and compare the arguments put forward by the modern philosophers studied in the course.
• Carefully evaluate the positions of the philosophers studied by employing the methods of philosophical inquiry such as critical thinking, critical reading, and critical writing.
• Clearly, concisely, and convincingly articulate reasons that support personal judgments about major controversies in epistemology, metaphysics, ethics, aesthetics, and method.

Physics (PHYS)

PHYS 122 Introduction to Science: Physical (3)
Characteristics of science, historical development of scientific concepts, and interactions with society illustrated by topics from physical sciences, with emphasis in physics and chemistry. Designed for non-science majors. (3 hrs. lect.)

Prerequisite: Credit for MATH 25 or equivalent or consent of instructor.

Co-requisite: PHYS 122L.

WCC: DP

The student learning outcomes are:
• Recognize the fundamental principles and philosophy upon which the scientific method is based.
• Apply the basic concepts of physics and chemistry.
• Apply the concept of conservation laws in problem solving.
• Apply basic mathematics to problems in physics and chemistry.
• Define the common terms used in the physical sciences.
• Assess the limitations of the scientific method and apply error analysis.
• Recognize the physical science principles as applied to everyday situations.

PHYS 122L Introduction to Physical Science Lab (1)
Lab experiments illustrating topics and methods in the Physical Sciences with emphasis in Physics and Chemistry. Designed for nonscience majors. (3 hrs. lab.)

Prerequisite: Credit for or registration in PHYS 122 or consent of instructor.

WCC: DY

The student learning outcomes are:
• Apply the scientific method to a selected group of topics in physics and chemistry.
• Collect, report and analyze data obtained in a laboratory setting in a manner exhibiting organization, proper documentation and critical thinking.
• Manipulate data and apply quantitative techniques, such as graphing and statistical analysis.
• Demonstrate a basic understanding of the standard instruments used in physics and chemistry.
• Identify environmental factors, which affect the outcome of an experiment or observation and apply basic error analyses techniques.

PHYS 151 College Physics I (3)
A noncalculus one semester course for preprofessional or nonengineering majors. Study of the basic concepts of physics, including the fundamental principles and theories in mechanics, energy, and waves. (3 hrs. lect.)

Prerequisite: Credit for or registration in MATH 140 or higher, or consent of instructor.

Co-requisite: PHYS 151L.

WCC: DP
The student learning outcomes are:
- Demonstrate a general understanding of the underlying philosophy of the physics, including the scientific method.
- Apply the basic concepts of physics, including mechanics, energy, simple oscillatory systems, gas laws and fluid dynamics.
- Apply the concept of conservation laws in problem solving.
- Apply basic algebraic and graphical analysis techniques to physics problems.
- Compare and contrast macroscopic and microscopic systems in physics.
- Define quantitatively and qualitatively the common terms used in physics.
- Assess the limitations of the scientific method and apply error analysis.
- Determine when to apply physics principles to everyday situations.

**PHYS 151L  College Physics Laboratory I (1)**
Experiments in statics, mechanics, energy, waves, and friction. (3 hrs. lab.)
Prerequisite: Credit for or registration in PHYS 151.
WCC: DY

The student learning outcomes are:
- Apply the scientific method to physical science systems involving mechanics, energy, simple oscillatory systems, gas laws and fluid dynamics.
- Collect, report and analyze data obtained in a laboratory setting in a manner exhibiting organization, proper documentation and critical thinking.
- Manipulate data and apply quantitative techniques, such as graphing and statistical analysis.
- Demonstrate a basic understanding of the standard instruments used in physics.
- Identify environmental factors, which affect the outcome of an experiment or observation and apply basic error analyses techniques.

**PHYS 152  College Physics II (3)**
A noncalculus, one-semester course for pre-professional or nonengineering majors. Study of the basic concepts of physics, including the fundamental principles and theories of mechanics, magnetism, optics, and modern physics. (3 hrs. lect.)
Prerequisite: Credit for PHYS 151 or equivalent, or consent of instructor.
Co-requisite: PHYS 152L.
WCC: DP

The student learning outcomes are:
- Apply the scientific method to physical science systems involving thermodynamics, static and dynamic laws of electricity and magnetism, electrical and electronic circuit analysis, electromagnetic radiation, optical systems, and the fundamentals of atomic and nuclear physics.
- Collect, report and analyze data obtained in a laboratory setting in a manner exhibiting organization, proper documentation and critical thinking.
- Manipulate data and apply quantitative techniques, such as graphing and statistical analysis.
- Demonstrate a basic understanding of the standard instruments used in physics.
- Identify environmental factors, which affect the outcome of an experiment or observation and apply basic error analyses techniques.

**PHYS 170  General Physics I (4)**
This is the first of a rigorous, calculus-based course in physics for the professional or engineering majors. The study of the concepts of physics including the fundamental principles and theories of mechanics, energy, waves and thermodynamics. (4 hrs. lect.)
Prerequisite: Credit for MATH 205 or equivalent.
Co-requisite: PHYS 170L and credit for or registration in MATH 206 or equivalent, or consent of instructor.
WCC: DP

The student learning outcomes are:
- Demonstrate a solid conceptual understanding of kinematics, dynamics, wave phenomena, and thermodynamics.
- Solve applicable problems using differential calculus and vector analysis.
- Apply the laws of physics to computational problems in kinematics, dynamics, wave phenomena, and thermodynamics.
Course Descriptions

PHYS 170L General Physics I Laboratory (1)
This laboratory course is a rigorous, calculus-based study for professional or engineering majors. Laboratory exercises are designed to reinforce the fundamental concepts of kinematics, mechanics, energy, waves and thermodynamics. (3 hrs. lab.)

Co-requisite: Credit for or registration in PHYS 170.

WCC: DY

The student learning outcomes are:
- Demonstrate an experimental understanding of some basic physical concepts and theories.
- Demonstrate familiarity with various instruments and their use in making reliable and precise measurements.
- Calculate a result with the appropriate number of significant figures.
- Analyze data using calculation and graphical methods.
- Organize an accurate and complete laboratory notebook.

PHYS 170 General Physics I (3)
This is the first in a rigorous, calculus-based physics course for the professional or engineering major. The study of the concepts of physics including the fundamental principles and theories of electricity, magnetism, light, and wave phenomena. (3 hrs. lect.)

Co-requisite: Credit for or registration in PHYS 170L.

WCC: FY

The student learning outcomes are:
- Demonstrate an experimental understanding of some basic physical concepts and theories.
- Demonstrate familiarity with various instruments and their use in making reliable and precise measurements.
- Calculate a result with the appropriate number of significant figures.
- Organize an accurate and complete laboratory notebook.

PHYS 272 General Physics II (3)
This is the second in a rigorous, calculus-based physics course for the professional or engineering major. The study of the concepts of physics including the fundamental principles and theories of electricity, magnetism, light, and optical theory.

Prerequisite: Credit for MATH 206 or equivalent and a grade of "C" or better in PHYS 170.

Co-requisite: PHYS 272L.

WCC: DP

The student learning outcomes are:
- Demonstrate a solid conceptual understanding of electricity, magnetism, light, and optical theory.
- Solve applicable problems using calculus and vector analysis.
- Apply the laws of physics to computational problems in electricity, magnetism, and wave phenomena.

PHYS 272L General Physics II Laboratory (1)
This laboratory course is a rigorous, calculus-based study for professional or engineering majors. Laboratory exercises are designed to reinforce the fundamental concepts of electricity, magnetism, light and optical theory. (3 hrs. lab.)

Prerequisite: Credit for or registration in PHYS 272.

WCC: DY

The student learning outcomes are:
- Demonstrate experimental understanding of some basic physical concepts and theories.
- Demonstrate familiarity with various instruments and learn to make reliable measurements.
- Calculate a result with the appropriate number of significant figures.
- Analyze data using calculation and graphical methods.
- Organize an accurate and complete laboratory notebook.

POLS 110 Introduction to Political Science (3)
Introduction to politics as a human activity. Discusses theories, ideologies, systems, and processes of politics. (3 hrs. lect.)

WCC: DS

The student learning outcomes are:
- Identify and describe the structure of political issues and political relationships.
- Clearly explain and evaluate complex political thought and the positions of several thinkers in political theory.
- Examine and interpret contemporary political issues through the application of political theory.
- Relate media, technology, and language to the formation and maintenance of the political order.
- Carefully justify one’s own political position.

POLS 120 Introduction to World Politics (3)
Power economics and world politics from cross-national perspectives. Discussion of U.S. foreign policy since 1945. (3 hrs. lect.)

WCC: DS

The student learning outcomes are:
- Explain basic terms, concepts, and principles of international relations.
- Analyze political processes, institutions, and issues in the foreign policy environment.
- Apply basic terms, concepts, and principles to everyday life.
- Assess his or her personal effectiveness in the political process.

POLS 130 Introduction to American Government (3)
Focus on American politics and government on the basis of tradition and continuity. Covers: overview of constitutional development, institutions, processes, and participants of the American political system and alternative interpretations. (3 hrs. lect.)

WCC: DS

The student learning outcomes are:
- Explain basic terms, concepts, and principles of politics.
- Analyze political processes, institutions, and issues.
- Apply basic terms, concepts, and principles to everyday life.
- Assess his or her personal effectiveness in the American political process.

POLS 180 Introduction to Hawaiian Politics (3)
Introduction to the study of political institutions, processes, and issues in Hawai’i. (3 hrs. lect.)

WCC: DS

The student learning outcomes are:
- Explain basic terms, concepts, and principles of politics.
- Analyze political processes, institutions, and issues in Hawai’i.
- Apply basic terms, concepts, and principles to everyday life.
- Assess his or her personal effectiveness in the political process.
POLS 243 Introduction to Politics and Film (3)
The course introduces students to the analysis of the relationship between politics and film. Topics covered in the course will include the impact of films and the film industry on politics, the impact of politics on film, and methods for understanding the representational practices of film. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Identify and describe the narrative and compositional structure of film.
• Clearly explain and evaluate the political thoughts, assumptions and implications of several key films.
• Examine and interpret contemporary political issues in film through the application of political thought.
• Relate media, technology, and language to the formation and maintenance of the political order.
• Carefully justify one’s own political position.

Psychology (PSY)

PSY 100 Survey of Psychology (3)
An introductory course with emphasis on principles of human behavior. Topics covered include motivation, learning, perception, emotion, development, personality, states of consciousness, group processes, problem solving and thinking, and methods of inquiry. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Recognize the study of psychology as a science.
• Discuss the biological and environmental basis of human behavior.
• Integrate the basic perspectives, concepts, principles, and general information comprising the field of psychology.

PSY 170 Psychology of Adjustment (3)
Focus is on understanding, evaluating and improving adjustment. Includes study of theories, concepts and techniques concerning personal growth and behavior change. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Identify and evaluate important issues in her or his own past and present.
• Integrate the basic perspectives, concepts, principles, and general information comprising the field psychology.
• Utilize the various psychology adjustment models and concepts in understanding his or her life.

PSY 202 Psychology of Women (3)
Study of theories, concepts and issues relevant to the psychological development of women. Topics include: gender differences, personality, achievement motivation, moral development, autonomy, mental health, domestic violence. (3 hrs. lect.) (Cross-listed as WS 202)
Prerequisite: Credit for PSY 100 or consent of instructor.
WCC: DS

The student learning outcomes are:
• Articulate and illustrate an understanding that psychological gender differences are typically small.
• Identify and discuss important areas of culture where women are less visible than men.
• Demonstrate understanding that people react differently to men and women.
• Compare and contrast the wide variations among women.

PSY 224 Abnormal Psychology (3)
Concepts and principles used in clinical practice: dynamics, diagnosis, and treatment of abnormal behavior. Compares and contrasts the different patterns of abnormal behavior. Examines the differences in theoretical models for understanding maladaptive behavior. (3 hrs. lect.)
Recommended Preparation: PSY 100.
WCC: DS
The student learning outcomes are:
• Compare and contrast historical and current theories of abnormal behavior.
• Identify and describe different types of abnormal behavior and the "best practice" therapies associated with each type.
• Apply the principles of psychology to their own thoughts and feelings.
• Illustrate understanding of the role of culture, ethnicity, and socio-economic factors in defining abnormal behavior.

PSY 240 Developmental Psychology (3)
This course examines the emotional, mental, physical, and social development of individuals from infancy to adulthood with special attention to interests abilities and critical issues at successive developmental stages. (3 hrs. lect.)
Prerequisite: Credit for PSY 100 or consent of instructor.
WCC: DS
The student learning outcomes are:
• Recognize the study of psychology as a science.
• Discuss the biological and environmental basis of human behavior.
• Integrate the basic perspectives, concepts, principles, and general information comprising the field of developmental psychology.
• Utilize the various developmental psychology models and concepts in explaining human behaviors.

PSY 250 Social Psychology (3)
This course will provide students with an understanding of the relationship of social roles on human behaviors and how interpersonal relationships, attribution theories, attitudes, group behaviors, and stereotypes affect human behaviors. (3 hrs. lect.)
Prerequisite: Grade of “C” or better in PSY 100.
WCC: DS
The student learning outcomes are:
Course Descriptions

- Recognize the study of social psychology as a science.
- Integrate the basic perspectives, concepts, principles, and general information comprising the field of social psychology.
- Utilize the various social psychology models and concepts in explaining human behaviors.

**PSY 260  Psychology of Personality (3)**
An introduction to the basic theoretical approaches to personality, how they are developed, changed and analyzed. (3 hrs. lect.)
Prerequisite: Credit for PSY 100.
WCC: DS

The student learning outcomes are:
- Recognize the study of personality psychology as a science.
- Discuss the basic perspectives, concepts, principles, and general information comprising the field of personality psychology.
- Utilize the various personality psychology models and concepts in explaining human behaviors.

**PSY 270  Introduction to Clinical Psychology (3)**
This course will provide students with an understanding of the history, theories and current developments in clinical psychology and different methods of assessment, forms of intervention and types of psychological problems. (3 hrs. lect.)
Prerequisite: Grade of "C" or better in PSY 100.
WCC: DS

The student learning outcomes are:
- Critique the foundation of knowledge, skills, professional attitudes and values associated with clinical psychology.
- Integrate the basic perspectives, concepts, principles, practices and general information comprising the field of clinical psychology.
- Utilize the various clinical psychology models and concepts in explaining human behaviors.

**Religion (REL)**

**REL 150  Introduction to World’s Major Religions (3)**
Introduction to the world’s major religions: Primitive, Hinduism, Buddhism, Shinto, Confucianism, Taoism, Judaism, Christianity, and Islam. Field trips may be required outside class time. (3 hrs. lect.)
Prerequisite: Placement in ENG 100, or consent of instructor.
Recommended Preparation: REL 150 or 151.
WCC: DH (up to and including Spring 2008)
WCC: FGC (Beginning Fall 2008)

The student learning outcomes are:
- Identify the following elements or dimensions: origin, doctrines, ethics, sacred literature, important figures/ founders, rituals, worship, and institutions for each of the world’s major religious traditions.
- Identify the similarities and differences between two or more religions on the basis of the aforementioned dimensions.
- Examine the relationship between religion and culture/society.
- Question and think critically.

**REL 151  Religion and the Meaning of Existence (3)**
Introduction to basic issues of the question of the meaning of human existence. Emphasis is placed upon the student analyzing his/her own beliefs and exploring alternative answers. (3 hrs. lect.)
WCC: DH

The student learning outcomes are:
- Identify the various understandings of experience, existence, and/or the Ultimate/Absolute Reality in the world’s religious traditions.
- Compare and contrast the similarities and differences between these meanings of existence in two or more religions.
- Identify the rituals, myths, and symbols/art that shape these worldviews.
- Analyze their belief systems.

**REL 201  Understanding the New Testament (3)**
Analysis of the origin and development of the early Christian message as set forth in the New Testament. Special attention will be given to the message of Jesus and Paul and its relevance to the modern world. (3 hrs. lect.)
WCC: DH

The student learning outcomes are:
- Demonstrate awareness of the historical and literary context of the New Testament.
- Show knowledge of modern Biblical interpretation and criticism
- Show an understanding of the major parts and types of literature contained in the New Testament.

**REL 202  Understanding Indian Religions (3)**
Historical survey of the teachings and practices of the major religious traditions of India. (3 hrs. lect.)
Prerequisite: Placement in ENG 100, or consent of instructor.
Recommended Preparation: REL 150 or 151.
WCC: DH

The student learning outcomes are:
- Identify the myths, histories, doctrines, and practices of Hinduism, Jainism, Buddhism, and Sikhism.
- Identify each religion’s understanding of the human condition, ethics, knowledge, death, the afterlife, and conceptions of the divine.
- Identify common themes within the religions studied.
- Interpret primary sources (such as epics, devotional poetry, mystical instruction, myths, and hymns).
- Examine the relationship between religion and culture/society.
- Question and think critically.
REL 205 Understanding Hawaiian Religion (3)
Major Hawaiian religious teachings and practices from ancient times to the present. Investigation of cultural influence of Hawaiian religious beliefs; analysis of religious texts and relation to other traditions. This course may be applied to the B.A. language/culture core requirements at UH at Mānoa. (3 hrs. lect.)
WCC: DH
The student learning outcomes are:
• Identify and access major sources on Hawaiian religion.
• Express thoughts on Hawaiian religion in oral and written form.
• Compare and contrast elements of the Hawaiian religious experience with others or with their own.
• Identify ways in which Hawaiian religious thought and practice continues in the present.
• Interpret some symbolism of Hawaiian religious ritual and poetry.

REL 207 Understanding Buddhism (3)
Survey of major forms and practices of Buddhism. (3 hrs. lect.)
Recommended Preparation: ENG 100 and either REL 150 or REL 151.
WCC: DH
The student learning outcomes are:
• Identify the myths, histories, doctrines, and practices of the major schools of Buddhism.
• Identify each school’s understanding of the human condition, ethics, knowledge, death, the afterlife, and conceptions of the divine.
• Interpret primary sources.
• Examine the relationship between religion and culture/society.
• Question and think critically.

REL 296 Special Topics in Religion (3)
Students will investigate important topics in the study of religion such as Sacred Places, Religion and the Media, or Religion and Politics. A specific course description will be printed in the schedule of classes. (3 hrs. lect.)
Recommended preparation: REL 150 or REL 151
The student learning outcomes are:
• Identify the important concepts and facts associated with the topic under examination.
• Explain cause and effect relationships in connection to the topic discussed.
• Compare and contrast various religions’ ideas of the topic.
• Relate the topic to contemporary events.

Social Sciences (SSCI)

SSCI 193V Cooperative Arts and Science Education (CASE) (1-4)
A work study course providing opportunities to reinforce skills learned in the Social Science areas and to apply those skills in actual job situations. Repeatable up to 6 credits, 6 credits applicable toward A.A. degree. No more than 12 credits, in any combination of Independent Study or Cooperative Education may apply to the degree requirements.
Prerequisite: 12-16 hours general curricula.
The student learning outcomes are:
• Integrate the foundations of knowledge, skills, professional attitudes and values associated with a career field in the helping and human resource professions.
• Discuss the dynamics and multiple causes of interpersonal, family, and organizational dysfunction.
• Utilize a range of helping strategies and skills appropriate for prevention and early intervention work in a variety of settings.
• Apply the basic knowledge and practice of counseling and problem solving skills.

SSCI 200 Social Science Research Methods (3)
Focus on various ways social scientists undertake research. The course introduces the student to decision making with statistics research design methods and computers to assist analysis. (3 hrs. lect.)
Prerequisite: Successful completion of one social science course at 100 level, and placement in MATH 24 or consent of instructor.
WCC: DS
The student learning outcomes are:
• Critique the foundation of knowledge, skills, professional attitudes and values associated with research design and application.
• Apply current research methods and interpretation of research findings.
• Utilize a range of strategies and skills appropriate for gathering and analyzing research data.
• Write a research project using the basic knowledge and practice research.

SSCI 293V Cooperative Arts and Science Education (1-4)
A work-study course providing opportunities to upgrade and diversify knowledge and skills learned in the behavioral and social sciences, and to apply these in job situations. (Practicum)
Prerequisite: SSCI 193V.
The student learning outcomes are:
• Integrate the foundations of knowledge, skills, professional attitudes and values associated with a career field in the helping and human resource professions.
• Discuss the dynamics and multiple causes of interpersonal, family, and organizational dysfunction.
• Utilize a range of helping strategies and skills appropriate for prevention and early intervention work in a variety of settings.
• Apply the basic knowledge and practice of counseling and problem solving skills.
Course Descriptions

Sociology (SOC)

SOC 100 Survey of General Sociology (3)
This course is an introduction to the scientific discipline of sociology. It will focus on key concepts, main theoretical perspectives, and research findings used by sociologists to explain the social world and social interaction. The course examines the fundamental components and institutions that make up the structure of human societies as well as the basic processes and direction of social change. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Summarize and distinguish the three main theoretical perspectives in sociology.
• Analyze and apply specific sociological theories and perspectives to human behavior and social issues.
• Explain and evaluate how society and culture affect our beliefs, values, behavior, and thinking patterns.
• Express and communicate ideas and opinions clearly in writing.

SOC 218 Introduction to Social Problems (3)
This course is a theoretical and substantive survey of the nature and causes of social problems; selected topics may vary from semester to semester. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Demonstrate an objective approach to the identification, observation, and analysis of social problems in society.
• Identify and apply sociological perspectives to social problems.
• Apply critical thinking skills to evaluate the causes of social problems.
• Detail and evaluate proposed solutions to social problems.

SOC 231 Introduction to Juvenile Delinquency (3)
Study of types, conditions, processes, and theories relating to juvenile delinquency. Study of the development of alienation and deviance by youth and study of the juvenile correction systems in society. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Apply a sociological perspective to juvenile delinquency.
• Display an understanding of the multiple causes of juvenile delinquency.
• Identify differences in male and female offenders.
• Show an awareness of the family and the school system as both malfunctioning institutions as well as preventative institutions.
• Express and communicate ideas and opinions clearly in writing.

SOC 250 Community Forces in Hawai’i (3)
This course is designed to acquaint the student with sociological principles and the application of these principles to aid in the awareness, understanding, and appreciation of the unique social environment of the State of Hawai’i. Fundamental concepts of sociology in the area of race relations are presented with emphasis on Hawai’i’s unique potential “melting pot” social environment and the development of an “unorthodox race doctrine” for Hawai’i. Sociological aspects of the various cultural contributions by the ethnic groups to Hawai’i including values, concepts, practices, history, and language are also investigated. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Demonstrate an understanding of the historical factors that affect inter-ethnic relationships in Hawai’i.
• Describe how the structure of inter-ethnic relationships functions, and how it affects the lives of Hawai’i residents.
• Explain the various factors that develop, maintain, and weaken inter-ethnic relationships in Hawai’i.
• Identify the changes in inter-ethnic relations in Hawai’i through time.

SOC 251 Introduction to Sociology of the Family (3)
SOC 251 is the study of human relationships within courtship, marriage, and the family as influenced by culture and society. It is designed to challenge students to re-examine assumptions regarding behavior, decisions, choices, and motivations in interpersonal relationships. The course places particular emphasis on diverse family forms, and the changing nature of how we define family. (3 hrs. lect.)
WCC: DS
The student learning outcomes are:
• Apply sociological perspectives and theories to various interpersonal relationship issues including but not limited to gender roles, love, cohabitation, sexuality, mate selection, parenting, divorce, and remarriage.
• Identify the major changes in interpersonal relationships during the past several years.
• Display an understanding of the connection between family upbringing and one’s sense of self.
• Show an awareness of how culture and society affect our interpersonal choices, values, and beliefs.
• Express and communicate ideas and opinions clearly in writing.

Spanish (SPAN)

SPAN 101 Beginning Spanish I (4)
Introduction to basic structures of the Spanish language emphasizing speaking, writing, listening and reading. Oral communication emphasized to provide students with the right pronunciation vocabulary and the control of basic grammar. Introduction to Hispanic culture. (4 hrs. lect.; 1 hr. lab.)
The student learning outcomes are:
• Use appropriate pronunciation, structure and vocabulary to communicate orally with speakers of Spanish, answering questions or making simple descriptions.
• Read and understand authentic documents in Spanish for
The student learning outcomes are:

- Write simple texts (shopping lists, descriptions, postcards, forms) using knowledge of vocabulary, culture and basic grammatical structures.
- Analyze oral, written and visual sources (phone messages, menus, advertisements, cartoons) of information about Hispanic culture and compare and contrast with what the students know of their own culture.

SPAN 102 Beginning Spanish II (4)
Continues SPAN 101 through reading, speaking, writing and listening. Oral communication emphasized. Utilizes videos, stories, and songs. Deals with Hispanic culture and the basic knowledge of the history, geography, and the traditions of Spanish speaking countries. (4 hrs. lect.; 1 hr. lab.)

Prerequisite: Credit for SPAN 101 or consent of instructor.

The student learning outcomes are:

- Use appropriate pronunciation, structure and vocabulary to communicate orally with speakers of Spanish with greater proficiency, using role playing to create dialogues based on real-life situations.
- Read and understand authentic documents in Spanish (simple articles, poems, newspaper articles) for cultural information with greater proficiency.
- Write simple texts (letters, diaries, simple essays) using knowledge of vocabulary, culture and basic grammatical structures with greater proficiency.
- Analyze oral, written and visual sources (dialogues, articles, film clips, Internet sites) of information about Hispanic culture and compare and contrast with what the students know of their own culture.

SPAN 201 Intermediate Spanish I (3)
Continuation of SPAN 102. Further refinement of basic language skills. Increased control over structures and idioms. Includes reading about literature, culture and society. (3 hrs. lect.)

Prerequisite: Credit for SPAN 101 or consent of instructor.

The student learning outcomes are:

- Use accurate pronunciation, structure and vocabulary to communicate orally with speakers of Spanish, creating dialogues based on real-life situations.
- Read and understand authentic documents in Spanish (articles, poems, short stories, film scripts, plays) for cultural information and critical thinking.
- Write texts (poems, essays, diaries, reports) using knowledge of vocabulary, culture and increasingly sophisticated syntax and grammatical structure, with increasing fluency and proficiency.
- Analyze oral, written and visual sources (dialogues, articles, film clips, feature length films, Internet sites) of information about Hispanic culture and compare and contrast with what the students know of their own culture.
- Create short film clips in the u-tube genre, containing both visual and verbal information about Hispanic culture.

SPAN 202 Intermediate Spanish II (3)
Continuation of SPAN 201. Further refinement of basic language skills including vocabulary development beyond the 201 level. Increased control over structures and idioms. Includes reading about literature, culture and society. (3 hrs. lect.)

Prerequisite: Credit for SPAN 201 or consent of instructor.

The student learning outcomes are:

- Use accurate pronunciation, structure and vocabulary to communicate orally with speakers of Spanish, creating dialogues based on real-life situations.
- Read and understand authentic documents in Spanish (articles, poems, short stories, film scripts, plays) for cultural information and critical thinking.
- Write texts (poems, essays, diaries, reports) using knowledge of vocabulary, culture and increasingly sophisticated syntax and grammatical structure, with increasing fluency and proficiency.
- Analyze oral, written and visual sources (dialogues, articles, film clips, feature length films, Internet sites) of information about Hispanic culture and compare and contrast with what the students know of their own culture.
- Create short film clips in the u-tube genre, containing both visual and verbal information about Hispanic culture.

Speech (SP)

SP 151 Personal and Public Speech (3)
Introduction to major elements of speech. Enables students to acquire competence in two person, small group, and public situations. Models and concepts are used to explain the speech act. (3 hrs. lect.)

Prerequisite: Placement in ENG 21 or higher.

WCC: OC or DA

The student learning outcomes are:

- Choose and narrow a topic appropriately for the audience and occasion.
- Communicate the thesis/specific purpose in a manner appropriate for audience and occasion.
- Provide appropriate supporting material based on the audience and occasion.
- Use an organizational pattern appropriate to topic, audience, occasion, and purpose.
- Use language that is appropriate to the audience, occasion, and purpose.
- Use vocal variety in rate, pitch, and intensity to heighten and maintain interest.
- Use pronunciation, grammar, and articulation appropriate to the designated audience.
- Use physical behaviors that support the verbal message.

SP 181 Introduction to Interpersonal Communication (3)
Introduction to basic principles of interaction between two people. Emphasis is on enhancement of skills in a variety of interpersonal contexts. (3 hrs. lect.)
Course Descriptions

**Prerequisite: Placement in ENG 21 or higher.**
WCC: OC

The student learning outcomes are:

- Analyze situations in terms of communication models, identifying perspective and perception.
- Demonstrate improvement in listening skills through tests and critical analysis of other students by avoiding listening problems and practicing guidelines for listener feedback.
- Determine the source of individual values and development in understanding and analyzing self-image as the communicator.
- Recognize nonverbal communication identifying body language, gesture, facial expression, and posture.
- Apply effectively specific skills to improve assertiveness.
- Define conflict/stress and identify steps in reaching a mutually acceptable decision.
- Trace the development of relationships, identifying major steps of each level, and analyzing the progression of these levels.

**SP 231 Performance of Literature (3)**
Introduction to the study of literature through performance. Practice in rhetorical and literary analysis culminating in and performance of literary selections for an audience. The nature of performance criticism. (3 hrs. lect.)
Prerequisite: Credit for ENG 100 or SP 151.
WCC: OC or DA

The student learning outcomes are:

- Use an in-depth process of written literary analysis to understand and appreciate various selections from prose, poetry and dramatic literature.
- Utilize voice, speech and body to interpret and communicate effectively to an audience selections from prose, poetry and dramatic literature.
- Use emotion and imagination through recall and transference to bring the literary happenings alive in a creative experience.
- Listen critically and appreciatively to the oral presentation of various selections from prose, poetry and dramatic literature and give evaluation feedback to peers as well as analyze in writing one’s own performances.

**SP 251 Principles of Effective Speaking (3)**
Theory and practice of public speaking. Emphasizes practical skills in communicating with today’s audiences, planning, and delivering speeches. (Offered occasionally) (3 hrs. lect.)
Prerequisite: Credit for ENG 100 or SP 151.
WCC: OC or DA

The student learning outcomes are:

- Independently research some aspect of Aristotle’s life and times, contributing to a composite view.
- Apply the principles of Aristotle’s Rhetoric to contemporary speeches, evaluating the validity of those principles.
- Identify resources with the use of an annotated bibliography.
- Use group process to create evaluation formats for Public Speaking.
- Present speeches investigating the results or process of their research in the areas of Aristotle’s context and application of Rhetoric.
- Write and deliver a Special Occasion Speech, using Rhetoric as a guide.
- Participate in a group discussion using a symposium format.

**Theatre (THEA)**

**THEA 101 Introduction to Drama and Theatre (3)**
An introduction to the art of drama and theatre. Students study selected plays that are representative of important playwrights and historical periods. These plays are studied in their historical context and provide a basis for understanding elements and styles of drama. Theatre production will also be explored by considering the functions of actors, audiences, designers, playwrights and technicians. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:

- Discuss the origin and development of the theatre from its beginnings to the present.
- Discuss the theatre’s influence and importance in human culture.
- Compare and contrast plays and theatre practices from different time periods and cultures.
- Analyze the artistic choices and techniques used to transform a written dramatic script into a performed work presented to an audience.

**THEA 211 Mask Making and Performance (3)**
A hands-on course exploring several mask-making techniques, and the fundamentals of bringing a mask to life. The history and cultural significance of the mask will be surveyed. Students will make several masks and will perform for each other. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:

- Discuss the importance of the mask in human culture.
- Demonstrate two or more mask-making techniques.
- Apply the basic process of bringing a mask to life to improvisations or rehearsed performances.
- Identify, analyze, and critically evaluate the technique in mask-making and mask performances.

**THEA 221 Acting I (3)**
Performance course concentrating on voice, relaxation, body awareness, and freedom from self-consciousness through theatre games, improvisation, and exercises. Emphasis on ensemble work. Students must see two plays and write about them or use the Service-Learning option. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:

- Articulate and project the voice well.
• Devise and execute pantomimes and improvisations.
• Explore dramatic one- and two-person scenes.
• Identify, analyze and critically evaluate the technique and believability of dramatic performances.

THEA 222 Acting II (3)
Performance course concentrating on exploration of character creation; continued work on voice, relaxation, and self-realization. Students must see two plays and write about them or use the Service-Learning option. (3 hrs. lect.)
Recommended Preparation: Credit for THEA 221.
WCC: DA

The student learning outcomes are:
• Articulate and project the voice well.
• Devise and execute pantomimes and improvisations unselfconsciously.
• Explore dramatic one- and two-person scenes.
• Identify, analyze and critically evaluate the technique and believability of dramatic performances.

THEA 240 Introduction to Stagecraft (3)
Introduction to the technical process of theatre including scenery, lighting, sound and stage management. Students will focus on the range of skills needed to work in theatrical space. Repeatable up to 6 credits. 6 credits applicable towards AA degree. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:
• Demonstrate competence with the use of theatrical equipment.
• Identify key theatrical terms and concepts.
• Critically evaluate a theatrical event.
• Work effectively in a theatrical environment.

THEA 241 Advanced Stagecraft (3)
Advanced techniques of the technical process of theatre including lighting, sound, and rigging. Students will focus on the range of skills needed to work in convention, theatrical, concert, and dance applications. Repeatable up to 6 credits. (3 hrs. lect.)
Prerequisite: Credit for THEA 240 or consent of instructor.
WCC: DS

The student learning outcomes are:
• Demonstrate competence with the use of theatrical equipment to the instructor.
• Identify key theatrical terms and concepts.
• Critically evaluate a theatrical event.
• Work effectively in a theatrical environment.
• Demonstrate knowledge of one particular area of stagecraft through a presentation to the class and/or the instructor.

THEA 260 Dramatic Production (3)
Introduction to the process of converting a play into a performance. Students are required to participate in at least two aspects of an actual production. Repeatable up to 6 credits. 6 credits applicable towards AA degree. (3 hrs. lect.)
WCC: DA

The student learning outcomes are:
• Identify key theatrical terms and concepts.
• Critically evaluate a theatrical event.
• Work effectively in a theatrical environment.
• Demonstrate knowledge of one particular area of focus through a presentation to the class and/or the instructor.
• Participate effectively in one aspect of a theatrical event.

Women’s Studies (WS)

WS 151 Introduction to Women’s Studies (3)
This interdisciplinary introductory course looks at gender roles and relationships, historically and in contemporary societies. The course examines the social, cultural, historical, and political influences on the status of women. It presents women’s experiences from diverse backgrounds, social structures, and cultures. (3 hrs. lect.)
WCC: DS

The student learning outcomes are:
• Show an understanding of the difference between sex as a biological category and gender as a social category.
• Analyze the ways in which gender is taught, how gender is reflected in written and visual images, and how gender influences the operation of major social institutions and human relationships.
• Describe the historical changes in both gender roles and the status of women in the United States.
• Explain the similarities and differences of women’s roles across cultural, racial, social, and economic lines.

WS 200 Culture, Gender and Appearance (3)
This course explores the social construction of gender within culture and its visual expression through appearance. An analysis of role, identity, conformity, and deviance in human appearance is emphasized. (3 hrs. lect.)
WCC: DS

The student learning outcomes are:
• Identify and describe relationships between the social body and physical bodies.
• Describe the links between clothing and culture.
• Describe the role appearance plays in gender development.
• Interpret the communicative nature of appearance and expressions of identity.
• Synthesize concepts and theories to describe the role of individual choice in appearance.

WS 202 Psychology of Women (3)
Study of theories, concepts and issues relevant to the psychological development of women. Topics include: gender differences, personality, achievement, motivation, moral development, autonomy, mental health, and domestic violence. (3 hrs. lect.) (Cross-listed as PSY 202.)
Prerequisite: Credit for PSY 100 or consent of instructor.
WCC: DS
Course Descriptions

Zoology (ZOOL)

ZOO 101 Principles of Zoology (4)
Introduction to zoology. Topics include living animals, physiology, anatomy, development, reproduction, ecology, and evolutionary relationships. Lecture/laboratory course. (3 hrs. lect.; 3 hrs. lab.)
Recommended Preparation: High school biology.
WCC: DB & DY

ZOO 105 Hawaiian Use of Fish and Aquatic Invertebrates (3)
A study of fish and aquatic invertebrates used traditionally by Native Hawaiians. This class will examine the role of fish and aquatic invertebrates in Hawaiian culture and resource utilization and management. (3 hrs. lect.)
Recommended Preparation: High school biology.

ZOO 141 Human Anatomy and Physiology I (3)
The first semester of a two-semester course in human anatomy and physiology which includes a study of human embryology, gross anatomy, microanatomy, physiology, pathology, and homeostatic relationships. This course is intended for students entering health care or medically related fields such as nursing, physical therapy and medical technology. (3 hrs. lect.)
Prerequisite: High school chemistry or equivalent preparation or consent of instructor.
Recommended Preparation: High school biology.
WCC: DB & DY

The student learning outcomes are:
1. Discuss the major chemical elements found in the human body and describe the different ways in which these elements combine to form molecules and compounds.
2. Understand the functions of cellular organelles, and be able to trace the path of protein manufacture in the cell.
3. Compare and contrast the physical, chemical, and biological factors governing the transport of materials across the cell membrane.
4. Discuss the link between cells and tissues and describe how tissue structure determines its suitability for secretion, absorption, support, or protection.
5. Use standard medical terminology to describe body positions and the orientations.
6. Describe the anatomy and function of the integumentary, skeletal, muscular, and nervous systems, and discuss how these systems maintain homeostasis in the human body.
7. Discuss how negative feedback maintains homeostasis in each of the above body systems. Also, be able to explain how disease and disorders disrupt the homeostasis of each of the above body systems and discuss how common medical treatments and drugs are used to restore homeostasis.
8. Write a research paper on a disease affecting one of the body systems using primary and secondary scientific literature.

ZOO 141L Human Anatomy and Physiology Lab I (1)
Laboratory to accompany ZOO 141. Reinforces the facts and concepts of human anatomy and physiology discussed in ZOO 141 through dissections, examination of models, laboratory activities, and other hands-on experiences. This course is intended for students entering health care or medically related fields such as nursing, physical therapy and medical technology. (3 hrs. lab.)
Prerequisite: Credit for registration in ZOO 141 or equivalent preparation or consent of instructor.
WCC: DY

The student learning outcomes are:
1. Use the scientific method to design and conduct a clinical research study.
2. Describe the anatomy of the integumentary, skeletal, muscular, and nervous systems from prepared slides, skeleton models, and real and virtual animal dissections.
3. Use basic laboratory equipment (microscopes, slides, and dissecting tools) to observe and characterize human tissues.
4. Use critical thinking to analyze and interpret clinical data.
5. Prepare an oral presentation and written summary of lab activities using the scientific method.

ZOO 142 Human Anatomy and Physiology II (3)
The second semester of a two-semester course in human anatomy and physiology which includes a study of human embryology, gross anatomy, microanatomy, physiology, pathology, and homeostatic relationships. This course is intended for students entering health care or medically related fields such as nursing, physical therapy and medical technology. (3 hrs. lect.)
Prerequisite: Credit for ZOO 141 or equivalent preparation or instructor’s consent.
Recommended Preparation: Registration in ZOO 142L.
WCC: DB

The student learning outcomes are:
1. Describe how lipids, carbohydrates, proteins and nucleic acids are digested, assimilated, and catabolized to obtain energy and raw materials.
2. Describe the anatomy and function of the circulatory, lymphatic, endocrine, digestive, urinary, and reproductive systems and discuss how these systems maintain homeostasis in the human body.
3. Describe the link between the anatomy of human tissues and organs and their functions within the human body.
4. Discuss how negative feedback maintains homeostasis in the human body.
5. Explain how disease and disorders disrupt the homeostasis of each of the above body systems and discuss how common medical treatments and drugs are used to restore homeostasis.
6. Write a research paper on a disease affecting one of the body systems using primary and secondary scientific literature.

ZOO 142L Human Anatomy and Physiology Lab II (1)
Laboratory to accompany ZOO 142. Reinforces the facts and concepts of human anatomy and physiology discussed in ZOO 142...
through dissections, examination of models, laboratory activities, and other hands-on experiences. This course is intended for students entering health care or medically related fields such as nursing, physical therapy and medical technology. (3 hrs. lab.)

Prerequisite: Credit for or registration in ZOOL 142 or equivalent preparation or consent of instructor.

WCC: DY

The student learning outcomes are:

- Use the scientific method to design and conduct a clinical research study.
- Describe the anatomy of the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems from prepared slides, models, and real and virtual animal dissections.
- Use basic laboratory and medical equipment (microscopes, sphygmomanometers, stethoscopes, ECG apparatus, & respiratory spirometers) to evaluate functions of the above body systems.
- Use critical thinking to analyze and interpret clinical data.
- Prepare an oral presentation and written summary of lab activities using the scientific method.

ZOOL 200  Marine Biology (3)

Biological, physical, and chemical characteristics, flora and fauna, and interactions of components of marine ecosystems; survey of marine environments; utilization, exploitation, pollution, and conservation of marine resources; with special emphasis on the Hawaiian marine environment. (3 hrs. lect.)

Recommended preparation: Registration in ZOOL 200L.

WCC: DB

The student learning outcomes are:

- Explain the process and philosophical basis of scientific inquiry.
- Distinguish between living things and inanimate objects.
- Demonstrate an understanding of the physical and chemical characteristics of the marine environment, especially those of the Hawaiian marine environment, and how they impact marine life.
- Communicate knowledge of the diversity of marine organisms, especially Hawaiian species.
- Exhibit an appreciation of the interaction between structure and function of marine life and how marine organisms are taxonomically related.
- Illustrate and provide examples of the ecological role of and relationships between marine organisms.
- Describe the major life zones of the ocean and the adaptations of living things relevant to being a successful species in these zones.
- Recognize and suggest solutions to the negative impacts of human activities on the marine environment.
- Research and write, using the language of the field, about a marine biology topic.

ZOOL 200L  Marine Biology Laboratory (1)

Companion laboratory to ZOOL 200, Marine Biology. Practical, hands-on experiences in marine biology. Laboratory/field trip class. (3 hrs. lab.)

Prerequisite: Credit for or registration in ZOOL 200 or consent of instructor.

WCC: DY

The student learning outcomes are:

- Use the scientific method of inquiry to investigate biological phenomena.
- Apply the concepts learned in ZOOL 200 to an experimental and hands-on observational setting.
- Collect, reduce, and interpret biological data.
- Prepare written objective reports describing and interpreting experimental and observational results.
- Demonstrate the use of some of the standard tools of the biological scientist, such as microscopes, scales, spectrophotometers, computers, and other analytical tools.
- Demonstrate the use of specialized tools and methods frequently used in the study of the marine environments and the organisms that live in these environments.

ZOOL 254  Exercise Therapy (3)

This course introduces selected concepts, principles and practices of physical activity that affect human wellness and fitness throughout all stages of life. In particular, the concepts of exercise specificity, adaptation, and remediation are presented as they affect human growth and development, and the aging process. The clinical concept of hypokinetic disease (under activity) is presented and its counterpart, clinical exercise therapy (Rx dosage) for purposes of preventative health application and remediation. Comparative study of both Western and Eastern exercise regimens are included in the context of their clinical contribution to wellness. (3 hrs. lect.)

Recommended Preparation: BIOL 100 or ZOOL 101 or ZOOl 141 and ZOOL 142.

WCC: DB

The student learning outcomes are:

- Define basic terms, concepts and principles of exercise, fitness, and wellness.
- Describe the fundamental classification of exercise biology and its underlying processes.
- Discuss the relationships between exercise and health.
- Explain the specificity of exercise and its multiple modes of application and related responses.
- Describe guidelines for assessing and planning a fitness-wellness program.
- Comprehend the professional literature and correctly interpret and categorize new developments/approaches in the field.
- Apply scientific logic to the selection and application of the many commercial products and procedures inundating the field.
- Contrast Western and Eastern approaches to wellness.
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WCC Campus Map

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- Bookstore
- Counseling
- Student Publications
- Student Government
- Student Services
- Cafeteria Services
- Clubs and Organizations

Hale Alaka’i
- Faculty Offices
- Administrative Offices
- Admissions & Records
- Business Office/Cashier
- Financial Aid
- The Testing Center (TTC)
- WCC Little Theater

Hale A’o
- Hawaiian Studies
- Native Hawaiian Program
- Office of University Partners

Hale La‘akea
- Library

Hale No’eau
- Faculty offices
- Media Production Center
- Computer classrooms

Hale Kuhina
- Continuing Education
- Employment Training Center
- Administrative Office
- Marketing & Communications
- Health Career Programs

Hale ‘Imiloa
- Science Classrooms/Labs
- Aerospace Exploration Lab
- Hawai‘i Space Grant Consortium – Windward
- Hoa‘aina RS/GIS Center
- Kahi La‘au Plant
- Identification Center
- Marine Option Program (MOP) Office
- Water Quality Lab

Hale Hōkūlani
- Planetarium
- Center for Multi-Media Education
- Hale Lanihuli Observatory

Hale Mana‘opono
- Faculty offices
- Math Lab
- Classrooms

Hale Na‘auao
- Faculty offices
- TRIO

Hale Pālanakila
- Faculty offices
- Music classrooms
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- Ceramics Lab
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Aerospace Exploration Lab .... 235-7321
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Gallery 'Iolani ......................... 236-9155

Audio/Visual Services
Media Production Center ....... 235-7302

Bookstore ....................... 235-7418

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Career Center ......................... 235-7413
Cashier ............................... 235-7411
Ceramics Lab ......................... 235-7323
Continuing Education .......... 235-7433

Career Counseling Services
Career Counseling/Advising ...... 235-7413

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WCC Ambassadors ................. 235-7487
Annual Friends Steering Committee
Friends of Lanihuli ................. 235-7487
Kōkua Palikū .......................... 235-7487

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Hawai'i Space Grant Consortium—
Windward ......................... 236-9111

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Hōkūlani Imaginarium ......... 236-9111
Library Services .................... 235-7338

Literary Magazine (Student)
Rainbird .............................. 236-9236

Lost and Found
Business Office ...................... 235-7411

Math Resource Center .......... 236-9275

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The Testing Center ................ 235-7498

Veteran's Certification
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