UNIVERSITY OF HAWAI'I AT HILO • 2007-2008

University of Hawai'i at Hilo
2007-2008 Catalog

UNIVERSITY
OF HAWAI'I
HILO

your next step...

University of Hawai`i at Hilo

Academic Calendar 2007-2008

Fall 2007 Semester:

Tuition Payment Due for Early Registrants (Registered Before Aug 1)….	Aug 7	(T)
Attn Early Registrants: Classes may be dropped for nonpayment.		
Orientation, Advising and Registration	Aug 13-16	(M-R)
Holiday: Statehood Day	Aug 17	(F)
Last Day to Receive 100% Refund of Tuition & Fees	Aug 19	(Su)
First Day of Instruction	Aug 20	(M)
Last day to Register or Add Classes	Aug 24	(F)
Late Add with Permission Only	Aug 25-31	(Sa-F)
Last Day to Receive 100% Refund of Tuition	Aug 31	(F)
Holiday: Labor Day	Sep 3	(M)
Final Deadline to apply for Fall 2007 Graduation	Sep 7	(F)
Last Day to Exercise Credit/No Credit	Sep 7	(F)
Last Day to Submit Auditors Form	Sep 7	(F)
Last Day to Drop Classes without "W"	Sep 9	(Su)
Last Day to Receive 50% Refund of Tuition	Sep 9	(Su)
No refunds will be issued after this date.		
Tuition Payment Due for Regular and Late Registration	Sep 10	(M)
Priority Deadline to Apply for Spring 2008 Graduation	Oct 1	(M)
Last Day to Withdraw From Courses with "W"	Oct 12	(F)
"I" Removal Deadline: Student to Instructor	Oct 22	(M)
Last Day to submit approved Sum 09 Curriculum documents to Registrar	Oct 31	(W)
Graduate Thesis to Committee Deadline	Nov 2	(F)
"I" Removal Deadline: Instructor to the Registrar's Office	Nov 5	(M)
Last Day to Apply for Credit-by-Exam for Fall	Nov 5	(M)
Holiday: Veteran's Day (Observed)	Nov 12	(M)
Last Day to Submit Credit-by-Exam Results to Registrar's Office	Nov 13	(T)
Graduate Thesis Defense Deadline	Nov 16	(F)
Holiday: Thanksgiving Day	Nov 22	(R)
Non-Instructional Day	Nov 23	(F)
Graduate Thesis to Library and Registrar's Office Deadline	Nov 30	(F)
Last Day to Apply for Spring 2008 Classified Admission	Dec 3	(M)
Last Day of Instruction	Dec 6	(R)
Last Day to Completely Withdraw (from all classes) with a "W"	Dec 6	(R)
Final Examinations	Dec 10-14	(M-F)
Last day to submit a Change of Major to Registrar's Office	Dec 14	(F)
Fall Semester Ends	Dec 14	(F)
UHH Commencement	Dec 15	(Sa)
Final Grades Due in MyUH at 12 noon	Dec 17	(M)

Early Registration for Spring 2008

Advising begins	Nov 14	(W)
Early Registration for Continuing Classified Students	Nov 26	(M)

Spring 2008 Semester:

Holiday: New Year's	Jan 1	(T)
Orientation, Advising and Registration	Jan 8-11	(T-F)
Last Day to Receive 100% Refund of Tuition & Fees	Jan 13	(Su)
First Day of Instruction	Jan 14	(M)
Last Day to Register or Add a Class	Jan 18	(F)
Late Add with Permission Only	Jan 19-25	(Sa-F)
Last Day to Receive 100% Refund of Tuition	Jan 25	(F)
Holiday: Martin Luther King Day	Jan 21	(M)
Last Day to submit approved Fall 08 Curriculum Documents to Registrar	Jan 31	(R)
Final Deadline to Apply for Spring 2008 Graduation	Feb 1	(F)
Last Day to Exercise Credit/No Credit	Feb 1	(F)
Last Day to Submit Auditors Form	Feb 1	(F)
Last Day to Drop Classes without "W"	Feb 3	(Su)
Last Day to Receive 50% Refund of Tuition	Feb 3	(Su)
No refunds will be issued after this date.		
Tuition Payment Due for Early, Regular, & Late Registrants	Feb 4	(M)
Holiday: Presidents Day	Feb 18	(M)
Last Day to Withdraw From Courses with "W"	Mar 7	(F)
"I" Removal Deadline: Student to Instructor	Mar 17	(M)
Holiday: Good Friday	Mar 21	(F)
Spring Recess	Mar 24-28	(M-F)
Holiday: Prince Kuhio Day	Mar 26	(W)
Priority Deadline to Apply for Summer & Fall 2008 Graduation	Apr 1	(T)
Graduate Thesis to Committee Deadline	Apr 4	(F)
Last Day to Apply For Credit-by-Exam for Spring	Apr 7	(M)
"I" Removal Deadline: Instructor to Registrar's Office	Apr 7	(M)
Last Day to Submit Credit-by-Exam Results to the Registrar's Office	Apr 14	(M)
Graduate Thesis Defense Deadline	Apr 18	(F)
Graduate Thesis to Library and Registrar's Office Deadline	May 2	(F)
Last Day of Instruction	May 7	(W)
Last Day to Completely Withdraw (from all classes) with a "W"	May 7	(W)
Final Examinations	May 12-16	(M-F)
Last Day to submit approved Spr 09 Curriculum documents to Registrar	May 15	(R)
Last Day to submit Change of Major form to Registrar's Office	May 16	(F)
Spring Semester Ends	May 16	(F)
UHH Commencement	May 17	(Sa)
Final Grade Due in MyUH portal at 12 noon	May 19	(M)
Last Day to Apply for Fall 2008 Classified Admission	Jul 1	(Sa)

Early Registration for Fall 2008

Advising begins	Apr 14	(M)
Early registration for Continuing, Classified students	Apr 21	(M)

Subject to change without notice Last Updated 03/13/2007

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UNIVERSITY
OF HAWAI'I
HILO

2007-2008
University Catalog

Prospective students who have questions may contact:
University of Hawaii at Hilo
Admissions Office
200 W. Kawili Street
Hilo, HI 96720-4091

University main exchange: (808) 974-7311
Email: uhhadm@hawaii.edu
Web site: http//www.uhh.hawaii.edu

This publication is available in alternate format upon request: Braille, large print, audio cassette, or disk.
Please contact University Disability Services Office at (808) 933-0816 or 933-3334 (TTY)

It is the goal of the University of Hawaii at Hilo to publish a University catalog that provides both an introduction and a practical, comprehensive guide to the programs, courses, policies, and related information regarding the University. Please direct any omissions or inaccuracies to: Dr. Ann B. Miser, Academic Assistant to the Vice Chancellor for Academic Affairs, 200 W. Kawili Street, Hilo, HI 96720-4091; (808) 974-7707 or annmiser@hawaii.edu

Disclaimer

This document is published for informational purposes only. It provides general information about the University of Hawaii at Hilo's programs and services and summarizes major policies and procedures as they relate to students. Because this university catalog, however, is published annually or less frequently, it may not always reflect the most recent information concerning programs, courses, services, regulations, policies, procedures, and other matters contained herein. Students should check with their advisors to obtain the most recent academic information regarding their departments, courses, and programs. Students should check with appropriate student affairs professionals for updated information about other facets of campus student life.

The University reserves the right to change, delete, supplement, or otherwise amend at any time any information, requirements, and policies contained in this catalog. This right extends to tuition and fee charges which are subject to change in accordance with Hawaii state law and/or actions by the Board of Regents or University administration.

Chancellor's Message

Welcome to the University of Hawai'i at Hilo where the focus is on high quality undergraduate and selected graduate education. At UH Hilo you will enjoy smaller than average classes, close interaction with professors, a diverse student body, hands-on learning, and the opportunity to experience the fascinating island of Hawai'i as a learning laboratory. UH Hilo's excellent teachers deliver an outstanding education. This Catalog is a resource that will assist you to make the most of your learning opportunities.

A bachelor's degree from UH Hilo represents a comprehensive, well-rounded education—you will be well prepared to meet the challenges of our knowledge-based economy and to pursue your personal dreams. A graduate degree from one of our selected graduate programs at UH Hilo allows you to begin or continue leadership opportunities in your professional career. I encourage you to use this Catalog and to meet regularly with your academic advisor as you pursue your academic career.

UH Hilo also offers a wide range of student life programs that provide opportunities for intellectual enrichment and personal development. Co-curricular activities, student government, financial aid services, university choir and orchestra, presentations, concerts, counseling, tutoring, and career assistance are just a few of the many services described in this Catalog to help you gain learning experiences outside of the classroom.

During your university career, you may have questions or encounter challenges. I encourage you to seek advice and guidance from the UH Hilo faculty and staff. They are sincerely interested in your success and will do their best to help you realize your full educational potential.

On behalf of the UH Hilo 'ohana, I'm very pleased to welcome you to our campus and wish you every success in your educational endeavors.

Aloha,

Rose Tseng, Ph.D.
Chancellor, University of Hawai'i at Hilo

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Eddeille Boado Thomas

Teacher, Kohala Elementary School
2007 National Milken "Teachers of Promise" Award Recipient
Teacher Education Program '05
BA, Geography '04

"…strategies and skills that I could use…"
"After getting my B.A. degree, I enrolled in the Teacher Education Program (TEP) at UH Hilo.
Part of the TEP required me to student-teach at a public elementary school. Working with teachers with experiences in education really helped because it involves learning beyond the theories. Their suggestions and recommendations were based on their experiences with children.
The professors at UH Hilo provided many strategies and skills that I could use in the classroom. They also encouraged the sharing of successful tactics amongst teacher candidates. I acquired many ideas about classroom organization, planning, and management.
I highly recommend the TEP at UH Hilo and believe it prepared me for the teaching position I currently hold at Kohala Elementary School."

Justin Clayton

BBA, December 2005
John Glenn High School; Bay City, MI

"..individual attention….unlike any other school…"
At UH Hilo, I discovered a dynamic learning environment where I thrived in my studies.
In comparison to larger universities, the small class sizes encouraged interaction with other students and facilitated lasting relationships with my professors. The diversity within the student body enhanced classroom dialogue and aided in my personal growth. Also, the individual attention I received at UH Hilo was unlike any other school I have attended. The instructors were incredibly supportive and motivated me to excel in my academics.
The College of Business and Economics' AACSB-International accreditation ensured that my coursework would be recognized at any higher institution of learning.
Competitive tuition rates and excellence in teaching level associated with the College of Business and Economics amounted to a tremendous value in the education I received.
The friendships I formed in Hawai'i have spread across continents, and the experiences I encountered have contributed to a lifetime of memories. Thank you UH Hilo for helping me realize my goals!

Jonathan Koch

BA, Environmental Science Spring 2007
Chancellor Scholar
Waianae High School, Oahu

"UH Hilo…an awesome place!"

"I applied to UH Hilo and a university in San Diego and selected UH Hilo because of the Chancellor's Scholarship, a four-year tuition waiver.

As my college experience here broadened, I came to appreciate the essence of what UH Hilo offers – a small campus with a big heart. The professors who teach us come from a variety of backgrounds and expertise. They are leaders in their fields, who wish to pass down their knowledge about local and global issues. Being a student of environmental science and geography, the foundations UH Hilo has created are solid. The faculty and staff at the university are here to help students achieve their full potential. They are engaged, charismatic individuals, relating their past experiences in the field, and encouraging us to go on in the tradition.

The unique culture that resides in Hawai'i is like no other. UH Hilo, simply put is an awesome place!"

Marci Lee Kaleimakamaekamalani Peralto, M.D.

B.A. Biology, Spring 2002
Sonoma State University – Post baccalaureate coursework in Chemistry
University of Hawaii at Manoa – Doctor of Medicine Spring 2007

"..UH Hilo prepared me for medical school."

"My decision to attend the University of Hawaii at Hilo was multifaceted. The benefits of staying in my home town for college were so numerous.

As my college years unfolded, there were times that I felt a small loss, like missed out on the "mainland college experience". However, I couldn't deny that I enjoyed all of my courses. The professors were positive, student-focused, and obviously loved to teach.

The small, individualized atmosphere allowed me to tailor my education to my needs. The interactions with faculty and staff allowed me to build the confidence I needed to communicate effectively with people of all backgrounds. I have no doubt that my undergraduate education at UH Hilo prepared me for medical school.

As a brand new physician faced with the daunting task of beginning residency, I continue to draw on the lessons and experiences that I obtained during my time at UH Hilo. Mahalo to all of my professors, especially those in the biology, chemistry, and physics departments!"

Matthew P. Pires

Marine Science
Class of 2010
Kamehameha High School, Maui

"…great marine science program…"

"I chose to attend UH Hilo because of its great marine science program, which concentrates on animal species that live in the ocean surrounding our Hawaiian Islands. Since I plan on living and working in Hawaii, I figured the best thing for me is to stay here and learn about local species.

I also like the fact that Hilo isn't too big of a city and it does not feel crowded or overwhelming.

I heard that the class sizes were smaller so that made me think that there would be a better chance of interacting with teachers and getting to know them instead of being maybe one of the 200 students that they may teach.

There is also the Kipuka program established for Hawaiian students in need of help on course work or career planning. Assistance takes place in the learning center which is also a great place for students to just hang out.

I would recommend UH Hilo to everyone because it's a great college and you will learn a lot."

Top 10 Questions

1. What is the UH Hilo University Catalog used for?

The Catalog documents UH Hilo's programs, degree requirements, and major policies affecting UH Hilo students. It provides the information needed to navigate successfully through your undergraduate or graduate degree program. You should keep the catalog until your graduation.

2. How are academic programs at UH Hilo organized?

Academic programs are offered through five colleges:

- College of Agriculture, Forestry, and Natural Resource Management (CAFNRM).
- College of Arts and Sciences (CAS), made up of three divisions: Humanities, Social Sciences, and Natural Sciences. Each division includes a number of academic departments.
- College of Business and Economics (COBE).
- Ka Haka 'Ula O Ke'elikōlani: College of Hawaiian Language (CHL)
- College of Pharmacy (CPHARM)

In addition, the Graduate Council oversees all graduate programs, including those that are interdisciplinary in nature.

3. If I am an undergraduate student, how do I find my advisor?

If you have declared a major, your advisor will be a faculty member in your major department. To find out who your advisor is, go to the university Home Page (www.uhh.hawaii.edu). In the Search UH Hilo box type "Who is my advisor?" Hit enter. Click on the Who Is My Advisor link and follow the directions.

Students who have not yet declared a major receive assistance from the Advising Center, which provides information on General Education requirements, course selection, registration, graduation requirements, and other academic policies and procedures. Contact the Advising Center at 974-7688 or uhhadvis@hawaii.edu.

4. How do I find out exactly which courses are offered in the coming semester, where and when they'll be offered, and who will teach those courses?

This information is published on the MyUHPortal Web site: http://myuhportal.hawaii.edu. To log in, you will need your UH username and password. If you do not have them, the MyUHPortal site will enable you to obtain them. In addition to class information, students use MyUH Portal to access their own class schedules, register, check email, etc.

5. If I am an undergraduate student, when do I have to declare a major, and how do I do it?

You're expected to declare a major before registering for your junior year (or once you have earned 55 or more credits). Please be aware that it may take more than four years to graduate if you do not decide on a major fairly early in your career at UH Hilo, particularly if you decide to major in one of the natural sciences or in business. To declare a major, complete the Declaration/Change of Major/Program form available at the Registrar's Office or at www.uhh.hawaii.edu/forms/.

6. Degree requirements change from time to time. Which year's requirements do I need to follow?

You must satisfy either the graduation requirements in effect at the time you first enroll as a classified student in a specific UH Hilo degree or certificate program, or the requirements in effect at the time of your graduation. If you change your major, you follow the requirements in the year you declare your new major or the year you graduate. If your UH Hilo enrollment is interrupted for more than two consecutive semesters (excluding summer sessions), you must complete the requirements in effect at the time you are readmitted or at the time of your graduation.

7. What is the difference between a B.A. and a B.S. degree?

UH Hilo offers the Bachelor of Science (B.S.) degree in Agriculture, Astronomy, Biology, Computer Science, Geology, and Nursing. Many B.S. degrees require more mathematics or laboratory-based science courses than are required for Bachelor of Arts (B.A.) degrees. Thus, the B.S. degree may provide a stronger foundation for students planning on graduate school in areas that require mathematics and science. Also, B.S. degrees often require fewer liberal arts courses in the major.

Some B.S. programs – such as Computer Science, Agriculture, and Nursing – are strongly career-oriented. In such specialized knowledge programs, students follow a more highly prescribed curriculum than is the case with many B.A. programs.

8. How do I get my grades at the end of each semester?

To get your grades, access https://myuhportal.hawaii.edu. You can print out a copy for your records.

9. I'm a transfer student. Do my grades from another college factor into my UH Hilo GPA?

No. Credits transfer, but grades do not. The "Institutional" GPA on your official transcript will be calculated solely from grades earned at UH Hilo. Honors designations are determined only by the "Institutional" GPA.

10. When I approach my senior year in college, what will I need to do to graduate?

You must submit an Application for Degree/Certificate very early in the semester ***prior to*** the one in which you plan to graduate and pay a $15.00 fee. The form is available at: www.uhh.hawaii.edu/forms/. The University's Academic Calendar shows the deadlines for submitting this application.

To ensure that you make timely progress toward your degree, we recommend that you meet often with an academic advisor and pay careful attention to all degree requirements outlined in this Catalog.

General Information

The University

The University of Hawai'i at Hilo, a vibrant, multicultural campus, provides opportunities for higher education on the island of Hawai'i, the southernmost and largest island in the Hawaiian archipelago. Founded as the Hawai'i Vocational School in 1941 and organized under its present name in 1970, UH Hilo has grown and changed throughout the years to meet the educational needs and aspirations of the community. While the University's primary focus is undergraduate education, it also offers several graduate degree programs in focused areas and recently has added a doctoral program in Pharmacy which begins in Fall 2007. A total of 3457 students were enrolled in Fall 2005.

UH Hilo's signal strengths are its small classes, low student/faculty ratio, diverse student body, island "learning laboratory," a faculty active in research who encourage student participation in their investigations, service to the community, and, perhaps most importantly, the "aloha spirit" that epitomizes UH Hilo's student-centered approach.

The University is part of the state-supported, ten-campus University of Hawai'i system, along with UH Mānoa, UH West O'ahu, and seven community colleges. Within UH Hilo are the following academic units:

- College of Agriculture, Forestry and Natural Resource Management
- College of Arts and Sciences, including Divisions of Humanities, Natural Sciences, and Social Sciences
- College of Business and Economics
- Ka Haka 'Ula O Ke'elikölani: College of Hawaiian Language
- College of Pharmacy

The chancellor is UH Hilo's chief executive officer, responsible to the president, who leads the statewide University of Hawai'i system. The Board of Regents, appointed by the governor, is the UH system's governing body.

Community and Environment

The University is located in the city of Hilo, on the east side of Hawai'i Island, about 200 air miles from Honolulu. The peaceful city of Hilo offers a moderate cost of living, a beautiful environment, and a highly diverse, low-density population of about 45,000. Within ten minutes of campus are shopping malls, theaters, and restaurants, as well as a major harbor and international airport.

Hilo is set against the backdrop of Mauna Kea and Mauna Loa, two of five volcanoes that form the island. Each of the mountains varies in geographic features, together spreading out over 4,208 square miles, and creating more distinctive climate zones and ecosystem types than anywhere else in the state. Besides snow-capped mountains and deserts, Hawai'i Island offers dormant and active volcanoes, lava flows encircling lush rainforests, rivers slicing through wind-swept pastures, and coastal reefs dropping off into the ocean. The University designs many of its programs for hands-on learning in this living laboratory.

Palm trees and beautiful foliage accent this port city and the campus. To nurture the lush tropical foliage, trade winds bring abundant rains, occasionally heavy, with most of the precipitation falling at night. Daytime temperatures often reach 80 degrees with night time temperatures seldom falling below 65 degrees.

The economy of Hawai'i Island is currently in transition following the demise of the sugar industry in the nineties. The three mainstays of the economy are adapting to this change with a spirit of entrepreneurship and creativity. Agriculture is diversifying, tourism is growing to include eco- and edu-tourism, and the astronomy facilities are developing a large community to support the world renowned observatories atop Mauna Kea. The University plays an important role in the island's economic revitalization through its commitment to workforce development for the new economy and its emphasis on applied research and technology in grant activity.

The Vision

Over the next years, the ultimate goal for the University of Hawai'i at Hilo is to become the premier residential campus in Hawai'i, while also providing an exemplary education, with aloha, to commuting students, non-traditional students, and distance learners. Already known for our success in Hawaiian language revitalization and for using the island as a learning and research laboratory, UH Hilo will become noted for:

- Academic excellence in liberal arts, professional, and agricultural programs
- A vibrant, enriched campus life
- Leadership in studies of Hawaiian, East Asian, Pacific, and indigenous cultures
- Leadership in studies of the tropical environment
- Active learning in research, internships, and community service
- Scholarship in theoretical and applied areas
- Commitment to community development

Mission

The University of Hawai'i at Hilo is a comprehensive, primarily baccalaureate institution offering a rigorous education in a caring, personalized atmosphere. As a regional, state-supported university, UH Hilo serves students from Hawai'i Island and from around the state. Additionally, UH Hilo enrolls students from the U.S. mainland and from many other nations, especially from Asia and the Pacific islands.

The primary mission of UH Hilo is to offer high quality undergraduate liberal arts and professional programs. Selected graduate degree programs also are offered where need warrants and the University has strong expertise. UH Hilo offers "hands-on" learning, service, and leadership opportunities and especially encourages close student-faculty interaction and collaboration on research projects. The University encourages theoretical and applied research and benefits Hawai'i Island and the state through resource centers, community partnerships, continuing education, and distance learning programs.

Hawai'i's incomparable natural and cultural environment serves as a learning laboratory, the setting for many teaching, research, and service activities. The University also offers unusually rich opportunities for intercultural exchange, since we are located in the most ethnically diverse county in the U.S. and attract students from around the world. Providing an environment that is responsive to the needs of a diverse student population is central to the UH Hilo philosophy. As the University's housing capacity grows, increasing numbers of students will benefit from immersion in our stimulating, diverse, and supportive residential environment.

Accreditation

All-University

UH Hilo is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC). Contact information for the Commission is as follows: 985 Atlantic Avenue, Ste. 100, Alameda, CA 94501; Telephone: 510-748-9001; Fax: 510-748-9797; Email: wascsr@wascsenior.org; Internet: www.wascweb.org

College of Business and Economics

Programs in the College of Business and Economics are accredited by AACSB International--The Association to Advance Collegiate Schools of Business (AACSB). Contact information: 777 South Harbor Island Blvd., Suite 750, Tampa, FL 33602-5730; Tele: 1-813-769-6500; FAX: 1-813-769-6559; http://www.aacsb.edu.

Students may transfer credits to other American or foreign universities on the same basis as course credits are transferred by other accredited American universities. Documents relating to the accreditation of the University of Hawai'i at Hilo are available to the public at the Edwin H. Mookini Library and at www.uhh.hawaii.edu/~accred

College of Pharmacy

The College of Pharmacy anticipates that in June, 2007, it will gain Pre-candidate Status by the Accreditation Council of Pharmacy Education (ACPE). Full accreditation by ACPE is anticipated upon graduation of the first Doctor of Pharmacy class in 2011. Contact information: ACPE, 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109; Telephone: 312-664-3575; FAX: 312-664-4652; Email: csinfo@acpe-accredit.org

Department of Nursing, College of Arts and Science

The Nursing program is accredited by the National League for Nursing Accrediting Commission (NLNAC). Contact information: 61 Broadway - 33rd Floor, New York, NY 10006; Telephone: 212-363-5555 or 800-669-1656 (ext. 153); Fax: (212) 812-0390: Internet: www.nlnac.org

Education Department, College of Arts and Science

Programs of the UH Hilo Education Department are accredited through the State Approval of Teacher Education Programs (SATE), as is the Kahuawaiola Indigenous Teacher Education Program under the Ka Haka ʻUla O Keʻelikölani College of Hawaiian Language. Contact information: Hawaii State Department of Education (Personnel Certification and Development Section) PO Box 2360, Honolulu, HI 96804 or 1390 Miller Street, Honolulu, HI 96813; Telephone: 808-586-3230; Fax: 808-586-5234; Internet: http://doe.k12.hi.us

Facilities

The University has a 115-acre main campus with an adjoining 487-acre University Park of Science and Technology, a 21-acre Manono Campus, a 110-acre Panaʻewa Agricultural Farm Laboratory, 33 acres slated for development as the China-U.S. Center, and a 10-acre Pacific Aquaculture and Coastal Research Center at Keaukaha. To serve the needs of the University, there are close to a million square feet of classrooms, laboratory facilities, library and media services center, faculty offices, administrative and student services facilities, residence halls, theater, campus center, student activities and athletic complex, tennis courts, and play fields. The campus and many of its facilities are shared with Hawaiʻi Community College. Currently under construction is the new Student Life Center. Approved for construction in the near future are the Science and Technology Building, the new College of Hawaiian Language Building, and a new parking lot.

UH Hilo offers courses elsewhere on Hawaiʻi Island at the university education centers in Kealakekua on the west side and in Honokaʻa on the northeast side, as well as via interactive television and Web-based instruction at various university centers throughout the Hawaiian islands.

College of Continuing Education and Community Service (CCECS)

This arm of the university is responsible for a number of important university endeavors, including:

- UH Hilo Summer Session
- Community service projects
- Conference Center
- Credit, non-credit, professional and personal development courses
- Cultural exhibits and performances
- Customized English as a Second Language programs
- North Hawaii Education and Research Center
- Osher Lifelong Learning Institute
- Public lectures, seminars, conferences, and workshops
- SeniorNet
- Travel study and international programs

Distance Learning

Distance learning programs at UH Hilo are designed for students who want to earn a bachelor's degree or certificate in a field and who have completed the University's General Education requirements at their home campus. Delivery methods vary, with many courses offered via the University of Hawaiʻi's interactive television system throughout the islands, and some courses via the World Wide Web. Prospective students must follow the regular UH Hilo application procedures.

Programs are generally offered to cohorts of students; *i.e.*, a program will begin in a certain year with a group of students, offer its courses in sequence, and end a prescribed number of semesters later. General information is available at the Distance Learning Web site: www.uhh.hawaii.edu/~dl/.

UH Hilo's College of Continuing Education and Community Service offers a very limited number of credit classes via the World Wide Web. Check the CCECS Web site to find out about current offerings: www.uhh.hawaii.edu/academics/ccecs/. In addition, UH Hilo offers a few classes at the North Hawaiʻi Education Center in Honokaʻa. The course list may be found at www.uhh.hawaii.edu/academics/ccecs/nhec.php.

Degrees and Certificates Offered

Bachelor's Degrees	Minors	Master's Degrees	Doctoral Degrees	Certificate or Licensure Programs*
·Administration of Justice, B.A. ·Agriculture, B.S. ·Anthropology, B.A. ·Art, B.A. ·Astronomy, B.S. ·Biology, B.A. and B.S. ·Business Administration, B.B.A. ·Chemistry, B.A. ·Communication, B.A. ·Computer Science, B.S. ·Economics, B.A. ·English, B.A. ·Environmental Studies, B.A. ·Environmental Science, B.S. ·Geography,B.A. ·Geology, B.A. and B.S. ·Hawaiian Studies, B.A. ·Health & Physical Education, B.A. ·History, B.A. ·Japanese Studies, B.A. ·Liberal Studies, B.A. ·Linguistics, B.A. ·Marine Science, B.A. ·Mathematics, B.A. ·Natural Science, B.A. ·Nursing, B.S. ·Performing Arts, B.A. ·Philosophy, B.A. ·Physics, B.A. ·Political Science, B.A. ·Psychology, B.A. ·Sociology, B.A.	·Agriculture ·Anthropology ·Art ·Astronomy ·Biology ·Business ·Administration ·Chemistry ·Communication ·Computer Science ·Earth and Space Science ·Economics ·English ·Geography ·Geology ·Hawaiian Studies ·History ·Linguistics ·Marine Science ·Mathematics ·Natural Science ·Philosophy ·Physics ·Sociology	·China-U.S. Relations, M.A. ·Counseling Psychology, M.A. ·Education, M.Ed. ·Hawaiian Language and Literature, M.A. ·Tropical Conservation Biology & Environmental Science, M.S.	·Indigenous Language and Culture Revitalization, Ph.D. ·Pharmacy, Pharm. D.	·Basic Hawaiian Culture ·Database Management ·E-Commerce, Technology, and Business ·Education ·Environmental Studies ·Hawaiian Language ·International Studies ·International Relations ·Kahuawaiola Indigenous Teacher Education ·Marine Options ·Pacific Islands Studies ·Performing Arts ·Planning ·Plant Tissue Culture ·Teaching English as a Second Language ·Women's Studies

**The University also offers two post-baccalaureate programs designed to qualify teacher candidates for licensure by the State of Hawai'i: (1) the Teacher Education Program of the UH Hilo Education Department and (2) the Kahuawaiola Indigenous Teacher Education Program of Ka Haka 'Ula O Ke'elikölani College of Hawaiian Language.*

Students

The University values the diverse campus community as a vital contribution to the learning environment. According to the 2000 U.S. Census, Hawai'i County is the most ethnically diverse county in the country; it is thus no surprise that UH Hilo enjoys an unusually diverse student body.

UH Hilo thrives on Hawai'i's rich cultural heritage and history of cooperation among ethnic groups. The university is committed not only to being responsive to the needs of a diverse student population, but also to creating a learning environment that fosters intercultural understanding, appreciation, and respect.

UH Hilo Student Body by Ethnic Group, Fall 2006

Caucasian	36.6%
Chinese	2.1%
Filipino	5.1%
Hawaiian	17.3%
Japanese	11.4%
Mixed	10.9%
Pacific Islander	6.0%
All Other	10.6%

Students are diverse in many other ways. The majority, approximately 60 percent of the students, are residents of Hawai'i. International students make up more than six percent of the student body. Women make up about 61 percent of the student body. The average age of the student body is just under 25, with 62 percent between the ages of under 18 to 24 years. About ninety-five percent are undergraduates and five percent graduate students.

Faculty

The faculty of UH Hilo are highly qualified, recognized experts in their disciplines. At least 80 per cent of full-time faculty hold doctoral or equivalent degrees in their respective areas. They are committed to quality education as a priority, placing a special emphasis on teaching and student-teacher interaction. The undergraduate student/faculty ratio is approximately 16.6/1, while the graduate student/faculty ratio is approximately 8.4/1.

UH Hilo takes pride in its faculty's research and scholarly accomplishments. Faculty use the diverse natural, physical, cultural, and economic resources of Hawai'i Island as a laboratory to investigate issues that are important locally, nationally, and globally. Faculty excel at combining teaching and research in the undergraduate experience as well as in the graduate experience. Most disciplines consider hands-on learning an integral part of their curriculum.

Extramural funding in the fiscal year 2006 amounted to $18.6 million, an increase of nearly two million dollars in one year. This increase demonstrates UH Hilo's robust commitment to research and scholarship.

Learning Support Services

Edwin H. Mookini Library

Linda Marie Golian-Lui, University Librarian/Director
Circulation Desk and Hours: (808) 974-7344
Reference Desk: (808) 974-7346
Library Administration: (808) 974-7759
http://library.uhh.hawaii.edu

Completed in 1981, the Mookini Library is located at the heart of the campus and is open year-round. Its primary mission is to support the academic programs of both the University of Hawai'i at Hilo and Hawai'i Community College.

Over 260,000 bound volumes are available to students. In addition, the Library provides on-site access to thousands of journals, either in print or electronic format. Special formats collected include audio and videocassettes, compact disks, DVD's, microforms, and electronic information. The Library is a partial depository for both United States and Hawai'i State documents. The Hawaiian Collection houses extensive Hawaiian holdings. To ensure proficiency in the use of these collections, the staff offers a comprehensive program of library instruction using a networked electronic library classroom.

Mookini Library provides additional services and facilities to further the academic mission of the University. The Library's reference service connects users with information resources available to them. The Graphics Department supports instruction with graphics and reprography work. Facilities in the Library include an audiovisual area with ample playback equipment and a PC lab for word processing and other basic computer software needs. Students may also confer in the group study rooms located throughout the building.

Computer technology is increasingly used to meet the information needs of the University community and facilitate access to library services for distance learners. The Library's catalog is available through Hawai'i Voyager, a Web-based library management system that provides information on library holdings for the entire University of Hawai'i system. Interlibrary loan services, available from the Library's Web page, assist students and faculty in obtaining research materials from off-campus sources.

Academic Computing Services

Normand Dionne, Information Technology Specialist.
(808) 974-7768
http://www.uhh.hawaii.edu/uhh/otdl/acs/

While UH Hilo may be in the middle of the Pacific Ocean, far removed from any shore, our services are far from "remote." Academic Computing Services has grown from its first 25-seat PC lab to dozens of facilities and hundreds of PC's in various forms located throughout the campus. Computing facilities include, but are not limited to, PC teaching labs, Open Study labs, Library labs, Special Purpose labs, and Departmental Student Resource Centers. All of these facilities are connected to a high speed Ethernet backbone bringing the Internet right into the classroom. Many of the Student Housing rooms also are connected, and wireless access across campus is growing every year. For a detailed description of what UH Hilo has to offer, please see the ACS web site at http://www.uhh.hawaii.edu/uhh/otdl/acs/

Tutoring Services

UH Hilo students have a number of options for tutoring assistance:

The Learning Center (TLC)
Guy Kimura, Coordinator
Lower Level, Mookini Library Building
(808) 974-7532

The Learning Center's mission is to support students in their pursuit of knowledge. Operated by Hawai'i Community College and situated on the lower level of the Library building, TLC provides numerous services to the students of both UH Hilo and Hawai'i Community College, including free tutoring, make-up testing, instructional computer programs, and access to the Internet. Students need to show their student ID with Banner number at the front desk upon arrival at the Center.

Tutoring and skills development are offered as a supplement to classroom participation in such areas as mathematics, natural sciences, social sciences, nursing, arts and humanities. The following goals are stressed:

- Promoting independence in learning
- Building student confidence
- Personalizing instruction
- Providing insight into the learning process and school success

TLC regularly provides tutors on duty for assistance with math, reading, writing, and English as a Second Language classes. For help with a specific class, students should check with the front desk to see if there is a tutor able to help in that area.

The Writing Center
Karla Hayashi, Coordinator
Mookini Library, Room 239
(808) 974-7545

The UH Hilo Writing Center provides assistance to students on academic writing assignments in all disciplines. Under the supervision of an English faculty member, student tutors help students to discover and develop topics, generate information to support ideas, organize information, refine the style of a paper, and edit their own papers. Tutors can also review a previously graded assignment to help students improve future performance.

The Writing Center, open during Fall and Spring semesters only, is located inside the Mookini Library PC Lab in Room 239. The Center is closed on holidays and semester breaks.

The Math Lab
Nadine Wolff, Coordinator
College Hall 5
(808) 933-3472

The MathLab offers free, walk-in tutoring to all students needing help with mathematics or, to a lesser extent, with mathematical concepts from other areas such as physics, chemistry, etc. All students who need help with their math or mathematical concepts are encouraged to come to College Hall 5 and make use of this valuable resource. The Lab is open during Fall, Spring, and Summer sessions. Fall and Spring hours are Monday-Thursday 9am-7pm, and Friday 9am-3pm.

Tutors are students majoring in mathematics or one of the other natural sciences who have demonstrated a keen interest in math and a desire to share what they have learned with others. Most of the tutors are qualified to help with algebra, precalculus, calculus, statistics, Math 100, etc., and some can tutor in physics, chemistry, computer science, and upper-division math/science courses as well.

The MathLab also has 14 computers for easy access to MathCAD & MINITAB software to complete calculus labs, statistics, or physics assignments and to use the Internet for research. The casual atmosphere, aimed at lowering "math anxiety," sets an ideal scene for meeting with fellow students to discuss homework and to study for exams.

Other General Learning Resources

Language Lab
Kanakaʻole Hall 272

Students taking language courses may use PC-based language learning programs and/or multimedia for Spanish, French, Chinese, Japanese, Hawaiian, and English as a Second Language.

Departmental Student Resource Centers

Several departments make centers available where students can hold study group sessions, get special help, or access a PC:

- Education: UCB 314
- Geology Department: College Hall 118
- History Department: UCB 333
- Nursing Department: UCB 200
- Psychology Department: UCB 244
- Sociology/Political Science: UCB 332

Educational Opportunity Programs

The Office of Student Affairs offers a number of programs to assist identified populations with educational services:

- Kīpuka Program (Native Hawaiian Student Support Program)
- Minority Access and Achievement Program
- Student Support Services Program

These programs are described in the Student Affairs chapter of this Catalog.

Student Affairs

Advising Center

Kainoa Ariola, Director
Portable Building 2, Room 103
Email: uhhadvis@hawaii.edu
(808) 974-7688
www.uhh.hawaii.edu/studentaffairs/advising

The Advising Center assists "General" students --those students who have not declared a major-- in the development of educational plans that are compatible with their life/career goals. The staff can help match personal interests with offerings in the university curriculum, talk with students about the implications of their college education, and help clarify academic and personal goals.

All students may receive support and guidance from the Center in the area of General Education and graduation requirements. The Center publishes information on General Education requirements, course selection, graduation requirements, and academic policies and procedures. The Center also coordinates advising events throughout the year.

The Center acts as a resource for faculty advisors by offering advisor development opportunities and supplemental support. Support may involve information on academic policies, general education requirements, and other needs specific to faculty advisors.

Career Center

Norman S. Stahl, Director (nstahl@hawaii.edu)
Campus Center, Room 202A
(808) 974-7687
http://career.uhh.hawaii.edu

The UH Hilo Career Center provides career counseling, career exploration and employment assistance to currently enrolled students. Services are also provided to alumni and students from other UH campuses on a space available basis. The Career Center provides two principal categories of services: Career Services and Student Employment Services.

Career Services

Career Services include career assessment and counseling to help you with decisions about your major field of study or post-graduation career plans; training and information on job-search skills and techniques; part-time and full-time job and internship listings, job fairs, and career related special events.

Career exploration resources include:

- Career counseling sessions to assess skills, interests, and other career related factors and assist you with making career decisions.

- Online computer programs that help you explore careers and define career options. (Visit the Career Center to obtain passwords.)
- A small career resource library to assist with career exploration and graduate or professional school planning

Employment assistance programs include:

- Workshops on a variety of topics including: resume writing; job-search ideas; skills identification; interviewing skills; and other career related topics
- Online job/internship listings: http://career.uhh.hawaii.edu
- Hyperlinks to other online job listings
- Internship binders
- Career/company information programs
- On-campus interviews
- Job fairs

Student Employment Services

Student Employment Services administers on-campus employment programs for currently enrolled UH Hilo students only. Part-time on-campus and community service jobs help you gain valuable work experience and finance your education. Although some positions are open only to students with federal work-study grants, many are open to all students meeting the eligibility criteria outlined below:

- UH Hilo student enrolled in a degree- or certificate-granting program
- Enrolled in at least 6 units (International Students must be enrolled in 12 units or more)
- A cumulative grade point average of at least 2.0

Student employment job listings are posted online at: http://career.uhh.hawaii.edu.

Counseling

Larry Test, Director (on leave Fall, 2007)
Student Services Building, 2nd floor
(808) 974-7399
www.uhh.hawaii.edu/studentaffairs/counseling/

The following services of the Counseling Center are available to all UH Hilo students on an appointment or walk-in basis:

Personal: Development of positive self-esteem and rewarding interpersonal relationships; resolution of problem behaviors such as stress, addictions, and depression.

Career: Identification of career options appropriate to one's interests, abilities, and values.

Educational: Selection of an academic major; assistance with motivation, study skills, time management, and exam preparation; participation in the National Student Exchange programs.

Students usually access Counseling Center services on a self-initiated basis. Frequently, however, concerned faculty or residence hall staff refer students for assistance of various kinds. Other programs with which the Counseling Center works closely are the Advising Center, Women's Center, and the Student Support Services Program.

The Counseling Center also reaches out to students to support their academic success. Students on first-time academic probation, for example, receive email or letters encouraging them to talk with a counselor.

In addition to working with students individually, Counseling Center staff conduct support groups when interest in specific areas exist as well as play an active role in presenting self-development workshops open to the University community. Topics include various aspects of learning skills as well as personal and career development.

Disability Services

Susan Shirachi, Director (uds@hawaii.edu)
Hale Kauanoe A Wing Lounge
Phone: V (808) 933-0816, TTY (808) 933-3335
www.uhh.hawaii.edu/studentaffairs/uds/

The University Disability Services Office provides services and support to disabled students, faculty, and staff of UH Hilo, in compliance with Section 504 of the Rehabilitation Act (1973) and the Americans with Disabilities Act. Support to the general public is in the form of auxiliary aids and services for those using campus facilities. The provision of direct service focuses on accommodation and access issues relating to the student with disability's educational needs. In addition to serving as an advocate for people with disabilities at UH Hilo, the office also provides consulting on reasonable accommodations for University employees with disabilities, facilities development, public accommodations for campus programs, services or activities, educational and disability awareness programs, and general support for diversity activities at UH Hilo. Services and support provided through the University Disabilities Office include:

- Disability review and referral for assessment
- Provision of accommodation
- Disability counseling
- Faculty and staff development
- Policy review and implementation
- University liaison
- Campus and community disability resource
- Diversity Club advisor

Pacific Internship Programs for Exploring Science (PIPES)

Sharon Ziegler-Chong and Carmen Perez-Frayne, Pacific Aquaculture and Coastal Resources Center (ziegler@hawaii.edu)
(808) 933-0705

In collaboration with university and community partners, several summer environmental internship programs under the umbrella of the Pacific Internship Programs for Exploring Science (PIPES) are offered for students who meet the qualifications for each program. These programs are part of an effort to build interest among students in considering careers related to the sciences, especially those interested in the environment, and to provide them the opportunity to apply information and skills learned in

the classroom to real life natural resource management issues on their islands.

The Research Experience for Undergraduates Site Program: Tropical Conservation Biology (REU) has been offered each summer since 2002. This is a summer residential research internship program that provides opportunities in the field of conservation biology with UH Hilo and Hawai'i Community College professors and partner agency researchers in East Hawai'i. This program, funded by the National Science Foundation (NSF), aims to give students with little research experience, especially those from underrepresented groups in science, the opportunity to explore this exciting field of research. This program coordinates its efforts with other PIPES programs and related efforts such as Keaholoa STEM.

The Research Experience for Teachers (RET) is an NSF-funded supplemental program to our REU effort. This program provides two Big Island teachers each summer the opportunity to work with researchers on the island of Hawaii to gain hands-on research experience that they can take back to enrich their classrooms. Stipend-based internships require a 4 to 5-week full-time commitment during the summer and production of instructional materials that the teachers develop for their classrooms.

The University of Hawai'i Hawaiian Internship Program (UH-HIP) began in 1997 and is a sister program of MASSIP (see below) aimed at increasing the numbers of local students, especially those of Native Hawaiian ancestry, interested in studies and careers related to the environment. The program offers students the opportunity to work with environmental groups and agencies in the state of Hawai'i for ten weeks during the summer. Most internships provide full-time employment by the participating agency. Eligible students earn academic credit for the internship experience in the Fall semester.

The Micronesia and American Samoa Student Internship Program (MASSIP) has been offered since 1994. The program offers students from the U.S.-affiliated Pacific Islands (the Federated States of Micronesia, the Republics of Palau and the Marshall Islands, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa) the opportunity to return home for the summer to work with environmental agencies and organizations. Financial resources are available for travel expenses and small stipends are offered by the host agencies. Students earn academic credit the following Fall semester through working with faculty and staff.

Exchange Programs

National Student Exchange (NSE)
Western Undergraduate Exchange (WUE)

Pat Williams-Clayburn, Director (pcwillia@hawaii.edu)
National Student Exchange (NSE)
Student Services Building, Room 203
(808) 974-7389
www.uhh.hawaii.edu/studentaffairs/nse.php

National Student Exchange (NSE)

The University of Hawai'i at Hilo is a long-time member of the National Student Exchange Program. Each year eligible UH Hilo students attend one of the 190 colleges and universities in 48 states, Guam, Puerto Rico, U.S. Virgin Islands and Canada or access the international study abroad programs of participating member campuses. Every semester many UH Hilo students expand their horizons by exchanging to campuses around the world while visiting students attend UH Hilo, contributing to the diverse population of our campus, and fostering a better understanding of differences in ideas and perspectives. By spending a semester or year on another campus, students can live in a different geographic area, explore new areas of study, different cultures, graduate school and career opportunities. UH Hilo students pay tuition and fees to UH Hilo or pay the host campus' in-state, resident tuition and fee rate, and can apply for financial aid. For more information, contact the NSE Coordinator, OSA Counseling Office, (808) 974-7389, or consult the UHH NSE Web site.

Western Undergraduate Exchange (WUE)
UH Hilo Admissions Office (uhhadm@hawaii.edu)
Student Services Building
(808) 974-7414 or (800) 897-4456

UH Hilo participates in the Western Undergraduate Exchange, a program of the Western Interstate Commission for Higher Education (WICHE) and other western states. Through WUE, certain students who are not residents of Hawai'i may enroll at UH Hilo in designated programs, paying resident tuition plus 50 percent of that amount (plus other fees that are paid by all students). WUE students do not pay the higher charge for nonresident tuition. Because UH Hilo participates, Hawai'i residents may enroll under the same terms in designated institutions and programs in other participating states.

Students under WUE must maintain their permanent domicile in their home state. Students intending to maintain their WUE tuition status cannot change their permanent address to Hawai'i. Hawai'i residency cannot be established as a WUE student, therefore, students must change their residency to non-resident for 12 months prior to qualifying as a Hawai'i resident for tuition purposes. Additionally, students must meet the residency regulations for tuition purposes as stated in this Catalog.

Enrollment at UH Hilo through the WUE program is limited to incoming students only, and restrictions may apply. Please contact the Admissions Office for more information about WUE programs available at UH Hilo. Hawai'i residents may obtain information about WUE programs in other states from the WICHE Certifying Officer for Hawai'i, University of Hawai'i at Mānoa, 2530 Dole Street, Room C-200, Honolulu, HI 96822, (808) 956-6625; or from the WICHE Student Exchange Program, P.O. Drawer P, Boulder, CO 80301-9752, (303) 497-0210. The WUE Web site is www.wiche.edu/SEP/WUE/.

Health Services and Women's Health Clinic

Carolyn Lesnett, Director
Campus Center, Room 212
(808) 974-7636; (808) 933-0868 (fax)
www.uhh.hawaii.edu/studentaffairs/health/

The Student Health Service is open Monday through Friday (except holidays), 8:00 a.m. to 4:30 p.m. Part-time physicians are

available approximately ten hours per week for general medical care for students. The nurse practitioner/manager provides first aid, health education, advice on caring for illnesses or injuries, counseling on health related problems, tuberculin tests, and routine immunizations. In the event of an accident or emergency, Hilo Medical Center, located a few miles from campus, provides 24-hour emergency care.

The Women's Health Clinic, located within the Student Health Service, offers pelvic exams, diagnosis and treatment for sexually transmitted diseases, contraceptive methods, and pregnancy testing and counseling. Services are available to both males and females and are low or no cost to income eligible students.

International Student Services

Ruth Robison, Director (rrobison@hawaii.edu)
Student Services Building, Room 206
(808) 974-7313; (808) 933-0860 (fax)
www.uhh.hawaii.edu/studentaffairs/international/services.php

UH Hilo is a multicultural campus with international students attending from approximately 40 countries throughout the world, primarily from the Pacific Islands and Asia. The International Student Services Office facilitates the transition of international students to the U.S. academic environment by conducting specialized orientations and workshops, and by organizing social activities. Numerous services are provided, including assistance with immigration regulations, employment, scholarships, academic matters, and personal issues.

The Director of International Student Services is the Advisor to the International Student Association, which sponsors campus-wide activities, such as United Nations Day and International Nights, aimed at increasing cultural awareness and understanding. The International Student Association also organizes off-campus excursions to the mountains, beaches, and sea, activities which allow students to learn about the unique physical and cultural treasures of Hawai`i Island.

The International Student Services Office is home to the Becoming Culturally Aware Project (BCAP). BCAP provides logistical support to enable international students to make presentations about their home countries and cultures at schools, community organizations, and on the campus, too. UH Hilo welcomes the rich contribution made to its campus and the community by students from other countries.

Kīpuka Native Hawaiian Student Center

Gail Makuakane-Lundin, Director
Portable Building 12-8
(808) 933-0897
www.uhh.hawaii.edu/kipuka

The mission of the Kīpuka Native Hawaiian Student Support Program is to increase access to higher education through the provision of comprehensive support programs and services to promote academic excellence, spiritual well-being, and the enhancement of cultural and leadership development for Native Hawaiians at the University of Hawai`i at Hilo. The Center provides a "home" on campus for all Native Hawaiian students and assists them to attain their academic and personal goals. Culturally appropriate and responsive support services and activities include:

- academic advising;
- career planning and preparation including placement with mentors and internships on and off campus;
- tutoring in basic skills such as writing and math and content areas including Hawaiian language and the sciences;
- peer mentoring;
- assistance with financial aid (especially scholarships giving preference to Hawaiians);
- advocacy for all Native Hawaiian students at UH Hilo.

In addition, the program provides opportunities for students to develop their leadership skills through academic coursework and service-learning projects in the community. The Center also provides open access to a Mac computer lab and other technologies day and night.

Other activities of the Center include community outreach and recruitment; cultural development forums; presentations and workshops; non-credit distance learning Hawaiian culture courses; and an annual gathering for Hawaiian students, faculty, and staff.

Programs within the Center include Nuiakea Hawaiian Culture Distance Learning Program which offers online Hawaiian culture non-credit personal enrichment courses and the Uluakea Curriculum and Faculty Develoment Program which supports and trains faculty in their development of a Hawaiian worldview through which they can develop new courses, revise existing courses, and teach courses at all levels.

Minority Access and Achievement Program

Ginger Hamilton, Director
Student Services Building, Room 202
(808) 974-7451
www.uhh.hawaii.edu/~maap

The Minority Access and Achievement Program Office was established as the result of an initiative by the state legislature to "improve access and success of students from underrepresented ethnic groups at the University and in the professions in Hawai'i." The students most underrepresented in higher education in this state are Hawaiian, Filipino, Samoan and other Pacific Islanders, and Indo-Chinese.

The focus of this office is to reach out to the target population and empower them to achieve their goals by providing a variety of support services to meet the students' needs. Services are free to participants and include the following: personal counseling, academic advising, career exploration, and assistance with applying for financial aid and scholarships.

The Peer Assistant Linkages and Support (PALS) program, established in 1990, links freshmen and transfer students with UH Hilo students who serve as peer assistants and mentors. PALS provides a place where participants can meet and are encouraged to seek assistance with peer advising and counseling, academic planning, financial aid, career development, study skills, and

time management. Cultural enrichment activities and social events are also planned throughout the year.

The MAAP office also works collaboratively with the Career Center to offer the Bridge to Hope (BTH) Program at UH Hilo. This program is an employment support program for TANF (welfare) recipients who are participating in the First to Work program. BTH helps to place students in jobs on campus and provides support to assist them in meeting their educational and personal goals.

Native Hawaiian Serving Institutions Program

Bill Chen, Program Director (bchen@hawaii.edu)
(808) 933-3311
www.uhh.hawaii.edu/~nhsi

Since October 2000 the University of Hawai`i at Hilo has received funding from the U.S. Department of Education to implement its Native Hawaiian Serving Institutions Program (NHSI). This program has been successful in increasing Native Hawaiian student access to UH Hilo programs, and in increasing retention and graduation rates. In addition, the program has expanded Native Hawaiian student access to and competency in technology through asynchronous Internet learning opportunities.

Funding for the next five years supports three main activities. Activity One is designed to develop and improve academic curricula to incorporate a Hawaiian foundation and perspective. Activity Two establishes a professional development program to increase faculty and staff knowledge and awareness of Hawaiian perspectives. Activity Three will provide increased access to Hawaiian language resource materials.

New, Transfer, and Returning Student Orientation

Myhraliza Aala (maala@hawaii.edu)
Associate Director, Campus Center
Campus Center, Room 309
(808) 933-0732

The mission of New, Transfer, and Returning Student Orientation is to serve as a vehicle that welcomes and introduces each student and their families to the campus and community environment. The University of Hawai'i at Hilo is an intellectually stimulating, culturally diverse, and caring community. The goal of orientation is to enable students to feel personally connected and invested in their own educational success. Orientation provides opportunities for students to engage in activities that will assist them in acquiring tools that will foster a safe and successful transition to the university. Orientation is a first step in developing students into civic-minded citizens of the community.

Engaging in orientation activities assists students to transition successfully by providing the following:

- Supportive and personalized academic advising
- Small group student interaction with new and experienced students
- Personalized advising from faculty within each student's major
- Easy access to university staff to guide students' concerns and questions regarding campus life
- Guided information sessions for student financial assistance
- Resourceful parent session that will inform, clarify, and define the family's changing role in the student's college experience
- Leadership development through involvement with student organizations and community partners
- Celebration of a culturally diverse campus environment through traditions and cultural receptions
- Registration in a class schedule that is balanced and aligns with the students' academic goals
- Exposure to service opportunities that can be either linked to an academic course, linked to a students' tuition (Americorp), or a practical learning environment
- Career development workshops
- On-campus residential, theme-based living arrangements

Orientation is **highly encouraged** and occurs a week prior to the start of the Fall and Spring semesters. Orientation provides an opportunity for new, transfer, and returning students to make connections with fellow students, staff, and faculty in an inclusive, informative, and fun way. Incoming students receive notification about Orientation in the mail, including how to sign up for Orientation activities via the Internet. The fee for students who attend Orientation is $55.00; the fee for parent orientation is $25.00. Additional fees may apply depending on extra-curricular activities that students sign up for upon registration.

Registrar

Cathy A. Zenz, University Registrar
Student Services Building
(808) 974-7326
www.uhh.hawaii.edu/studentaffairs/records/

Registration

The Office of the Registrar provides all registration-related information, such as current semester schedule of classes, registration instructions for each semester, and information about obtaining copies of your transcripts.

Students are able to register for classes over the Web. The MyUH Portal at http://myuhportal.hawaii.edu/cp/home/loginf provides access to registration, final grades, unofficial transcripts, etc.

Transcripts

A student may obtain an official transcript of his or her academic record completed at UH Hilo. A fee is charged in advance for each transcript requested. Students who took classes at Hawai'i Community College (HawCC) prior to summer session 1992 need to request their transcripts form UH Hilo. Transcripts of HawCC classes from summer 1992 and thereafter must be obtained from HawCC.

If you are on campus and wish to obtain a transcript, file a written request at the Business Office.

If you are off campus, please follow the following steps:

1. Submit a written request to the UH Hilo Registrar's Office with the following information:
   a. Your legal name
   b. Any other names before, during, or after enrolling at UH Hilo
   c. Social security number or student ID number
   d. Birth date
   e. Approximate dates of attendance at UH Hilo
   f. Number of transcripts needed
   g. Special processing instructions, *i.e.*, "individually sealed," "rush processing," etc.
   h. Where to send the transcripts (provide **complete** address)
   i. Your current mailing address and telephone number
   j. Your e-mail address (if available)
2. The letter must bear your signature as the requestor.
3. Payment to the University of Hawaii at Hilo for each transcript is required prior to its issuance. The current charge is five dollars ($5.00 US) per copy.
4. The normal processing time is within seven working days upon receipt of the request and payment. To expedite transcript requests, you may specify rush service for a higher fee of fifteen dollars ($15.00 US) per transcript. Rush transcripts are processed by the end of the next business day.
5. Both the request and payment should be mailed to:
   UH Hilo Registrar's Office
   200 West Kawili St.
   Hilo, HI 96720-4091

Transcripts from other educational institutions become the property of UH Hilo and cannot be released or copied for students. Students should arrange for such records to be sent from the original educational institutions.

Student Support Services Program

Melissa Johnson, Director
Student Services Building, Room 211
(808) 974-7616
www.uhh.hawaii.edu/studentaffairs/sssp.php

Student Support Services is a federally funded TRIO program designed to foster the academic achievement and success of university students. Students from the U.S. or the U.S.-affiliated Pacific Islands who are first-generation college students (*i.e.*, neither parent has earned a bachelor's degree from college), or who are considered low-income, or who have a documented disability, are eligible for the program.

The program provides comprehensive support services such as academic advising, and assistance with financial aid and scholarship applications. The program also assists students in making the transition into college and monitors students' academic progress. Peer tutors provide individual and group tutoring. Students in the program also have the opportunity to participate in cultural and academic enrichment activities, as well as in workshops focused on personal and career development and learning skills.

Study Abroad

Center for Global Education and Exchange
PB 9, Room 6
TEL. (808) 933-8810; FAX (808) 933-8811
EMAIL: uhhglobe@hawaii.edu

Studying in another country offers a first-hand experience of other cultures and provides for the acquisition of valuable skills and expertise for an increasingly internationalized and interdependent world. The study abroad coordinator can assist in the selection of programs sponsored by UH Hilo as well as from programs sponsored by the University of Hawai'i system. In addition, UH Hilo students are eligible to participate in study abroad programs sponsored by participating campuses in the National Student Exchange Consortium. Information and advising are also available for other study abroad opportunities. The biggest advantage for students to study abroad through UH Hilo programs is that most of the credits earned abroad are transferable toward graduation, and in most cases, the cost will be UH Hilo resident tuition for residents of Hawai'i. Financial aid and scholarship opportunities also are available.

Women's Center

Candace Rosovsky, Director
Campus Center, Room 312
(808) 974-7306
www.uhh.hawaii.edu/studentaffairs/womenscenter.php

The UH Hilo Women's Center opened in 1990 to address women's concerns on campus and in the community. The Women's Center is committed to working toward the empowerment of women, encouraging women to take full control of their lives, working to end all forms of oppression, and to strengthen bonds among all women. Services include crisis counseling, peer support, information and referral to UH Hilo and community resources, and support groups. The Center also coordinates and sponsors a wide variety of presentations (lectures, poetry readings, workshops, films, etc.) to increase awareness of issues relating to women and to promote women as leaders and role models. In addition, the Center houses a resource lending library (books and videotapes) for students, faculty, staff, and community members.

Co-Curricular Activities

Student Organizations

Campus Center/Student Life
Ellen Kusano, Director
Campus Center 210
(808) 974-7499
www.uhh.hawaii.edu/campuscenter/

Co-curricular learning, through activities, programs and services, is integral to **a** student's total higher education experience. This learning helps to prepare students for the transition toward independence and self-responsibility and to support their life and career changes.

The University offers a wide range of student-administered, co-curricular learning activities to meet the social, educational, cultural, and recreational needs of the UH Hilo community. The major organizations providing these programs, activities and services are the University of Hawai'i at Hilo Student Association (UHHSA), Student Activities Council (SAC), the Board of Student Publications (BOSP), the Board of Media Broadcasting (BOMB), Ho'olaulima Student Mediation Services, the Advocacy Council for Students, the Student Service Corps, and the Campus Center Fee Board. These organizations receive, administer and oversee the fees assessed each semester of all enrolled students at UH Hilo.

- UHHSA represents all UH Hilo students. Its primary responsibilities include research, education, and action related to campus and academic issues and problems, sponsoring programs of interest and benefit to students, and participation in UH Hilo policy making.
- The Student Activities Council offers a variety of cultural, educational, recreational, and social programs for UH Hilo students, faculty, staff, and the general public. SAC also supports the Gallery at Campus Center and intramural sports.
- The Board of Student Publications is a student-faculty board which oversees student publications. These include Ke Kalahea, the campus student newspaper; Kanilehua, a literary and arts journal; and Hohonu, the student academic journal. Students interested in becoming involved with student publications should drop by the offices located in the Campus Center.
- The Board of Media Broadcasting governs and operates electronic communication broadcast by internet, radio, television, or other means in the city of Hilo. The BOMB provides students with an opportunity to gain experience, education, and training in media broadcasting through diverse musical, cultural, educational, and informational programming. The BOMB oversees URH, the student internet and AM broadcast radio station. The radio station operates with an all-student staff with volunteer DJs.

- Ho'olaulima Student Mediation Services allows students to take an active, direct role in resolving their conflicts. Student mediators serve as neutral third parties who facilitate communication and problem solving between the disputants in order to reach a mutually satisfying resolution.
- The Advocacy Council for Students serves as a one-stop center for students who have concerns or complaints related to academic or social situations that may arise on campus. The Advocacy Council provides education, support, and direction to maximize students' rights provided through university policies and procedures.
- The Student Service Corps provides ongoing and one-time opportunities for students to engage in meaningful service to their campus and community. SSC programs include environmental service (Break Thru Adventures, Make a Difference Day, and Good Neighbor Day), social issues (Freedom from Hunger, Fair Trade), and educational development (America Reads, Math Counts).
- The Campus Center Fee Board administers and oversees fees that fund leadership programs, Ho'olaulima Mediation Services, The Advocacy Council, service programs, and recreation.

Students pursuing a degree program who have a cumulative grade point average (GPA) of 2.0 or above may participate in any of the organizations above and also may be selected to serve on special University committees. Each organization has further qualifications for participation, and any student interested in these activities should contact the Campus Center Director.

Students may choose to join any of the 40-plus clubs which are active during the academic year. Clubs must be officially registered with the Campus Center Director in order to utilize campus facilities, sponsor UH Hilo-related activities, or receive funding from the UHHSA, SAC, or the Fee Board**.** The Campus Center also provides orientation and training opportunities for registered clubs and organizations throughout the year.

The student life program, in tandem with our academic programs, is designed to enhance the total development of our students. Student organizations and clubs provide opportunities for students to acquire leadership skills, interact with other people, and participate in recreational and academically related activities. Student life provides hands-on opportunities to practice knowledge and skills that complement and enhance academic learning.

Service-Learning

Myhraliza Aala (maala@hawaii.edu)
Associate Director, Campus Center
Student Service-Learning Corps Office
Campus Center, Room 316
(808) 974-7381

The University of Hawai`i at Hilo supports the civic mission of higher education through a continuum of service opportunities, including the institutionalization of Service-Learning and the support of a Student Service Corps, with an emphasis upon student leadership development and diversity.

Opportunities to serve the campus and community are designed to meet the diverse needs and interests of our student body. Service-learners at the University of Hawai`i at Hilo benefit from a wide range of Service-Learning activities that address campus, community, and civic concerns. Continuum of service opportunities include:

- New Student Orientation service projects
- One-time service events (Make A Difference Day, Good Neighbor Day, World AIDS Day, America Reads, Beach Clean Ups, and Earth Day)
- Ongoing co-curricular service (e.g. Student Service Corps, where students serve, educate, and advocate concerning hunger and homelessness, environmental sustainability, and fair trade)
- Academic service-learning (students earn academic credit by performing community service that is integrated into their course curriculum)
- Careers for the Common Good (students explore service careers and life-long service opportunities)

The Service-Learning Office also sponsors an "alternative spring break" program called "Break Thru Adventures" (BTA). Students organize environmental service projects throughout the year that culminate in spring break eco-adventures throughout the Hawaiian Islands. Through BTA, students make new friends, protect the environment, and gain a deeper appreciation for the Hawaiian culture, all within a drug/alcohol-free setting. In addition, some students may qualify for AmeriCorps placements to earn educational awards to help pay for their college careers. Opportunities also are available to attend regional and national service learning conferences.

Through the variety of Service-Learning opportunities, students experience an enhanced learning environment, allowing them to connect in-class theory with in-community practice. Service-Learners also became more aware of community resources and needs, as well as their civic duty to address the welfare of others as an engaged citizen. By participating in the continuum of service, UH Hilo students, staff, and faculty promote distinctive pathways to learning excellence while building meaningful and enduring community partnerships.

Intramural Recreation

Kallen Miyataki, Coordinator
Building 320C by the Gym
(808) 974-7702

Intramural sports play an important role in the development of student life by providing a structured athletic competition program for the entire University community. Students may sign up for individual events or enlist their friends and classmates to compete as a team.

Each semester a full schedule of activities for team and individual competition is offered. Among the activities planned each year are the following:

Activities
3-Point Shooting
Doubles Ping Pong
Free-throw Shooting
2-Person Sand Volleyball
Co-Ed Indoor Soccer
Co-Ed Ultimate Frisbee
3.5 Double Tennis
Volleyball Serve
8-Ball
Chop Suey Golf
Doubles Pickle Ball
Co-Ed 5-on-5 Soccer
Chipping Contest
Over The Line Softball

Leagues
Novice/Open Volleyball
CO-Ed Softball
Men's and Women's Basketball
Pass Football
Bowling

Students are given the opportunity to have fun while developing skills, interests, attitudes, and knowledge in physical activities that contribute to a lifelong commitment to health and vitality. Our intramural program features league play, weekend and weekday activities, open recreation, and special events. Students officiate at all games, thus providing an opportunity to experience sports from a different perspective.

Fitness for Life

Mike O'Donnell, Dean, College of Continuing Education and Community Service
(808) 974-7664
www.uhh.hawaii.edu/academics/ccecs

If you're looking for something to spice up your day-to-day routine, look no further than this unique recreation and leisure program. More than just an exercise program, Fitness for Life aims to better a person's overall wellness. Students may take up a dance class or fencing, a drawing class or a language; in the Fitness for Life program there is sure to be something for everyone. Affordable classes and workshops for people of all ages, lifestyles, and skill levels engage the mind, body, and spirit in ways that promote balance and better health. Participating in a Fitness for Life class is one way to do something enriching and new for yourself. Contact CCECS for more information and current offerings.

Ensembles

UH Hilo Performing Arts provides a variety of performing ensembles that are open to all qualified students:

- **University Chorus:** A large choral organization that performs major, large-scale choral works. Any student may join this group.
- **University Showcase Singers:** A highly select group that performs a wide variety of choral music. This group performs throughout the community and in University concerts.
- **Chamber Ensembles:** Small groups of varied instrumentation/voices, which may include strings, brass, percussion, voices, and winds separately or combined.
- **Dance Ensemble:** A select performing group of dancers, presenting public concerts of modern, jazz, classical, and traditional dance forms. This group performs throughout the community and in university concerts.

For more information, contact:
Ken Staton, Chair of the Performing Arts Department
808-933-0718
kstaton@hawaii.edu

UH Hilo Performing Arts Center

Theatre Manager
(808) 933-0881
http://www.uhhtheatre.com

The UH Hilo Performing Arts Center is the major performing arts educational and cultural center on Hawai'i Island, serving as a joint facility for the University and Hawai'i Island communities. The primary purpose of the Center's program is to offer significant educational and diverse cultural opportunities where dialogue, the exchange of cultural and artistic ideas, and co-curricular activities are encouraged.

The Theatre produces, presents, and/or co-sponsors an extensive and culturally diverse year-round season of local, regional, national, and international performing arts events. A typical season includes over 100 performances of dance, drama, music, mime, children's shows, and special events. Visit the Theatre's Web site for more information and the current schedule of events.

The Performing Arts Department also produces and mounts four to ten plays, musicals, and/or dance performances each season. Interested faculty, staff, students, and community members are encouraged to participate in these activities.

Athletics

Athletics

For information, please contact:

Office of Intercollegiate Athletics
Kathleen McNally, Director
Athletic Complex, Room 107B
(808) 974-7621; (808) 974-7711 (fax)
http://vulcans.uhh.hawaii.edu/

The UH Hilo Office of Intercollegiate Athletics' first emphasis is the education of its student-athletes. Its mission is to provide an opportunity to compete against the best athletic programs in the NCAA West Region. Regional and national rankings are frequent occurrences for many of the Vulcan athletic programs. Teams and individuals have maximized their opportunities to achieve against quality competition. In the classroom the Vulcan athletics program has produced noteworthy numbers of students receiving academic All-Conference and All-American recognition. The University of Hawaii at Hilo Athletic Department commits to the development of the total student-athlete, embracing high expectations in the classroom and on the playing field or court.

In 2002 the University was recognized with top honors in the NCAA academic achievement awards from *USA Today*. Vulcan athletes from the 1995 freshmen class finished among the top two in three of the categories used to measure athletes' success in the classroom. The Vulcans placed (a) first in graduation rate [100 percent], (b) first in the difference in graduation rate between athletes and the overall student enrollment [plus 70 percent], and (c) second in improvement from 1994 [57 percent increase]. To support athletes' academic efforts, the University provides a full support service specifically for student athletes. The Academic Support Service program enhances the support necessary for academic success of a student athlete. In addition, the Pacific West Conference and University are committed to providing a study hall environment, computer access, and library admission for our traveling squads, including providing laptop computers to students. A computer-based Vulcan Study/Resource Center is available in the Athletic Complex to provide an around-the-clock study environment to meet student athletes' academic needs during their rigorous athletic and academic schedules.

Competitive Sports

UH Hilo supports thirteen varsity sports including the following:

- For women: volleyball, cross country, soccer, basketball, tennis, golf, and softball
- For men: cross country, soccer, basketball, tennis, golf, and baseball

All teams (except baseball) participate at the Division II level of the National Collegiate Athletic Association (NCAA). Men's baseball competes as an independent NCAA Division I program. Women's volleyball, men's and women's cross country, men's and women's soccer, men's and women's basketball, women's tennis, men's golf, and women's softball compete in the Pacific West Conference for a championship.

Since joining the NCAA Division II during the 1994-95 seasons, post-season participation has become an achievable and expected goal for many Vulcan sports. The individual sports of cross country, tennis, and golf have been regular participants in regional tournaments, while volleyball, softball and basketball teams have been ranked regionally and nationally. On the field and court numerous post-season awards have been garnered by Vulcan athletes who have had the opportunity to compete in our athletic program.

Background

The history of Vulcan athletics goes back to the glory days of the National Association of Intercollegiate Athletics (NAIA) when the women's volleyball team won seven national championships, including five NAIA National Championships and two AIAW Division II titles. In the unprecedented 1981 season, UH Hilo won the NAIA and AIAW national championships.

It was basketball, however, that brought the Vulcan program onto the national scene by winning the NAIA District 2 Basketball Championships in 1977 and advancing into the second round of the NAIA National Championship. The program added three more district championships: 1978, 1980, and 1987.

Baseball and softball also flourished in the NAIA. Baseball advanced through District and Area Championships and participated in three NAIA World Series. Softball won three District championships and finished fourth at the 1992 Softball World Series in Pensacola, Florida.

Facilities

Vulcan athletes are offered a multiple athletic facility both on and off campus. Volleyball calls the 1,000-seat UH Hilo New Gym home, while the men's and women's basketball teams play most of their games at the 3,000-seat Afook-Chinen Civic Auditorium. The softball team has an on-campus facility. The baseball team plays at three sites: the 1,000-seat UH Hilo baseball complex, the 2,500-seat Francis K. Wong Stadium in Hilo, and Simmons Field in Kailua-Kona. The Waikoloa King's Golf Course serves as the men's and women's golf teams' home course. Tennis teams compete on the newly-refurbished UH Hilo tennis courts and have competed at the Fairmont Orchid at Mauna Lani Tennis Pavilion on the Kohala Coast. Soccer teams play their schedules at Keaau High School until a campus facility can be developed.

Admissions

The Admissions Ziplist

Check off the following as it pertains to you and you'll be well on your way to zipping through the admissions process!

Submit now:

_____ Application Form by July 1 (Fall) or December 1 (Spring)
_____ $50.00 Application Fee
_____ * Housing Application by March 31 (Fall) or October 15 (Spring)
_____ * Free Application for Federal Student Aid (FAFSA) by March 1

* Processed only upon acceptance to UH Hilo.

AND

High School Seniors:

_____ Have official high school transcripts sent directly from your school to the Admissions Office.
_____ Official SAT I/ACT scores

Transfer Students:

_____ Have all college transcripts from previously attended institutions sent directly to the Admissions Office.
_____ Have high school transcripts and SAT I/ACT scores sent directly to the Admissions Office if less than 24 semester credit hours completed

G.E.D. Applicants:

_____ Have official G.E.D. scores sent directly from the testing agency.
_____ Have official SAT or ACT scores sent directly from the testing agency.

International Applicants:

_____ Application Form postmarked by June 1 (Fall) or November 1(Spring)
_____ $50 Application Fee
_____ Supplementary Information Form for International Applicants
_____ Have official secondary or college transcripts, and/or qualifying exams sent directly from your school and/or testing agency to the Admissions Office
_____ Official TOEFL scores, if applicable
_____ Certification of Domicile, if applicable
_____ All documents not in English must be accompanied by a certified English translation.

UH Hilo Admissions Office
James Cromwell, Director
Student Services Building
200 W. Kāwili Street
Hilo, HI 96720-4091

(808) 974-7414 or (800) 897-4456
(808) 933-0861 (fax)
Email: uhhadm@hawaii.edu
www.uhh.hawaii.edu

Admission Requirements for Undergraduates

Application and admission information may be obtained from high school counselors in Hawai'i, from the Admissions Office, or the University's Web site. The University of Hawai'i system application form is used by all campuses in the UH system. Applications and all supporting documents must be received by July 1 for Fall semester admission and December 1 for Spring semester admission. International applicants should apply by June 1 for Fall semester admission and November 1 for Spring semester admission.

Complete applications include a $50 application fee; official transcripts of all high school, college, university, business and other post-secondary schools attended sent directly from each institution involved; and all other credentials noted in the system application. The $50 application fee is non-refundable and required each time the student applies.

All applications and fees are valid for a single semester only. Acceptance does not imply that on-campus housing and/or financial aid are available. While the University will make every effort to assist, students must arrange for their own financial aid and housing by directly contacting the Office of Financial Aid and/or the Office of Student Housing.

Admission to the University is based primarily on high school or college courses completed, grade point averages, and test scores. Academic criteria are outlined in the sections that follow.

Candidates for admission are required to specify on the application form all current and previous enrollment in any post-secondary institution.

Any candidate for admission who fails to inform the University of such enrollment, or who submits or has submitted on his/her behalf any required information or document which is fraudulent, or which has been altered without proper authorization, may be denied admission to the University of Hawai'i at Hilo. If the omissions and/or alterations are discovered after the student is enrolled, enrollment may be cancelled and/or the student will be subject to the Student Conduct Code, which may result in disciplinary action.

Admission may be denied if previously documented actions or behavior affected the safety of others.

Admission Procedures

Prospective students should do the following:

1. File an official application for admissions and submit the $50 application fee by July 1 for Fall semester and December 1 for Spring semester. International applicants must file by June 1 for Fall semester and November 1 for Spring semester.
2. **If you are interested in receiving financial assistance, please request a financial aid application or go online at www.fafsa.com** and file by March 1 to the Financial Aid Office, 200 W. Käwili Street, Hilo, HI 96720- 4091; (808) 974-7324. (See the Financial Aid section of this catalog for more details.)
3. In order to receive on-campus housing assignments, request and file by March 31 an official application for on-campus housing with the office of Student Housing, 200 W. Käwili Street, Hilo, HI 96720-4091; (808) 974-7522/974-7535. Acceptance to the University does not guarantee on-campus housing. (See the Student Housing section of this catalog for more details.)

Admission of First-Time Freshmen

Students applying for admission directly from high school as freshmen are advised to submit scores of the Scholastic Aptitude Test (SAT) or the American College Test (ACT), high school transcripts or the General Education Development high school equivalency records, and recommendations from school officials.

Admission from high school requires the following:

- 3.0 academic GPA in 17 units to include 4 English, 3 Math (including Algebra II), 3 Science and 7 course-prep electives.
- SAT or ACT scores are required but will not be used unless the academic GPA is less than 3.0.
- GPA below 3.0 considered on a sliding scale with test scores

Candidates for Fall admission should take the SAT or ACT by December of the senior year in high school. Candidates for Spring admission should take the test before or during May. For information on these tests, consult a high school counselor or contact: (SAT) College Entrance Examination Board, Box 592, Princeton, New Jersey 08540, USA (www.ets.org); or (ACT) American College Testing Program, P.O. Box 414, Iowa City, Iowa 52243, USA (www.act.org).

Applicants denied admission may reapply as transfer students after satisfactorily completing 24 semester hours of transferable courses at another regionally accredited college or university.

Admission of Transfer Students

Transfer students are those who were previously enrolled at a college or university other than the University of Hawai'i at Hilo.

Students who are transferring to UH Hilo must arrange for all official college transcripts to be sent to the Admissions Office directly from institutions previously attended. Those who have completed fewer than 24 acceptable semester hours of college-level work or who have enrolled in an unaccredited institution must also submit their high school transcript and SAT or ACT results. Transfer students who have completed at least 24 semester hours in a curriculum comparable to UH Hilo from an accredited U.S. college or university with a minimum GPA of 2.0 will be evaluated for transfer on the basis of their college transcripts.

All students with less than 48 transferable semester credits must have obtained a high school diploma from a regionally accredited high school, General Equivalency Diploma (GED), or competency-based high school diploma prior to enrolling at UH Hilo.

Transcripts Required

Students who have enrolled at other colleges and universities may not disregard their records at such institutions. Students are required to file complete official transcripts of any and all academic work taken at other institutions. The final grades for courses-in-progress of admitted students are required to be on file at the Admissions Office no later than the deadline stated in the official letter of acceptance from the Admissions Office. Students who do not submit final, official college transcripts will not be permitted to register for classes.

Failure to report previous college attendance and/or to file all required transcripts is sufficient cause for the cancellation of the student's admissions acceptance, denial of registration, and/or dismissal from the University.

Transfer Credit

Formal evaluations will be completed after students register for classes at UH Hilo. To assist with registration and advising, evaluations will be processed by the Admissions Office upon receipt of a non-refundable, partial, advanced tuition deposit. Prospective students may meet with an admissions officer for a personal preliminary evaluation prior to applying. This service is normally conducted in person.

Coursework eligible for transfer credit must be of baccalaureate-level from regionally accredited institutions (U.S.) or nationally recognized if from a foreign country. Grades in these courses must be "C" (70%) or above to transfer, except for courses completed at other campuses in the University of Hawai'i system (for which any passing grade will be accepted). Students transferring with any work done more than ten years prior to their admittance to UH Hilo may find such work subject to further evaluation by the individual academic department.

To complete an evaluation, the Admissions Office must be in possession of the previous school's catalog, bulletin, handbook, or other institutional document which describes the courses completed. Students may be asked to submit course descriptions from previous colleges attended.

When applicable, transfer credits may be counted towards the specific requirements of a program; otherwise, they will be counted as general electives. However, neither grade points nor grade point averages earned at other institutions are used in the computation of the UH Hilo cumulative grade point average.

Students transferring into UH Hilo from outside the UH system with a transferable A.A. degree from an institution accredited by a U.S. regional accreditation agency will be exempted from the General Education requirements, unless specific course requirements are needed for a given major or specialty. The A.A. degree must have been completed prior to initial matriculation to UH Hilo. This policy applies to transfer students admitted to UH Hilo in the College of Arts and Sciences, College of Business and Economics, and Ka Haka 'Ula O Ke'elikölani College of Hawaiian Language beginning with the Fall 1999 semester; continuing students enrolled at UH Hilo prior to Fall 1999 are not eligible for the waiver of General Education requirements. The policy also applies to transfer students admitted to the College of Agriculture, Forestry and Natural Resource Management beginning with the Fall 2003 semester.

Students from within the UH system, who have six credits or fewer to complete their University of Hawai'i community college A.A. degree, may transfer to UH Hilo and be exempt from the UH Hilo General Education requirements **providing the community college A.A. degree is completed in the first semester at UH Hilo.**

All other transfer students must fulfill the General Education requirements appropriate to their major and degree as stated in this catalog.

If a transfer student has concerns over the evaluation of transfer credit awarded them, they should appeal to Mr. James Cromwell, Director of Admissions, for a review of their concerns and for reevaluation.

Admission of Western Undergraduate Exchange (WUE) Program Students

The Western Undergraduate Exchange (WUE) is a program of the Western Interstate Commission for Higher Education (WICHE). Through WUE, students in western states may enroll at UH Hilo at a reduced tuition of 150 percent of the institution's regular resident tuition. WUE tuition is considerably less than nonresident tuition.

Eligibility

- You must be a resident of Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, South Dakota, Oregon, Wyoming, Washington state, or Utah.
- Your family's domicile (home) must be maintained as your permanent address throughout the duration of your participation in the WUE program.
- Freshmen applicants must have a 3.0 cumulative grade point average (GPA) over four years in high school. (Home school students, or students with written evaluations, must have a minimum 1200 combined SAT [Reading/Math] or 27 composite ACT in lieu of the minimum GPA).
- Transfer applicants must have a 2.8 cumulative grade point average(GPA) with a minimum of 24 college transferable credits in order to qualify. GPA's will be calculated using all colleges previously attended.

Restrictions

- Nursing majors do not qualify for the WUE program. Pre-Nursing students do qualify but will relinquish WUE status once admitted into the BSN cohort.
- WUE is awarded only once at the time of admission and will remain in effect for the duration of a student's academic career at UH Hilo provided the student maintains satisfactory progress.
- Non-WUE students who enroll as non-residents will not qualify for WUE status in later terms.
- Hawai`i residency cannot be established under the WUE program. Students changing their residency will be reclassified to non-resident. Students are able to apply for Hawai`i residency only 12 months after cessation of WUE.

Admission of International Students

International students may apply to the University of Hawai'i at Hilo either as a graduate from high school or as a transfer student from another college or university. International applicants must fulfill all requirements for admission as well as comply with the regulations of the State Department and United States Immigration Customs and Enforcement.

All documents and test score results, if applicable, should be received by June 1 for the Fall semester and November 1 for the Spring semester. Applicants requiring an F-1 or J-1 student visa are encouraged to submit completed applications by May 1 for Fall and October 1 for Spring.

In addition to the online or University of Hawai'i System Application Form, international applicants requiring an F-1 or J-1 student visa must submit the Supplemental Information Form for International Applicants. The financial support requirement is $24,000US.

Applicants must present evidence of having completed secondary school. Such evidence may include an official copy of secondary school academic records, and/or certificates of the results of qualifying examinations

and certified true copies of mark sheets. All documents must be in English. For applicants applying from international high schools, admission is based on above average performance (75%) in high school and/or qualifying examinations. For applicants applying from international colleges or universities, admission is based on a 70% average. Students who have attended college less than one year should also submit their secondary school academic records. Course descriptions in English are required to complete the transfer credit evaluation.

Applicants whose native language is not English may choose to submit the results of the TOEFL, TOEIC, Cambridge IELTS, SAT, ACT, or equivalent national examination taken in their home country. Information about the TOEFL may be obtained at www.toefl.org, from the local United States embassy or consulate

office, or by writing directly to Test of English as a Foreign Language, Box 899, Princeton, New Jersey 08540, USA.

Applicants who meet the academic admission requirements and submit a TOEFL score of 500 (173 computer-based score) may be admitted directly into a degree program at the University. Applicants who meet the academic requirements and have a TOEFL score below 500, or those who choose not to submit the TOEFL or equivalent test results, may be admitted first to the UH Hilo English Language Institute (ELI).

During orientation at UH Hilo non-native speakers of English must take the English Proficiency Test and the Writing Placement Examination prior to registration. For English Language Institute students, performance on these tests determines placement into English as a Second Language (ESL) courses. ELI students must complete the English as a Second Language courses prescribed for them, and they may enroll in up to two regular University courses with the consent of both the ELI Director and the course instructor.

The United States government and the State of Hawai'i do not make financial aid available to F-1 or J-1 international students. There are limited UH Hilo institutional scholarships available to international students who meet academic eligibility requirements once they have established a record of academic excellence at UH Hilo. Students from the U.S.-affiliated Pacific Island nations are eligible for U.S. federal financial aid.

Health insurance is required of all international students enrolled at the University.

Admission of Returnees

Any student who terminates his/her enrollment at the University by withdrawing from all classes, by not registering for a semester, or by graduating, and who subsequently desires to return, must reapply for admission by the application deadline. This includes a $50 application fee (except when a student is away from the University for one semester only, an application fee is not required). If the student attended another college or university in the interim, he/she must reapply as a transfer student. Contact the Admissions Office for more information.

Admission of Unclassified, Non-degree Students

A person who wishes to take courses at UH Hilo but does not wish, or does not qualify, to enroll in a degree program, may apply for admission as an unclassified student. An unclassified student is not a candidate for a degree or a Board of Regents-approved certificate and will not be allowed to become a candidate unless he/she meets the admission standards required of students seeking a degree. Moreover, most types of financial aid programs will not be available to unclassified students.

International visa students and WUE students are not eligible for unclassified, non-degree status. Contact the Admissions Office for more information.

Admission of Auditors

Persons wishing to participate in University courses for informational instruction only may apply by completing the auditor's application form no earlier than the first day of instruction. Permission of the instructor is required, and standard tuition and fees apply. Auditors receive no credit, and they do not take course examinations. For more information, see "Classification of Students" in the "Academic Regulations" chapter of this Catalog.

Running Start/Early Admission Program

The Running Start/Early Admission Program is intended to encourage highly motivated and academically talented high school juniors or seniors to advance in their schooling by supplementing their regular high school work with selected college courses. Interested applicants must comply with the regular admissions application process. After consultation with their high school counselor and the University Admissions staff, qualified candidates may be admitted on a part-time, non-degree status. Continuation in the Early Admission Program depends upon the maintenance of a 2.0 grade point average at the University and approval of the University in consultation with the high school counselor. Federal financial aid is not available for Running Start/Early Admission students.

A student seeking Running Start/Early Admission should submit the following items to the Admissions Office: a) a letter of recommendation from the principal, teacher, or the guidance counselor; b) an official high school transcript and c) scores from the Scholastic Aptitude Test.

Admission to Summer Session

Admission to Summer Session is open to high school graduates and individuals 18 years of age or older. Students registering for the Summer Session are not required to submit high school or college transcripts. Admission to the Summer Session does not constitute admission to a regular semester as a degree candidate. Students are expected to have satisfied prerequisites for the course(s) in which they enroll and are reminded that grades earned in college courses during the summer may affect their admission to college in the future. Students whose native language is not English must demonstrate English proficiency.

High school students interested in the Summer Session should meet the requirements stated above in the Early Admission Program.

Admission to Agriculture Development Program

The College of Agriculture, Forestry and Natural Resource Management offers an Agriculture Development Program for students who may not meet the usual requirements of admission, but who show exceptional promise.

First-time students admitted into this program are regarded as students in good standing and are subject to the same academic regulations as other students of the college but are, in addition, provided with special testing, advising, course work, tutoring, and counseling to improve their abilities and chances of success.

Please refer to the College of Agriculture, Forestry and Natural Resource Management section for further information.

Profile of Admitted Students 2006

1,584 applied, 945accepted (60%), 477 enrolled (51%)

Average high school GPA: 3.25

Average high school class rank: 69%

83% in top half of graduating class

46% in top quarter of class

16% in top 10% of class

61% Resident

39% Non-Resident

Average Graduation and Persistence Rates

The University regularly reports its graduation and persistence rates for student cohorts six years after entry. UH Hilo's graduation rate for the most recent Fall cohort of first-time, full-time freshmen (1999) is 31 percent. The University of Hawai'i system defines "success rate" as the percentage of students who have either graduated or are still enrolled at a campus six years after entry. UH Hilo's average success rate is 36 percent for the 1991-1999 cohorts.

This information is provided for the Student Right-to-Know Act, Public Law 101-542. It provides a partial description of the graduation and enrollment patterns of students and describes averages for groups of students. It should not be used to infer or predict individual behavior.

Information for Admitted Students

Partial Advance Tuition Deposit

Newly accepted students will be asked to submit a $60 tuition deposit if they intend to enroll at the University of Hawai'i at Hilo. The deposit is non-refundable, cannot be transferred to another campus, and applies only for the term the student was accepted. Students who are experiencing financial difficulty and who are awaiting financial aid should contact the Admissions Office in writing to secure their enrollment for the following term.

Medical Clearance

All newly enrolled students must send in a completed Health History Form (mailed from the Admissions Office with the student's acceptance letter), results of a tuberculin skin test (PPD) or chest x-ray performed not more than 12 months prior to enrollment date, and if born after 1956, proof of immunity to measles (rubeola). TB tests and chest x-rays performed in foreign countries are not acceptable for clearance.

Writing Placement

All entering freshmen, continuing or transfer students without credit for English 100, and all students for whom English is not a native language must take the UH Hilo Writing Placement Examination. Performance in this examination will determine placement in the appropriate writing course. Registration forms for the examination are available from the UH Hilo Admissions Office, the Humanities Division Office of the College of Arts and Sciences, or the following Web site: www.uhh.hawaii.edu/academics/wpe/.

English Proficiency Test

All non-native speakers of English are required to sit for the English Proficiency Test (EPT) to determine if supplemental ESL classes are required. More information can be found at www.uhh.hawaii.edu/~engpt/.

Math Placement

UH Hilo offers a wide range of math courses for entering students. A placement test is required to enroll in a math course and is offered each semester during orientation and other announced times during the year. Information about taking the exam is sent to entering students each semester. Students with concerns about the appropriate math course will have an opportunity to discuss them with an advisor or a representative from the Math Department during orientation.

New Student Orientation

New Student Orientation is offered during the week before classes begin in the Fall and Spring semesters. Students enrolling at UH Hilo for the first time are provided with an extensive program of academic and social activities designed to facilitate their adjustment to the University and to the Hilo community. During orientation, academic advisors assist new students with course selection and registration. Additional orientation activities and services help students to become more knowledgeable about their campus, to become familiar with the diverse opportunities available to get involved in campus life, and to become a member of our campus community.

For students entering in the Fall semester, UH Hilo conducts early registration and academic advising sessions periodically throughout the summer. During these sessions, students learn about degree programs and requirements as well as receive assistance with selecting and registering for courses. Students attending these sessions are expected to participate fully in our New Student Orientation program as well.

Students enrolling for the first time at UH Hilo are strongly encouraged to participate in New Student Orientation. During orientation, new students will be able to build a solid foundation to ensure a successful collegiate experience and to make the essential support connections to fellow students, faculty, and staff. For more information, contact the orientation coordinator, (808) 933-0732.

Tuition and Fees

Tuition and fees are charged according to the number of semester hours in which the student enrolls. Classified students are charged the full-time tuition rate if they are enrolled for 12 or more credits per semester. Unclassified students are charged per credit hour for all the courses in which they enroll, and are charged undergraduate tuition rates for courses numbered between 001 and 499V, and graduate tuition rates for courses numbered 500 or higher. (See Academic Regulations section of this Catalog for information on the distinction between classified and unclassified students.)

In accordance with University concurrent enrollment policy, students enrolling at multiple campuses during the same semester pay the applicable tuition rate at each campus. Students who audit courses pay the same tuition as students enrolled for credit.

All tuition and fee charges at the University of Hawai'i campuses are subject to change in accordance with requirements of State law and/or action by the University of Hawai'i Board of Regents or Administration.

Tuition for the 2007-2008 Academic Year (Per Semester)

Full-time undergraduate students

Resident	$1,764.00
Nonresident	5,532.00

Part-time undergraduate students, per credit hour

Resident	$147.00
Nonresident	461.00

Fees for the 2007-2008 Academic Year (Per Semester)

	Full-Time	Part-Time (4 credits or less)
Student Activities	$18.00	$9.00
Student Government	18.00	9.00
Student Publications (including radio station)	19.00	9.50
Student Health Fee	7.00	7.00
Student Recreation	5.00	2.50
Campus Center (advocacy, mediation, leadership, service corps)	7.00	3.50
TOTAL	**$74.00**	**$40.50**

Application Fee

A $50 fee is required for all applicants. This fee is not refundable, not transferable to another semester, and is required each time an application is submitted.

Late Registration Fee

Students will be assessed a $30.00 fee for registering during the late registration period, which begins on the first day of instruction.

Special Fees and Charges

Student Identification Card ..... $ 10.00
Graduation Application Fee 15.00
Transcript of Record 5.00
Rush Transcript 15.00
Institutional Credit by Examination 15.00
Replacement of laboratory equipment .....Cost of Item (items broken or lost)

Performing Arts majors and minors taking applied music courses (MUS 135-136, 235-236, 335-336, and 435-436) must pay an additional fee for instruction in individual lessons. Contact the Performing Arts department chair for information.

Undergraduate Nursing students also pay a $500/semester professional fee.

Tuition and Fees for the Summer Sessions

Credit courses are offered at UH Hilo during the summer under the auspices of the College of Continuing Education and Community Service. Resident and nonresident students pay the same tuition rate for summer courses:

Tuition, Per Credit Hour, for Summer Sessions

	2007	2008
Undergraduate Students	$180 per credit hour	$214 per credit hour
Graduate Students	$243 per credit hour	$286 per credit hour

There is a $2.00 student activity fee assessed to each student. In addition, some classes may have lab fees.

Western Undergraduate Exchange (WUE)

The University of Hawai'i at Hilo participates in the Western Undergraduate Exchange, a program of the Western Interstate Commission for Higher Education (WICHE) and other western states. Through WUE, certain students who are not residents of Hawai'i may enroll at UH Hilo in designated programs, paying resident tuition plus 50 percent of that amount (plus other fees that are paid by all students). WUE students do not pay the higher charge for nonresident tuition. Because UH Hilo participates, Hawai'i residents may enroll under the same terms in designated institutions and programs in other participating states.

Students under WUE must maintain their permanent domicile in their home state. Students intending to maintain their WUE tuition status cannot change their permanent address to Hawai'i. Hawai'i residency cannot be established as a WUE student. Therefore, students must change their residency to non-resident for 12 months prior to qualifying as a Hawai'i resident for tuition purposes. Additionally, students must meet the residency regulations for tuition purposes as stated in this Catalog.

Enrollment at UH Hilo through the WUE program is limited to incoming students only, and restrictions may apply. Please contact the UH Hilo Admissions Office for more information about WUE programs available at UH Hilo: telephone:(808) 974-7414 or (800) 897-4456; email uhhadm@hawaii.edu; or write to the UH Hilo Admissions Office, 200 West Kāwili Street, Hilo, HI 96720-4091.

Hawai'i residents may obtain information about WUE programs in other states from the WICHE Certifying Officer for Hawai'i, University of Hawai'i at Mānoa, 2530 Dole Street, Room C-200, Honolulu, HI 96822, (808) 956-6625; or from the WICHE Student Exchange Program, P.O. Drawer P, Boulder, CO 80301-9752, (303) 497-0210. The WUE Web site is www.wiche.edu/SEP/WUE/.

Tuition for Offerings of the College of Continuing Education and Community Service

In addition to summer programs, the College of Continuing Education and Community Services (CCECS) provides a limited number of credit courses through distance learning and instructional outreach at off-campus sites. CCECS also offers noncredit courses and programs.

The CCECS Web site provides information about its current course offerings: www.uhh.hawaii.edu/academics/ccecs. Tuition information for these offerings is available from CCECS: (808) 974-7664; or email ccecs@uhh.hawaii.edu.

Payments

Students are not sent a bill. For registration to be official, however, all tuition and fees must be paid at time of registration. The options are to pay online with a check or credit card (Mastercard, VISA, or JCB), or to pay in person at any UH Business Office. Checks also may be mailed to the UH Hilo Business Office at 200 W. Käwili Street, Hilo, HI 96720. (Please include a note indicating the full name of the student for whom payment is being made, that the payment is for tuition and fees, and the semester and year for which the payment is to be applied.)

UH Hilo will offer an Installment Payment Plan beginning July, 2007.

Partial Advance Tuition Deposit

All new, transfer, and returning classified students are required to pay a partial advance tuition deposit of $60.00 ($500.00 for College of Pharmacy). Scholarship or financial aid recipients are not exempt from this payment. Students who are experiencing financial difficulty, however, and are awaiting financial aid should contact the Admissions Office in writing to secure their enrollment for the following term. This partial advance tuition deposit is applied at registration time toward tuition for that semester. The payment is nonrefundable and nontransferable if the student does not register (College of Pharmacy advance tuition deposit is not transferable to other programs). Continuing classified students are not required to make the partial advance tuition deposit.

Returned Checks

Checks tendered to the University of Hawai'i or any department therein, and returned to the maker's bank for any reason will result in a $15.00 charge and a "hold" will be placed on the account. **Do not stop payment on checks**. A stop payment on a check is considered a returned check and is not acknowledged as an official drop from courses or withdrawal from the University.

Interest on the $15.00 returned check charge will be assessed at the rate of $0.10 a month or fraction of a month, for the period beginning the first calendar day after the date of notification from the bank that the check is dishonored, to the date paid.

Financial Obligations to the University

Students who have not satisfactorily adjusted their financial obligations (tuition and fees, traffic violations, library fines, locker fees, laboratory breakage charges, transcript fees, loans past due, rental payments, etc.) may be denied transcripts, diplomas, and registration. A copy of the "Rules and Regulations Governing Delinquent Financial Obligations Owed the University of Hawai'i" issued by the Board of Regents, is on file in the Office of the Vice Chancellor for Student Affairs.

Tuition and Fees Refund Policy

Percent Refund	Tuition
100%	If, on or before the last day of late registration, complete withdrawal, change from full-time to part-time status, or change from one tuition rate to another tuition rate is made.
50%	If, on or before the last day of the third week of instruction, complete withdrawal, change from full-time to part-time status, or change from one tuition rate to another tuition rate is made.
0%	If, after the third week of instruction, complete withdrawal, change from full-time to part-time status, or a change from one tuition rate to another tuition rate is made.
	Fees
100%	If, on or before the last day of late registration, complete withdrawal is made.
0%	If, after the last day of late registration, complete withdrawal is made.

Residency Regulations for Tuition Purposes

Students who do not qualify on the first day of instruction 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 nonresident tuition. An official determination of residence status will be made at the time of application. Applicants may be required to provide documentation to verify residency status. Once classified as a nonresident, a student continues to be so classified during his/her term at the college until he/she can present satisfactory evidence to the residency officer that proves otherwise.

Western Undergraduate Exchange (WUE) students cannot change to a Hawai'i residency while paying WUE tuition. WUE students must first relinquish their residency in the previous state, attend as a non-resident while fulfilling the residency requirements listed below, then submit a request to change residency to Hawai'i.

Some of the more pertinent university residency regulations follow. For additional information or interpretation, contact the Residency Officer in the Admissions Office.

Definition of Hawai'i Residency: A student is deemed a resident of the State of Hawai'i for tuition purposes based on the following criteria:

1. The adult student (or in the case of a minor student, the student's parents or guardians) has been a bona fide resident of Hawai'i for at least twelve consecutive months next preceding his or her residence determination date; and
2. The adult or minor student has not been claimed as a dependent for tax purposes for at least twelve months preceding the residency determination date by his parents or guardians who are not legal residents of the State.

To demonstrate the intent to make Hawai'i the legal residence, the following evidence applies:

1. Voting/registering to vote in the State of Hawai'i.
2. Filing Hawai'i State Resident Personal Income Tax Return.
3. Other evidence such as permanent employment, ownership or the continuous leasing of a dwelling in Hawai'i, or the presence of immediate family may apply, but no single piece of evidence is decisive in granting residency in the State of Hawai'i.

The following rules of construction shall be applied in all cases:

1. The 12 months of continuous residence in Hawai'i shall begin on the date upon which the first overt action (see evidence above) is taken to make Hawai'i the permanent residence. While residence will be lost if it is interrupted during the 12 months immediately preceding the first day of instruction, resident status derived from two or more successive sources may be tacked together to compute the 12-month period.
2. Residency in Hawai'i and residency in another place cannot be held simultaneously.
3. Presence in Hawai'i primarily to attend an institution of higher learning does not create resident status A nonresident student enrolled for six credits or more during any term within the twelve month period shall be presumed to be in Hawai'i primarily to attend an institution of higher learning. Such periods of enrollment may not be applied toward the physical presence requirement.
4. Resident status, once acquired, will be lost by future voluntary action of the resident inconsistent with such status. Hawai'i residency will not be lost, however, solely because of absence from the State while a member of the United States Armed Forces, while engaged in navigation, or while matriculating as a student at any institution of learning provided Hawai'i is claimed and maintained as the student's legal residence.

Statutory Exemptions: Nonresidents may be allowed to pay resident tuition if they qualify as one of the following:

1. 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.
2. Members of the Hawai'i National Guard and Hawai'i-based Reserves.
3. Full-time employees of the University of Hawai'i and their spouses and legal dependents.
4. East-West Center student grantees pursuing baccalaureate or advanced degrees.
5. Native Hawaiians, i.e. descendents of the aboriginal peoples that inhabited the Hawaiian Islands and exercised sovereignty in the Hawaiian Islands in 1779. Examples of acceptable documents include:
   a. Official birth certificate indicating Hawaiian ancestry.
   b. Official birth certificates of parents, grandparents, or great grandparents who are related by "blood."
   c. Transcripts of students who attended Kamehameha Schools.

Misrepresentation: A student or prospective student who provides incorrect information on any form or document intended for use in determination of resident status for tuition purposes will be subject to the requirements and/or disciplinary measures provided for in the "Rules and Regulations Governing Residency Status" available in the Admissions Office.

Appeal Process: Residency decisions may be appealed by contacting the residency officer in the Admissions Office for information on how to initiate an appeal before the Committee on Resident Status. Appeals must be filed with the residency officer on or before the thirtieth day following the mailing (or personal delivery, as the case may be) of written notification of non-resident determination or on or before ten days after the residence determination date, whichever is later.

Resident tuition may be paid when an appeal is pending.

Financial Aid

For information, please contact:

Financial Aid Office
University of Hawai'i at Hilo
200 West Kāwili Street
Hilo, HI 96720-4091

Jeff Scofield, Director
(808) 974-7323
Fax: (808) 933-0861
E-mail: uhhfao@hawaii.edu
www.uhh.hawaii.edu/studentaffairs/finaid.php

The office is located in the front lobby of the Student Services Building.
Office Hours: Monday-Friday, 7:45 a.m. to 4:30 p.m.
Counseling Hours by Appointment:
Monday-Friday, 9:00 a.m.-2:00 p.m.

The purpose of this section is to provide an overview of financial aid and the policies and procedures that must be followed to receive financial aid at the University of Hawai'i at Hilo. Detailed financial aid policies can be found in the annual "Guide to Financial Aid" available from the Financial Aid Office.

Financial Aid includes a number of programs funded by federal and state governments, educational institutions, and private organizations for the purpose of assisting individuals interested in obtaining an education but who do not have the financial resources to do so. Aid programs consist of scholarships, grants, work programs, and loans.

Steps Necessary to Receive a Financial Aid Award

To be considered for financial aid, you must complete the Free Application for Federal Student Aid (FAFSA). You may submit the paper application or you may file via the Internet at www.fafsa.ed.gov. On the FAFSA, you should list the University of Hawai'i at Hilo, code number 001611, as one of the schools to receive your application information. UH Hilo will receive your data electronically from the United States Department of Education and will then be able to calculate your eligibility. The priority filing date (mailed/submitted via the Web to the federal processor) is March 1. Remember, grant funds are limited and expended quickly. File on time to ensure full consideration. Also, you must be accepted for admission to the University as a classified student before a financial aid award can be issued.

Upon receipt of the FAFSA results in the Financial Aid Office, a Financial Aid Award letter will be sent to you. You must review the award and return a signed copy of the letter to the Financial Aid Office within three weeks of the date of the letter. In addition, other documents may be requested from you at this time.

Estimated Awards and Verification of Application Information

Your application for federal student aid may be selected for a process known as verification. This means that the Financial Aid Office must verify the accuracy of the information that you submit on the FAFSA. If selected, you must submit a verification worksheet, federal tax returns, and/or other supporting documents. Until your information has been verified, a financial aid award cannot be issued to you.

You will be notified in writing if you have been selected for verification. You will normally have 60 days to submit the required verification documents. Failure to submit the verification documents will result in your financial aid file being closed and no award being issued. If any of the data reported on the FAFSA is found to be incorrect, your financial aid eligibility will be recalculated.

Financial Aid Satisfactory Academic Progress

Federal student aid regulations require all educational institutions administering funds to ensure that financial aid recipients are making satisfactory academic progress toward their educational objectives. The regulations apply to all students receiving federal, state and institutional financial aid funds. Questions regarding this policy should be directed to a financial aid office staff member. Satisfactory Academic Progress has been defined as follows:

I. Satisfactory Progress Levels

A. Satisfactory Academic Progress will be monitored at the conclusion of each academic year (May). To be making satisfactory academic progress a student must maintain the required cumulative grade point average, attain a 75% completion rate and not exceed the normal completion time.

B. Students failing to maintain satisfactory academic progress will be placed on **Financial Aid Suspension. Such status will make students ineligible for financial aid until such time as the satisfactory academic progress requirements are met.**

During the period of Financial Aid Suspension, students may (unless placed on Academic Dismissal) attend UH Hilo without financial aid. It will be the student's responsibility to secure other financial resources during this period.

II. Satisfactory Progress Requirements

A. **Maintenance of a minimum UH Hilo cumulative grade point average.**

1. For undergraduates, a 2.00 UH Hilo GPA is required at the end of the academic year May).
2. For graduate students, a 3.00 UH Hilo GPA is required at the end of the academic year (May).

B. Attainment of a 75% completion rate towards educational objective for hours attempted at UH Hilo.

Students must complete and pass 75% of all hours attempted at UH Hilo. A student's completion rate is calculated by dividing hours earned by hours attempted. Grades of F, W, I, NC and repeated courses count as hours attempted. Hours declared in academic bankruptcy count as hours attempted.

C. **Normal Completion Time**

1. Undergraduate students will be eligible for financia aid for a maximum of 160 attempted credit hours. Transfer hours are included in the total number of credit hours attempted.
2. Graduate students will be eligible for financial aid for a maximum of 45 attempted credit hours. Transfer hours are included in the total number of hours attempted.

III. Satisfactory Progress Appeal Process

A student who is placed on Financial Aid Suspension may appeal the denial of financial aid. The appeal must be made by submitting a signed written letter to the Director of Financial Aid no later than 10 days after receipt of the notice of Financial Aid Suspension. The appeal will be directed to the Appeals Committee whose decision will be final. The decision will be based on demonstration of one of the following situations:

1. Error of fact;
2. Mitigating circumstances. Circumstances considered may include illness or injury, family difficulties, interpersonal and college adjustment problems.

If the appeal is granted, financial aid will be continued for a probationary period. The student will be advised in writing of the action on the appeal.

Withdrawing From Classes

It is the responsibility of any student wishing to withdraw from UH Hilo to follow the official withdrawal process with the University. Students wishing to withdraw from the University should contact the Records Office to initiate the withdrawal process. The University's policy on complete withdrawal may be found in the "Academic Regulations" chapter of this Catalog.

Withdrawal from all classes during a term may result in a change in institutional charges for the term. Please consult this Catalog for the complete Tuition and Fees Refund Policy.

Withdrawal from all classes during a term may also result in a change in the financial aid award for that term. Federal financial aid regulations have created a Return of Title IV Funds Policy. This policy states that students who WITHDRAW OR CEASE ATTENDANCE BEFORE THE 60 PERCENT POINT OF THE TERM (as calculated by the number of days in the term) will have their financial aid award reduced.

Upon withdrawal, the Financial Aid Office will calculate, from the number of days in the term and the number of days of the term that the student was enrolled prior to withdrawal, the percentage of the term that the student completed. This percentage will be applied to the amount of aid received for the term with the student being able to retain only the amount of aid for the percentage of the term actually completed. The unearned portion of the financial aid award must be returned to the federal, state, and institutional programs that have been awarded. If excess financial aid funds have been refunded to the student, a portion of these funds may also need to be returned to the financial aid programs awarded. This may result in large sums being owed to both UH Hilo and federal, state, and institutional financial aid programs.

Students considering withdrawal from classes should consult the Financial Aid Office prior to initiating the withdrawal process. Withdrawal can have a significant impact on institutional charges, a current financial aid award, as well as future financial aid eligibility (see the Satisfactory Academic Progress Policy). Complete financial aid regulations concerning withdrawals and the Return of Title IV Funds Policy may be obtained from the Financial Aid Office.

Unofficial Withdrawals

Students who cease attending all classes during a term will be subject to the Return of Title IV Funds Policy outlined above. The portion of unearned aid will be based on the last date of documented class attendance. In all cases, official withdrawal procedures should be followed.

Also, students who fail all classes during a term will be reviewed to determine if the failure was due to not attending the class. Students who stopped attending classes before the end of the term will be treated as an unofficial withdrawal.

State of Hawai'i Financial Aid

UH Hilo Opportunity and Achievement Grants

Opportunity and Achievement Grants may be available to resident students who are in need of financial assistance or to resident or nonresident students who merit assistance because of their achievement or service to the University. All applicants must be enrolled or planning to enroll as a full-time classified student.

Opportunity Grants based on financial need do not require specific application forms other than those required for the student financial aid programs, *i.e.*, Free Application for Federal Student Aid.

Application forms for Achievement Grants are available at the following offices:

- College of Arts and Sciences
- College of Agriculture, Forestry, and Natural Resource Management
- Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language
- College of Business and Economics
- Athletics

Opportunity Grants for Students of Hawaiian Ancestry

Students of Hawaiian ancestry from outside Hawai'i automatically qualify for residency. In addition, there are a limited number of Opportunity Grants available for students of Hawaiian ancestry.

Application forms for these need-based Opportunity Grants are available at the respective UH Hilo offices as follows:

- Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language
- Hawaiian Leadership Development/Student Support Services/Minority Access and Achievement Program

International Students

A limited number of Achievement Grants may be available to international students. Contact the Office of International Affairs at (808) 933-8809, fax (808) 933-8811.

Students with Disabilities

The University Disability Services Office offers a Scholars with Disabilities Achievement Grant for any UH Hilo student with a 3.5 GPA and with a qualifying disability. Application forms are available from the University Disability Services Office: V (808) 933-0816, TTY (808) 933-3335, or shirachi@hawaii.edu.

Hawai'i Leveraging Educational Assistance Partnership Program

This program provides tuition grants to qualified and needy undergraduates who are bona fide residents of the State of Hawai'i. To qualify, a student must also be eligible for the Federal Pell Grant.

Federal Aid Programs

UH Hilo participates in the Federal Pell Grant, Supplemental Educational Opportunity Grant, Federal Academic Competitiveness Grant, National SMART Grant, Federal Family Educational Loan and Work-Study Programs. All programs require the submission of the Free Application for Federal Student Aid (FAFSA).

Veteran's Benefits

Certain instructional units at UH Hilo are approved for VA educational benefits. Eligible students may receive financial assistance as provided by the Veteran's Readjustment Benefit Act and the War Orphans Assistance Act.

Veterans who are registered for the first time under the GI Bill must present Form DD 214 (formal discharge papers) to the Registrar's Office. Dependents of disabled veterans and survivors of veterans whose cause of death was service-related, who register for the first time under any provision of the Federal Veterans' Bill, must complete and present VA Form 22-5490 to the Registrar's Office, Student Services Building.

Veterans who are continuing students must contact the Registrar's Office after completing each semester's registration in order to continue receiving benefits.

All programs available to veterans/children of veterans are administered through the UH Hilo Registrar's Office. If you are eligible for assistance through these programs, please contact the Registrar's Office. Questions concerning eligibility may be directed to the Veterans Administration by calling 1-888-GIBILL1.

AmeriCorps National Service

In exchange for a year of service, AmeriCorps members receive an education award of $4,725 to help pay off student loans or help finance their education. During term of service, AmeriCorps members earn a living allowance and may qualify to defer their existing student loans. To receive AmeriCorps NCCC applications or more information about opportunities with AmeriCorps, please call the AmeriCorps hotline at 1-800-942-2677, ext (TDD 1-800-833-3722) or visit www.cns.gov.

Scholarships

The purpose of the Scholarship Program at UH Hilo is to recognize and reward students who have demonstrated outstanding academic performance and to encourage those students who show academic potential and a willingness to participate in community activities. The scholarship awards imply the expectation of continued exceptional performance and leadership by the recipients in the years ahead.

A complete listing of scholarship opportunities and resources is published annually by the Financial Aid Office. The Scholarship Opportunities publication and application form is available at the Financial Aid Office. The application deadline for most funds is March 1.

Other Listings of Financial Aid

The UH Hilo Library and the Hawai'i public libraries have numerous publications on scholarships, grants, and other sources of aid. You may also wish to explore the Internet for scholarship opportunities:

University of Hawai'i: http://www.hawaii.edu/diversity

Others:

- www.finaid.org.
- www.hawaii.collegeanswer.com
- www.fastweb.com
- www.collegeboard.com
- www.students.gov

Information about the Hope and Lifetime Learning tax credits can be obtained from the following sources:

- IRS Publication 970, "Tax Benefits for Higher Education"
- www.irs.gov

Housing

For information, please contact:

Housing Office
University of Hawai'i at Hilo
200 West Kāwili Street, Portable Building-11
Hilo, HI 96720-4091

(808) 974-7522
(808) 974-7652 (fax)
Email: uhhhouse@hawaii.edu
www.uhh.hawaii.edu/studentaffairs/housing/

Housing accommodations to meet most needs of the single student, married student, and disabled students are available either on campus or in privately owned units in the Hilo community. On-campus residence halls currently house 622 students in residence halls and apartment style arrangements. Off-campus housing includes privately owned apartments, homes, or rooms in the Hilo community.

Due to the limited number of housing accommodations, students and potential students are encouraged to apply early for on-campus housing. Students in need of off-campus housing are urged to use the services of the Housing Office, to make arrangements personally with a provider of privately-owned housing, or come to Hilo as early as possible to secure housing.

On-Campus Housing

In its residence hall operation, the Student Housing Program is committed to providing an atmosphere where personal growth can occur in an environment that complements the educational objectives of the University. Residents, student staff, and professional staff carry out this commitment by adhering to concepts of responsible freedom, which encourage active participation in the residence hall community. Numerous opportunities for self and group development are available to the residents through participation in the areas of educational, recreational and social programming, community government, and the development of resident hall policies and procedures.

Residence Halls

There are four coeducational residence halls on the UH Hilo campus, two traditional, one suite, and one apartment style hall. The majority of rooms in these halls are designed for two students (double accommodations). Residents in the traditional-style halls and suites must participate in a board program. A variety of meal plan options are offered. Rooms are furnished with twin-size beds, chest of drawers, chairs, bookshelves, and desks. All other furnishings, including linens, must be supplied by the residents. All residence halls have recreation lounges, television room, and laundry facilities. All halls follow the University policy on tobacco products. There is a no smoking policy for all

rooms and walkways of all halls. Hale Kauanoe, Hale Kanilehua and Hale Kehau have been designated as alcohol-free and substance-free halls.

Hale Kehau is a 236-bed, suite-style coed hall. Each two rooms share a bathroom that connects both rooms. All rooms are fully carpeted. Six units are designed to meet the needs of students with disabilities.

Hale 'Ikena, an apartment-style facility, provides accommodations for 196 students. Students applying to Hale 'Ikena must be 21 years of age or have completed 24 college credits. The majority of apartments in this facility are two-bedroom units with accommodations for four students in each unit. There is a limited number of one-bedroom apartment units accommodating two students. All apartment units are fully furnished with private bathroom, living room, and kitchen. Residents must provide their own linens and cooking and eating utensils.

Married students may reside in student housing provided that at least one spouse per married couple is a full-time student who qualifies under the geographical area provisions of the Board's applicable priority system, the other spouse being a full-time or part-time student.

Students with Disabilities

Two apartments at Hale 'Ikena and six units at Hale Kehau have been designed to meet the needs of students with disabilities who are capable of living independently. In addition, 17 units at Hale 'Ikena and 8 units at Hale Kauanoe are accessible to people with hearing impairments. Applicants for these accommodations should indicate on their application the nature of their need. Applicants requesting housing accommodations will be immediately referred to the University Disabilities Services Office for determination of eligibility. Reasonable accommodations will be provided to qualified persons with disabilities. Students must apply by regular deadlines. Applications are available in alternate format upon request.

Application Procedures

Applications for on-campus housing may be obtained directly from the Housing Office or downloaded from the Housing Office Web site. Assignments are made according to the date of receipt of application, application fee, Board of Regents assignment priority and hall preference. BOR policy gives priority to all traditional freshman. For priority considerations, application must be received by the Student Housing by March 31st. All on-campus housing applicants must be accepted into a classified program of study before being eligible for housing placement. Assignments are for the academic year or remaining portion. Admission to the University does not assure students of on-campus housing. Applications for the upcoming academic year are available in the early spring and should be submitted as early as possible. Receipt of a housing application and application fee by the Housing Office does not guarantee on-campus housing.

Rates

I. ROOM RATES* (Per Person/Per Academic Year)

A. Dormitory-Style Residence Halls

Double room-(two persons/room)	$2776.00
Single room-(one person/room)	$4164.00

B. Apartment-Style Residence Hall

Two-bedroom unit-(two persons/room)	$3890.00
One-bedroom unit-(two persons/room)	$5038.00

C. Suite Style

Two-bedroom unit-(two persons/room)	$3510.00

II. BOARD PROGRAM

The meal program is administered by Sodexho Campus Services. Residents can eat their meals at any one of the many campus food outlets. These include the Residence Hall Dining Room serving dinner nightly and brunch on weekends and holidays; Campus Center Dining Room serving 7 a.m. to 3 p.m. weekdays; Grab N' Go Express on the Library Lanai; and The Cube. The snack bar "Munchies" located at the Hale Kehau Resident Dining is open in the evening to serve those with late-hour appetites.

All residents, except for those that reside at Hale 'Ikena, are required to be on a meal plan. Residents of Hale 'Ikena may purchase a meal plan at the same rates. For more information, go to the Sodexho Web site at www.uhh.hawaii.edu/depts/sodexho/

BOARD RATES (Per Person/Per **Semester**)*

Plan	Option	Price
Plan A:	5 Meal Plan plus $475.00 Points	$1602.50
Plan B:	7 Meal Plan plus $425.00 Points	$1672.50
Plan C:	9 Meal Plan plus $300.00 Points	$1717.50

*All rates subject to change with 30 days' notice.

Off-Campus Housing

The Housing Office provides assistance in finding off-campus housing by listing privately owned homes, apartments, and rooms in the Hilo area. A number of off-campus apartment buildings are described on the Housing Office Web site, www.uhh.hawaii.edu/studentaffairs/housing/offcampus.php. Contacts and arrangements with the landlord are made by the student. Materials on how to rent, find a roommate, tenant rights, and student "survival" outside of the classroom are also available at the Housing Office.

Since there is a rush for apartments and other private rental units immediately preceding the beginning of each semester, students are encouraged to come to campus to search for housing as soon as possible. It is recommended that students make all the necessary living arrangements with the owner or manager in person rather than by mail. Since a contract is a legal agreement and the terms of a contract are binding, there should be a clear understanding by both parties in writing of all terms of the contract.

Tenant Concerns

Any student who has questions or problems regarding housing should attempt to resolve concerns with the manager/landlord of the unit. The UH Hilo Director of Housing should be contacted if the concerns or problems cannot be answered adequately or resolved satisfactorily by the manager/landlord.

Miles Nagata
Director of Housing
Telephone: (808) 974-7522
FAX: (808) 974-7652
Email: mnagata@hawaii.edu

Baccalaureate Degree

A baccalaureate degree (also called a "bachelor's degree") is earned upon the completion of at least 120 college semester hours. In order to earn the degree, students must also meet a series of course requirements, explained in detail in the numbered sections within this chapter. The table below indicates which of UH Hilo's colleges impose the various degree requirements:

	Requirement	College of Agriculture, Forestry and Natural Resource Management	College of Arts and Sciences	College of Business and Economics	Ka Haka 'Ula O Keʻelikōlani College of Hawaiian Language
I.	General Education Basic and Area Requirements	✓	✓	✓	✓
II.	Major Requirements	✓	✓	✓	✓
III.	Writing Intensive Course Requirement		✓	✓	✓
IV.	Upper-Division Requirement		✓	✓	✓
V.	Hawaiian/Asian/Pacific Requirement		✓	✓	Coursework in this college meets this requirement.

In addition to earning at least 120 semester hours and completing the requirements on the previous page, students must:

- Earn at least a 2.0 cumulative UH Hilo GPA as well as a 2.0 GPA in courses required for the major (a higher GPA may be required for some degrees) and minor (if any)
- Earn a minimum of 30 semester hours in the college from which a degree is sought.
- Be registered as a classified student with a declared major and in attendance at the University of Hawai'i at Hilo during the semester or summer session in which the degree is granted
- Meet all requirements of their respective colleges and departments

In addition, students may take a number of elective courses, which are not used to fulfill any particular requirement but make up the 120+ credits needed to graduate. These may be chosen from virtually any undergraduate course offered at UH Hilo. When choosing electives, student may wish to consult their advisors to select courses that enhance learning in their major or expand options for careers or graduate study.

All degree requirements must be met within the special limitations imposed upon directed reading/directed studies, "credit/no credit" and special topics courses, and the credit by examination policy. Students should consult the appropriate sections of this Catalog and speak with their faculty advisors or college deans for more details on these limitations.

With the approval of his or her academic advisor, a student may petition the University for a waiver or modification of academic requirements. If the request involves a requirement for a major or minor, the petition goes to the chair of the department. If it involves a General Education or graduation requirement, the petition goes to the dean of the college. The petition should include clear and convincing justification for the action requested as well as appropriate documentation, such as syllabi or catalog course descriptions of the courses in question.

It is extremely important that each student meet with an academic advisor regularly to ensure timely progress toward a degree. Students who have not declared a major should consult with the Advising Center staff (808-974-7688). Declared majors will be assigned a faculty advisor in their discipline.

I. General Education Basic and Area Requirements

The Basic and Area Requirements for General Education apply to all baccalaureate degrees at UH Hilo.

General Education provides a series of experiences designed to enable the student to become a broadly educated person, with skills for continuing, life-long education. General Education skills and knowledge are fostered throughout the undergraduate curriculum: in the lower-division courses designated as General Education Basic Requirements and General Education Area Requirements; in Writing Intensive courses; in courses that meet the Hawaiian/Asian/Pacific requirement; and in upper-division courses in all major programs. The University's General Education program is designed, specifically, to provide the college student and graduate with the means to:

1. Think clearly and logically; communicate effectively, both orally and in writing; find, examine, and utilize information; and carry out fundamental numerical operations.
2. Gain knowledge of one's body and mind; understand how human societies develop and operate; learn about the natural world—its forces, principles and occupants; and develop a familiarity with the cultural heritage and contributions of world cultures including their art, music, literature, and science.
3. Develop an understanding and awareness of the principles, methods, and thought processes utilized in academic/intellectual inquiries.
4. Recognize and understand the interdependence between mankind's view of the biological and physical continuum and the development of culture, literature, and aesthetics.

General Education Basic Requirements (All Majors)

1. **English Composition Requirement (3 semester hours)**

   ENG 100, 100T, or ESL 100 or ESL 100T

All entering Freshmen, continuing or transfer students without English 100, and all students for whom English is not a native language must take the UH Hilo Writing Placement Examination. It is strongly recommended that students complete the English composition requirement within their first 24 semester hours at UH Hilo.

2. **Quantitative Reasoning (3 semester hours)**

   Select from any Math course at the 100 or 200 level (except 199 or 299).

3. **World Cultures (6 semester hours)**

   Select two courses from:

Agriculture:	AG 230
Geography:	GEOG 102
Anthropology:	ANTH 100
History:	HIST 151, 152
English:	ENG 253, 254, 275
Indigenous Studies:	KIND 240

General Education Area Requirements (All Majors)

1. **Humanities Electives (9 semester hours)**
   Select from three different academic areas as listed below or from two different academic areas plus one Interdisciplinary course which is eligible for Humanities credit, such as Honors 200, 201, 202, 203.

   Humanities Disciplines

   - Art
   - Linguistics
   - Communication
   - Performing Arts (Dance, Drama, Music)

- English
- Philosophy
- Hawaiian Studies and Indigenous Studies
- Religious Studies
- Languages other than English

2. **Social Sciences Electives (9 semester hours)**
   Select from three different academic areas as listed below or from two different academic areas plus one Interdisciplinary course which is eligible for Social Sciences credit, such as Honors 200, 201, 202, 203.

   Social Sciences Disciplines

   - Anthropology
   - Business 100
   - Economics or Agricultural Economics 201
   - Geography
   - History
   - Political Science
   - Psychology
   - Sociology
   - Women's Studies

3. **Natural Sciences Electives (10 semester hours, including 1 semester hour of laboratory in any discipline except the following: Agriculture, Computer Science, or Math)**
   Select from three different academic areas as listed below or from two different academic areas plus one Interdisciplinary course which is eligible for Natural Sciences credit.

   Natural Sciences Disciplines

   - Agricultural Sciences (Aquaculture, Animal Science, Horticulture, Forestry, Plant Pathology, Soil)
   - Astronomy
   - Biology
   - Chemistry
   - Computer Science
   - Environmental Science
   - Geology
   - Marine Science
   - Mathematics
   - Natural Science
   - Physics

Notes:

1. Only courses numbered below 299 may be counted for General Education credit. Also, no 199 course may be counted for General Education credit.
2. No course may be counted for more than one General Education requirement. Students are cautioned that, in a few instances, a single course has been approved as satisfying more than one of the General Education Basic or Area Requirements. However, students completing such a course may only receive credit toward a single such requirement. They will be offered their choice of which requirement is satisfied and will be expected to fulfill the other requirement(s) with other courses.
3. Students who complete MARE 171/BIOL 171 may choose to count that course either as Marine Science or as Biology but are still required to meet the Natural Sciences area requirement in three separate disciplines.
4. Courses which meet both major requirements and General Education requirements may be simultaneously counted for both. (Courses are not excluded from meeting the UH Hilo General Education requirements solely because they also may be required for a major.)
5. Courses which meet both General Education requirements and the Hawaii/Asian/Pacific requirement may be simultaneously counted for both.
6. Courses which meet both General Education requirements and the Writing Intensive requirements may be simultaneously counted for both.

Transfer Students with an Associate of Arts Degree

Students transferring into UH Hilo with a transferable A.A. degree from an institution accredited by a U.S. regional accreditation agency will be exempted from the General Education requirements, **unless specific course requirements are needed for a given major or specialty**. The A.A. degree must have been completed prior to initial matriculation to UH Hilo.

This policy applies to students in the College of Arts and Sciences, College of Business and Economics, and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language admitted to UH Hilo beginning with the Fall 1999 semester; continuing students in these three colleges who enrolled at UH Hilo prior to Fall 1999 are not eligible for the waiver of General Education requirements. The policy also applies to transfer students in the College of Agriculture, Forestry and Natural Resource Management who were admitted to UH Hilo beginning with the Fall 2003 semester.

Transfer Students from within the University of Hawaiʻi System

Students who have six credits or fewer to complete their University of Hawaiʻi community college A.A. degree may transfer to UH Hilo and be exempt from the UH Hilo General Education requirements **providing the coursework for the community college A.A. degree is completed in the first semester at UH Hilo**.

Other Transfer Students

All other transfer students must fulfill the General Education requirements appropriate to their major and degree, as stated in this Catalog.

Students Pursuing a Second Baccalaureate Degree

Students entering the College of Arts and Sciences, College of Business and Economics, and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language at UH Hilo with a **Bachelor of Arts** degree (excluding other baccalaureate degrees) from a regionally accredited college or university will be deemed to have fulfilled the General Education requirements, unless specific prerequisites are needed in a given major. For a fuller discussion of requirements regarding second baccalaureate degrees, see the section of this Catalog entitled "Multiple Baccalaureate Degrees and Majors."

II. Major, Minor and Certificate Requirements

Requirements for specific majors, minors, and certificates are described in the program description sections of this Catalog. It is important for students to know that:

- Courses completed on an optional "credit/no credit" basis may not be used to satisfy the course requirements for a major, minor, or certificate.
- Students transferring into the College of Arts and Sciences, the College of Business and Economics, or Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language, regardless of the number of transfer credits accepted, must earn a minimum of 25 percent of the required credits for their majors, minors, and certificates at UH Hilo.

The Major

The major is an area of specialization, involving a sequence of coursework usually concentrated in a single academic discipline. Completion of a major is an essential component of a college education. At UH Hilo, students are expected to declare a major by the time they reach their junior year (*i.e.*, have earned 55 credits). This is done by filing a Declaration/Change of Major/Program form, available at the Registrar's Office or at www.uhh.hawaii.edu/pdf/change_major.pdf. Students may change majors, though it may lengthen the time it takes to complete a degree. Students considering changing a major should first consult with an academic advisor in the new major.

Courses required for the major may also be used to fulfill the General Education, Writing Intensive, Upper-Division, and Hawaiian/Asian/Pacific requirements. Please be aware that students must earn at least a 2.0 GPA in courses required for the major and that certain departments have imposed their own requirements for minimal grades, which will be indicated on their program descriptions.

Students may pursue more than one academic major, provided that the requirements for each major are satisfied. See the last section of this chapter for policies governing second degrees, concurrent degrees, and double majors.

The Minor

An academic minor, earned in conjunction with a baccalaureate degree, is a sequence of courses enabling a student to specialize in a field of study but to a lesser extent than with a major program. In most cases, the choice to pursue a minor or not is a voluntary one. (An exception is the Natural Sciences degree, where a minor is required.) The academic minor is intended to provide the student with a certain competency in the subject but does not itself lead to a degree, nor would it ordinarily prepare a student for graduate study.

Requirements for minors are listed in the program description section of this Catalog. Students must earn at least a 2.0 GPA in courses required for the minor. Certain departments have imposed their own requirements for minimal grades, which will be indicated on their program descriptions. Before declaring their minor (through the Declaration/Change of Major/Program form), students should consult with an advisor in their desired minor area.

Certificate Programs

The University also offers a number of certificates, which are earned upon completion of a prescribed course of academic study. Depending upon the program, a certificate can be pursued either in addition to a baccalaureate degree or as a program objective by itself. In order to pursue a certificate, a student must either have a bachelor's degree or be a classified student (*i.e.*, a candidate for a degree). Students are urged to consult an advisor in the department sponsoring the certificate program and to signal their intent to pursue a certificate by completing the Declaration/Change of Major/Program form. The University's teacher education certificate programs require formal application and admission.

III. Writing Intensive Course Requirement

The College of Arts and Sciences, the College of Business and Economics, and Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language require students to take Writing Intensive (WI) courses for graduation. A WI course is a discipline-specific content course in which writing plays a major, integrated role. Students can enroll in course sections designated as WI to gain greater understanding of course content through writing and learn how to write in ways appropriate to that discipline. WI courses are labeled as such in the semester course schedule.

The distinguishing features of a writing intensive course are:

1. Writing promotes learning of course materials.
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. Depending on course content and the types of writing appropriate to the discipline, students may write critical essays or reviews, journals, lab reports, research reports or reaction papers.
5. To allow for meaningful professor-student interaction on each student's writing, the class is restricted to 20 students.

Of the WI courses students are required to take, at least one must be numbered 300 or above. Courses used to satisfy this requirement **may also** be used to satisfy a General Education, Hawaiian/Asian/Pacific, and/or major, minor, or certificate requirement.

Students who entered UH Hilo as freshmen in 1995-96 must complete two WI courses. Those entering as freshmen in 1996-97 and later must complete three WI courses. Students should be aware that the requirement is for three separate WI **courses**, regardless of the number of semester hours earned in each course.

The WI requirement for transfer students varies depending upon year of entry and transfer credits accepted by UH Hilo. Only after **final** transfer credit evaluation can it be determined

how many WI courses a transfer student must take. The number of WI courses required for transfer students is displayed below.

Status	FR	SOPH	JR	SR
No. accepted credit hours	**0-24**	**25-54**	**55-88**	**89+**
1995-96	2	2	1	0
1996-97 and later	3	3	2	1

For further information, visit www.uhh.hawaii.edu/~english/wi.html.

IV. Upper-Division Requirement

College of Arts and Sciences, the College of Business and Economics, and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language usually require students to earn at least 45 semester hours in courses at the 300- and 400-level (also called "upper-division courses"). However, for some majors requiring more than 15 semester hours in 100- and 200-level courses, the upper-division course requirement has been reduced. The majors approved for this reduction are:

- Art
- Astronomy
- Biology
- Chemistry
- Geology
- Marine Science
- Natural Science
- Nursing, RN to BSN program
- Performing Arts
- Physics

The program descriptions in this Catalog for some of these majors specify a set number of upper-division semester hours which must be completed to graduate. Other programs use a formula to compute the number of upper-division semester hours required of their majors. In these cases, the requirement for 45 semester hours in 300- and 400-level courses is reduced by the number of semester hours over and above 15 in 100- and 200-level courses required for the major.

V. Hawaiian/Asian/Pacific Requirement

The College of Arts and Sciences, the College of Business and Economics, and the College of Hawaiian Language require their students to take a minimum of three semester hours in courses whose content emphasizes Hawaiʻi, Asia, or some Pacific region, culture, or theme. This is a graduation requirement. Courses used to satisfy this requirement may also be used to satisfy a General Education, Writing Intensive, and/or major, minor, or certificate requirement. Select a minimum of three semester hours from the following **(please note that some courses listed below are only 1 or 2 credits and therefore will not complete the requirement without additional coursework)**:

Anthropology:	ANTH 200 (b) (c) (d) (e), 220, 347, 354, 356, 357, 358, 385, 386, 387, 435
Art:	ART 280, 380, 381, 385
Astronomy:	ASTR 220
Biology:	BIOL156, **156L(1 cr), 190(2 cr)**, 309
Chinese:	CHNS 101, 102, 201, 202
Communication:	COM 359, 456, 457
Economics:	ECON 310, 330, 381, 415
English:	ENG 323, 347, 365, 430
Geography:	GEOG **101L(1 cr)**, 120, 309, 326, 332, 335, 350, 385, 435, 496
Geology:	GEOL 205
Hawaiian:	HAW **100(2 cr)**, 101, 102, 107, 201, 202, 207, 303, 304, 403, 404, 453, 454, 455
Hawaiian Studies:	HWST 111, 175, 176, 194, **205(2 cr)**, 211, 213, 294, 394, **405(1 cr)**, 461, 462, 471, 472, 473, 474, 494, 497
History:	HIST 274, 310, 311, 312, 313, 314, 316, 317, 318, 321, 331,332, 333, 336, 392, 481
Honors	HON 202, 203
Japanese:	JPNS 101, 102, 201, 202, 301, 302, 340, 365, 401, 425, 451, 452, 481
Japanese Studies:	JPST 101, 102, 201, 202, 301, 302, 310, 311, 314, 315, 330, 340, 353, 356, 358, 365, 375, 380, 381, 401, 425, 430, 450, 451, 452, 457, 481, 494
Linguistics:	LING 347, 451, 452, 453, 454, 455
Management:	MGT 333
Marine Science:	MARE 156, **190(2 cr)**, 310
Music:	MUS 175, 176, 375
Natural Resources:	NRES 320
Nursing:	NURS 350
Philosophy:	PHIL 101, 300, 301, 302, 430, 435, 450
Physics:	PHYS 120
Political Science:	POLS 351, 353
Psychology:	PSY 323, 360
Religious Studies:	RELS 152, 302, 303, 304, 315, 385, 410, 430, 435, 450
Sociology:	SOC 480
Women's Studies:	WS 330

Note: Students graduating with a major in the College of Agriculture, Forestry and Natural Resource Management are exempt from this requirement.

Multiple Baccalaureate Degrees and Majors

Second Baccalaureate Degrees

A student who has already received a baccalaureate degree may earn a second baccalaureate degree of a different type (*e.g.*, B.S. versus B.A.) or the same type of degree provided that:

- The major is different from the prior degree
- The student uses no more than nine semester credit hours from the first major to satisfy the new major requirements
- The student completes a minimum of 30 semester credit hours at UH Hilo after the first degree has been awarded.
- All degree requirements are met

Students seeking a second degree are classified as seniors for registration.

Students entering the College of Arts and Sciences and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language, who have completed a B.A. degree from a regionally accredited college or university (excluding other baccalaureate degrees), will be exempted from the General Education requirements for a second B.A. degree, unless specific prerequisites are needed for the new major.

Concurrent Degrees

A student may earn and graduate with two degrees simultaneously provided that

- The degrees are different (*e.g.*, B.B.A. and B.S. but not two B.S. degrees)
- The degrees are in different majors
- The requirements for both degrees are met with no more than nine credits counting simultaneously toward the requirements of both majors

Double Majors

A student may earn one degree (*e.g.*, a B.A.) and graduate with two majors (double major) by meeting the requirements for both majors with no more than nine credits counting simultaneously toward the requirements of both majors. All degree requirements associated with each major must be fulfilled before the degree is awarded.

Academic Regulations

The regulations which follow apply to the College of Agriculture, Forestry and Natural Resource Management, the College of Arts and Sciences, the College of Business and Economics, and Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language unless otherwise indicated. In addition, each college has its own regulations, which may be found in separate sections of this Catalog.

Academic Advising

The importance of obtaining regular academic advising cannot be overstated. Advising is an essential part of educational success and a very important resource designed to help students complete the requirements of the University and the individual majors. Students should consult with an advisor at least once a semester to decide on courses, ensure academic progress toward graduation, and discuss career options and other educational opportunities provided by UH Hilo. Advising is a shared responsibility, but students have final responsibility for meeting degree requirements.

Students who do not declare a major when entering the University are designated as "General" students. The Advising Center assists these students with designing a program of study to meet the General Education requirements. The Advising Center also provides these students with information about possible major fields and academic regulations.

Students accepted to the University with declared majors are advised by faculty advisors. These advisors are specialists in their subjects and in the major requirements, and they have important information about related graduate programs and employment opportunities in their disciplines. These major faculty advisors provide guidance throughout the student's college career.

Registration, Withdrawals and Other Changes

Regular Registration

Classified (degree-seeking) undergraduate and graduate UH Hilo students may register early for the Fall and Spring semesters. Detailed information and the registration schedule are announced at MyUH Portal (http://myuhportal.hawaii.edu) or on the UH Hilo Web site.

Unclassified (non-degree seeking) students may begin registration for a Fall or Spring semester the Thursday prior to the start of the semester.

Students may be barred from registering until they have cleared all academic or financial obligations. Registration is not complete until all tuition and fees have been paid by the payment deadline.

Late Registration

Late Registration begins the first day of the semester or session. The last date on which students may register in any term is indicated in the UH Hilo Academic Calendar. **There is a fee for late registration.**

Concurrent Registration

UH Hilo students may enroll concurrently at any UH institution. All prerequisites and course requirements apply. Tuition and fees will be assessed for any enrollments at other UH institutions. UH Hilo students who wish to enroll for courses through UH Mānoa or UH West O'ahu must be admitted to the appropriate university.

It is important for UH Hilo students to be aware that they have a "home institution," which is the site of their degree programs, their financial aid awards, and the majority of their coursework. To ensure **active** UH Hilo student status, students **must** enroll in **at least one class** at UH Hilo each Fall or Spring semester. Students who do not maintain active UH Hilo status may be subject to readmission and a change in graduation requirements.

Students should consult the UH Hilo Admissions Office to determine the transferability of coursework completed elsewhere. Students planning to enroll in courses from other UH campuses must file a Prior Authorization for Transfer Credits form (available at www.uhh.hawaii.edu/forms/) with their college deans that notifies the college and the Financial Aid Office of their enrollment status. Students should be aware that:

- The UH Hilo grade point average is based only on work taken at UH Hilo.
- To earn a bachelor's degree at UH Hilo, a minimum of 30 credits must be earned at UH Hilo.
- College of Arts & Sciences, College of Business & Economics, and Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language students must earn a minimum of 25% of the credits required for their major, minor, and/or certificate at UH Hilo.
- Students are discouraged from repeating courses taken at UH Hilo, since the grade at another institution (including within the UH system) will not replace the grade earned at UH Hilo.

Upon completion of the course, students must have a copy of their official transcript sent to the UH Hilo Admissions Office.

Adding a Course

Students may enroll in (add) any course through the first week of instruction of a Fall or Spring semester or the first three days of a Summer session. To add a course during the second week of instruction requires the permission of the instructor. The last day to add a class is the same as the last day to register for credit as indicated on the UH Hilo Academic Calendar.

Dropping or Withdrawing from a Course:

NOTE: UH Hilo students who wish to drop from all UH Hilo classes prior to the beginning of classes may drop over MyUH portal. Once classes begin, a student cannot drop or withdraw from her/his last or only class at the home institution over MyUH portal; s/he must contact the Registrar's Office for assistance.

Courses may be "dropped" without academic penalty (without receiving a grade of "W" for the course) during the first three weeks of a regular semester. Students may also withdraw from a course from the beginning of the fourth week of instruction until the end of the eighth week of instruction. In this case, however, students will receive a grade of "W" for each official course withdrawal. Students who simply stop attending classes without withdrawing over MyUH Portal are not officially withdrawn. Those who fail to withdraw officially during the prescribed period could receive an "F" for such courses.

Complete Withdrawal

NOTE: Once classes begin, a student cannot drop or withdraw from his/her last or only class at the home institution over MyUH portal. UH Hilo students who wish to drop or withdraw from all UH H ilo classes should get the appropriate form from the Registrar's Office and follow official procedures.

Students who completely withdraw *before the end of the third week of instruction* will not have those classes included as part of their academic record. Students who completely withdraw *after* the third week of instruction will receive a "W" for each of the courses in progress at the time of withdrawal.

Students may completely withdraw through the last day of instruction. A student who completely withdraws and wishes to return for any subsequent semester may be required to submit an admissions application for re-admission.

Change of Major/College/Classified Status

Classified students who wish to change their major/college should consult their faculty advisor before completing a Declaration/Change of Major/Program form. This form is available at the Registrar's Office or online at www.uhh.hawaii.edu/forms. **Unclassified** students who wish to change to classified status, however, must use the Common Application Form. Graduating students who wish to enroll in future semesters are required to reapply for entry on the Common Application Form.

Classification of Students

The following classifications are used to describe persons attending classes:

Full-time or Part-time Students: Students may register either part-time or full-time. Undergraduate students are full-time if they register for 12 or more semester hours during the Fall or Spring semester, and part-time if they register for fewer than 12 semester hours. Graduate students are considered full-time if registered for 6 or more semester hours.

Classified Students: Students who are candidates for a degree or education certificate are called "classified students."

Unclassified Students: All students who are not candidates for a degree or education certificate are called "unclassified students." Unclassified students do not qualify for financial aid. Unclassified students who wish to have classified status must apply for admission as a classified student.

Class Standing: All students in the Colleges of Agriculture, Forestry and Natural Resource Management; Arts and Sciences; Business and Economics; Hawaiian Language (Ka Haka 'Ula O

Ke'elikōlani College of Hawaiian Language); and Pharmacy are designated with class standing as follows:

Freshman	0-24 semester hours completed (lower-division students)
Sophomore	25-54 semester hours completed (lower-division students)
Junior	55-88 semester hours completed (upper-division students)
Senior	89 or more semester hours completed (upper-division students)
Post-baccalaureate	Education certificate students
Graduate	Master's or doctoral students
Professional student	College of Pharmacy students

Auditors: Auditors are persons who are permitted to attend classes with the instructor's consent and who have paid tuition for this privilege. The extent of their classroom participation is determined by the instructor. No credit is given for a course which is audited. No records are kept of the work done by auditors. Auditors must submit the "Auditor's Form," provided by the Registrar, no earlier than the first day of instruction.

Course Numbering System

The University of Hawai'i course numbering system applies to all units of the University. Portions relevant to UH Hilo are as follows:

001-099	Developmental courses not applicable to baccalaureate or higher degree
100-499	Courses which may be used to satisfy the requirements of a bachelor's degree
100-299	Initial or introductory courses (lower division)
300-499	More advanced or specialized courses (upper division)
501-599	Professional level courses
600-699	Typically taken in first year of graduate study or first in sequence
700-798	Advanced (doctoral) graduate courses

Courses numbered 500 and above cannot be used toward baccalaureate requirements.

Credits, Grades, and Examinations

Work accomplished by students is recognized in terms of semester hours, grades, grade points, and grade point average (GPA).

Credits

Courses are assigned semester credit values determined by the number of hours of study per week required of the student in and outside of the classroom or laboratory. Although semester credit hours normally are fixed, some variable credit courses are offered. The amount of credit given for a variable credit course must be approved by the instructor and the department and may not exceed the maximum semester hours that are defined for each course.

Maximum Credit Load

Undergraduate students usually are not permitted to register for more than 18 credits per semester, including work taken through the College of Continuing Education and Community Service. Students who wish to take more than 18 credits per semester must have a cumulative GPA of 3.0 or better and written permission of the advisor and the appropriate college dean. Under no circumstances shall a student be allowed to register for more than 24 semester hours in any semester.

Grades

Students receive one grade in each course taken. This grade combines the results of course work, tests, and final examinations. Grades are indicated by letters and/or plus/minus, to each of which is assigned a certain value in grade points per semester hour of credit, as shown in the table below:

Grade	Significance	Grade Points Per Semester Hour of Credit
A	Excellent	4.0
A-		3.7
B+		3.3
B	Good	3.0
B-		2.7
C+		2.3
C	Satisfactory	2.0
C-		1.7
D	Poor	1.0
F	Failure	0.0
I	Incomplete	
CR	Credit	
NC	No Credit	
W	Withdrawal	
S	Satisfactory (Graduate Division)	
NG	Work-in-Progress (Graduate Division)	
RD	Report delayed (Faculty did not submit a grade by the deadline)	
CE	Credit by Institutional Examination	

Incomplete Grade (I) : A grade of "I" may be given for a course in which a student has failed to complete a small but important part of a semester's work, if the instructor believes that the failure was caused by conditions beyond the student's control and not by carelessness and procrastination. It is the student's responsibility to request an incomplete grade.

Each student who receives an "I" should consult with the instructor to determine what work must be done to remove the "I." If this work is completed by the deadline specified in the UH Hilo Academic Calendar, the instructor will report a change of grade, taking the completed work into consideration. If this work is not completed by the deadline, the "I" grade will become an "F" or failing grade. The time limit for incomplete removal prevails whether or not the student maintains continuous enrollment.

An instructor who assigns a grade of "I" will complete a Report of Incomplete Work form indicating what work must be done to complete the requirements of the course. The instructor shall retain the original of the form and provide the student with a copy.

A grade of "I" must be removed by the instructor who assigned it, using a Change of Grade Form. In exceptional circumstances, the division chairperson or the dean can report a change of grade.

Credit/No Credit (CR/NC): Students, provided that they are not on academic probation, may exercise their option to take a maximum of two (2) courses per semester on a "credit/no credit" basis. Courses completed under the CR/NC option may not be used to satisfy the requirements for a major, minor, or certificate, and no more than 12 semester hours in such courses may be counted toward the requirements for a degree. Once the CR/NC option has been exercised for a course, the designation may not be removed. To qualify for "credit," the work of the student must be at least at the "C" (2.0) level. The CR/NC option must be exercised by the date designated for this purpose in the UH Hilo Academic Calendar.

Courses that are offered **only** on a CR/NC basis may be counted toward the requirements for a major, minor, or certificate.

UH Hilo Grade-Point Averages (GPA) are determined by dividing the total number of grade points by the total number of credits for which a student has received letter grades (excluding "I", "CR", "NC, " or "W").

The UH Hilo **semester** GPA is calculated on any one semester's credits and grade points. The UH Hilo **cumulative** GPA is calculated on all such work *taken at UH Hilo*.

Grade Reports: Students will access their grade results through the MyUH portal Web site: http://myuhportal.hawaii.edu.

Change of Grade: A student who believes an error has been made in the assignment of a grade must initiate contact with the faculty member involved, the division chair, or dean prior to the last day of instruction of the next regular semester. (Students enrolled in the College of Pharmacy should refer to the Academic Policies and Deadlines pertaining to the College of Pharmacy.) Failure to act within this time period disqualifies the student from further consideration of the matter. Students requesting other changes in their academic record must present a written petition to their dean. The petition must include a statement of the requested action, justification, and supporting documents. Generally, such actions will not be considered if more than one year has elapsed.

Credit-by-Examination

Students at UH Hilo are eligible for several forms of credit by examination. **A maximum of 30 credits earned through any of the following credit-by-examination alternatives may be applied toward the bachelor's degree.**

College Level Examination Program (CLEP)

The College Level Examination Program enables students to earn college credit by examination in areas approved by the disciplines. Classified students may take CLEP tests to demonstrate college level competency no matter when, where, or how this knowledge has been acquired: through formal study, private reading, employment experiences, non-credit courses, military/industrial/business training, or advanced work in regular high school courses. This program gives individuals the opportunity to validate and receive credit for college-level knowledge they already possess.

No student is eligible to take CLEP General Examinations for UH Hilo credit after reaching sophomore standing; *i.e.*, the student must have completed not more than 24 semester hours of college work.

Criteria for passing the CLEP General and Subject Examinations are determined by the appropriate academic discipline. A satisfactory score on these examinations, as determined by the appropriate academic division, yields course credit. Satisfactory scores for advanced standing for CLEP General Examinations at UH Hilo are as follows:

Humanities	50	(3 semester hours)
Mathematics	50	(3 semester hours)
Natural Sciences	50	(3 semester hours)
Social Sciences	50	(3 semester hours)

Students completing CLEP subject examinations with acceptable scores will receive advanced standing college credits which will be noted on their permanent academic record. Students may contact the Office of Admissions to determine satisfactory scores for the CLEP subject exams and related credit awarded.

Advanced Placement Examination Program (AP)

Credit for comparable UH Hilo courses, as well as advanced standing, may be granted to students who complete Advanced Placement Tests offered by the College Entrance Examination Board. These exams are administered in high schools for students who have completed specific college-level courses in high school. Advanced placement credit decisions are made by the faculty of the appropriate UH Hilo academic discipline. Specific information about Advanced Placement Tests is available from the Counseling Office (Student Services Building, Room 204); (808) 974-7312, or directly from the College Entrance Examination Board.

International Baccalaureate

Advanced standing credit may be awarded for coursework completed in the International Baccalaureate Program. Scores of four or greater in higher level examinations will be considered for advanced credit. Contact the Office of Admissions for equivalences.

Credit by Institutional Examination

Students who are enrolled in the University and who believe they have mastered the content of a specific course may, with the permission of the chair of the appropriate academic discipline, be given an examination to determine whether credit should be given for the course. If approval is granted, the chair shall arrange for such an examination. The examination shall be as comprehensive as the usual "final examination," and must be designed to serve as the scholastic equivalent of the course. A satisfactory score will yield course credit in the subject and the grade "CE" (Credit by Exam) will be entered on the student's permanent academic record.

Refer to the UH Hilo Academic Calendar for the last day to apply for Credit by Examination in the Fall and Spring semesters. A fee is required for each credit by institutional examination attempt. Where special tests, supplies, and/or materials are required, the student will bear the cost of such items.

Credit for Previous Foreign Language Study

Students who have learned Hawaiian or foreign languages outside of the University of Hawai'i may earn credit for their language in one of three ways: (1) through credit by institutional examination, if the language is taught at the College of Arts and Sciences or Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language; (2) through the Advanced Placement Examination Program; or (3) through the College-Level Examination Program. For more detailed information, students should consult with the Chairperson of Languages at the College of Arts and Sciences (Humanities Division, Edith Kanaka'ole Hall) or Director of Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language (Edith Kanaka'ole Hall Rm 235).

Native and bilingual speakers of a foreign language may NOT receive credit for courses in that language which are designed for non-native speakers.

Foreign Language Placement Tests

Students who previously studied foreign languages must consult with the Chairperson of Languages in order to determine the level at which they should enroll for language study.

General Certificate on Education Examination Held Overseas (GCEEO)

The College of Arts and Sciences accepts only A-level GCEEO Examination grades of "A," "B," and "C."

Transfer Credits

For information on transferring credits from another college or university, please see the chapter entitled "Admissions" in this Catalog. It is important to be aware that students transferring into UH Hilo with work done more than ten years prior to their admittance may find such work subject to evaluation.

Credit for Education Received While in Military Service

Upon registration and submission of service documents and certificates, the Admissions Office will evaluate all educational experiences undertaken during military service in accordance with the credit recommendations of the Commission on Accreditation of Service Experiences and the Guide to Evaluation of Educational Experiences in Armed Forces. Courses, training, or experience directly related to a military occupation are not eligible for transfer credit. The Admissions Office will transmit its evaluation and recommendations to the relevant discipline for action as to the amount and kind of credits, if any, which are to be accepted. College courses satisfactorily completed through the Defense Activity for Nontraditional Educational Support (DANTES) may be accepted for advanced standing upon the recommendation of the Admissions Office and approval by appropriate faculty members.

Final Examinations

Final examinations normally are required in all courses except reading, research, and seminar courses. Final examinations are to be conducted during the final examination period specified in the UH Hilo Academic Calendar and Schedule of Courses or, in the case of modular courses only, on the last day of class. No final examinations are allowed in the two weeks preceding the final examination period.

Repeating Courses

With certain restrictions that are noted below, undergraduate students may retake a course with the intention of earning a higher grade. When a course is repeated, the GPA is computed by using **the most recent grade received. If "W" is the "repeat" grade, the initial grade will be used to compute the GPA. If "F" is the "repeat" grade and the initial grade was "D" or higher, students will retroactively lose the credits that they previously earned. Grades from both initial and repeat attempts remain a part of the student's permanent academic record.**

Students may not enroll in a course and receive a grade (including "W") more than three times, except in those courses identified in the Catalog as repeatable.

The only courses a student may repeat with a Credit/No Credit option are those in which the student previously received a grade of "NC" (No Credit). A course for which a student has already received credit may not be repeated through credit by institutional examination. Courses initially taken at UH Hilo must be repeated at UH Hilo in order for the repeat grade to be calculated in the GPA. Grades from other institutions will not be used to calculate the GPA.

Repeatable Courses

Only certain courses that are identified in the Catalog as repeatable can be taken more than once for additional credit. Their course descriptions include the phrase "may be repeated for credit."

Directed Reading and Directed Studies

Directed Reading and Directed Studies require the sponsorship of a member of the faculty and approval by the relevant department, and a description of the work to be undertaken, which, in turn, requires planning in advance of the registration period. Sufficient time, therefore, must be allowed for such planning and for obtaining the necessary faculty approvals.

While a Directed Reading or Directed Studies project normally is student-initiated, early interaction with faculty is essential in the development of a mutually acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contact, and a statement of the evaluative criteria to be used by the faculty member.

A student may register for *not more than six semester hours of Directed Reading and/or Directed Studies per semester* with not more than three semester hours granted for any single such course. *Not*

more than twelve credits received from Directed Reading and/or Directed Studies courses may be applied toward a bachelor's degree.

Exceptions to Academic Regulations

Any student may petition the University for a waiver of or other exception to any academic policy or regulation. If the request involves a requirement for a major or minor, the petition goes to the chair of the department. If it involves a General Education or graduation requirement, the petition goes to the dean of the college. The petition should include clear and convincing justification for the action requested as well as appropriate documentation, such as syllabi or catalog course descriptions of the courses in question.

The College of Arts and Sciences (CAS), the College of Business and Economics, and Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language use the Request for Modification of Academic Requirement for this purpose, which may be obtained in any of the Division Offices, the CAS Dean's Office, or online at www.uhh.hawaii.edu/forms/. Students in the College of Agriculture, Forestry and Natural Resource Management use the corresponding form available from that college's Dean's Office.

Attendance, Satisfactory Progress, Academic Probation, Dismissal, Readmission, Bankruptcy

Attendance

Regular on-time attendance in class and laboratory sessions is expected of all students in the University. Unavoidable absences should be explained to the instructor involved. If a student finds it necessary to take a leave of absence during a semester, he or she should discuss this with each instructor and arrange to make up course requirements.

Students failing to attend classes during the Add/Drop period may be dropped from those courses to accommodate students on waiting lists.

Declaration of Major

All classified UH Hilo students must declare a major before registering for the junior year.

Satisfactory Academic Progress for Undergraduate Programs

Satisfactory academic progress is defined by the University of Hawaiʻi at Hilo as maintaining an undergraduate UH Hilo cumulative GPA of at least 2.0 or a graduate UH Hilo cumulative GPA of at least a 3.0.

Academic Warning

An undergraduate student whose UH Hilo semester GPA is less than 2.0 will be notified and will be encouraged to seek academic counseling.

Academic Probation

An undergraduate student whose UH Hilo cumulative GPA is less than 2.0 will be placed on academic probation. A graduate student whose UH Hilo cumulative graduate GPA is less than 3.0 will be placed on academic probation. Once placed on probation, the graduate student has 2 semesters to attain a cumulative graduate GPA of 3.0 or higher or the student will be dismissed.

Continued Academic Probation

Following a semester on academic probation, a student will be placed on continued academic probation if the UH Hilo GPA for the semester just completed was 2.0 or higher, but the UH Hilo cumulative GPA remains less than 2.0.

Academic Dismissal

An undergraduate student whose UH Hilo semester GPA and UH Hilo cumulative GPA are both below 2.0 at the end of a semester of academic probation or continued academic probation will be dismissed from the University. He or she may appeal the academic dismissal in writing to the appropriate college dean within 10 working days of receiving the notification of academic dismissal.

A graduate student whose UH Hilo semester and cumulative GPA is still below a 3.0 at the end of 2 semesters of academic probation will be dismissed from the University.

Readmission

An undergraduate student who has been dismissed from the University for academic reasons may apply for readmission one semester after the date of academic dismissal. Such a student may be readmitted only under circumstances deemed acceptable to the appropriate college dean. Readmission is not automatic and will be granted only where there is evidence the student will perform satisfactorily.

Academic Bankruptcy

Undergraduate students may declare one semester of their academic career at UH Hilo as an academically bankrupt semester. Although the student's UH Hilo GPA will be recalculated to exclude all of the grades from the bankrupt semester, the grades from that semester will remain on the transcript. A notation that the student has declared academic bankruptcy will appear on the transcript. A declaration of academic bankruptcy **must** be made prior to graduation.

Students who are interested in declaring academic bankruptcy should take the following into consideration:

1. Courses taken during the semester for which a student declares academic bankruptcy count toward the "3-peat" rule, which limits to three the number of times a student may take a course.
2. If a student received financial aid during the semester for which he or she declares academic bankruptcy, he or she should consult with the Financial Aid Office to determine how declaring academic bankruptcy might impact his or her financial aid eligibility.
3. No courses taken during the semester of academic bankruptcy shall count toward a degree, certificate, or minor.
4. Only one semester may be declared bankrupt during a student's academic career at UH Hilo.
5. Under no circumstances may less than a full semester's work be declared bankrupt.

The form to declare academic bankruptcy is available at the College Deans' Offices and Division Offices.

Other Provisions

Upon finding that a student is suffering from a physical or mental condition detrimental to the student and the UH Hilo community, the vice chancellor for student affairs will, on professional advice, recommend proper action to the appropriate college dean. The college dean may then request that the student be withdrawn officially, without prejudice or academic penalty.

Readmission is contingent upon review and recommendation by the college dean or college director and the vice chancellor for student affairs. Such a recommendation may include professional care.

Honors

Dean's List

Shortly after the close of the Fall and Spring semesters, the names of all full-time undergraduate students enrolled for baccalaureate degrees who earned 12 or more semester credits for a letter grade at UH Hilo and achieved a GPA of 3.5 or above in the preceding semester will appear on the Dean's List.

Undergraduate Honors at Graduation

Honors in the College of Agriculture, Forestry and Natural Resource Management, the College of Arts and Sciences, the College of Business and Economics or Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language shall be determined in accordance with the cumulative GPA upon graduation in courses taken at UH Hilo in the following manner:

Honors	UH Hilo GPA of 3.50 to 3.69
High Honors	UH Hilo GPA of 3.70 to 3.84
Highest Honors	UH Hilo GPA of 3.85 to 4.00

To be eligible to purchase an honor cord for the Commencement exercise, honors students must have achieved the minimum UH Hilo GPA of 3.50 and completed 45 of the 60 required credits by the end of the term preceding their graduation semester.

Only undergraduate students who have earned at least 60 semester hours at UH Hilo, all of which are applicable toward a baccalaureate degree, are eligible for graduation with honors. In addition, at least 54 of the 60 applicable semester hours must be taken for a letter grade. The award of an honors diploma follows the commencement exercise and is subject to the final review of all grades and credits earned.

Academic Dishonesty

Because the University is an academic community with high professional standards, its teaching, research, and service purposes are seriously disrupted and subverted by academic dishonesty. Academic dishonesty includes cheating and plagiarism as defined below. Ignorance of these definitions will not provide an excuse for acts of academic dishonesty.

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, to satisfy an academic requirement, any document 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 write-ups 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.

In cases of suspected or admitted dishonesty, the instructor shall attempt to discuss the matter with the student. If appropriate, the instructor may bring it to the attention of the departmental chairperson, the student's advisor, division chairperson, and/or appropriate academic dean. Additionally, an instructor may refer such cases of academic dishonesty to the Vice Chancellor for Student Affairs for action under the Student Conduct Code. (Refer to the "Student Conduct Regulations" section of this catalog for more information about the UH Hilo Student Conduct Code or visit the UH Hilo Student Affairs website at www.uhh.hawaii.edu/studentaffairs/.)

In cases where the student admits that an act of academic dishonesty was committed, the instructor may, within the context of the course, require the student to re-do the assignment, give the student a failing or reduced grade for the assignment, or give a failing or reduced grade for the course. If the student contests his or her liability, the instructor may not take action against the student but must refer the case to the Vice Chancellor for Student Affairs for hearing and disposition under the Student Conduct Code. The Vice Chancellor for Student Affairs may pursue such matters as disciplinary actions under the Student Conduct Code if, after a preliminary investigation, it is his or her determination that probable cause exists to establish that acts of academic dishonesty took place.

Faculty may submit a "Report of Student Academic Dishonesty" form to the office of the Vice Chancellor for Student Affairs, where records of students who have been found responsible for academic dishonesty

are maintained. When handling an incident of academic dishonesty, faculty may consult with the Vice Chancellor's office to find out if the student has been found responsible for academic dishonesty in the

past and may take that information into consideration when determining an appropriate sanction against the student. The form is available online on the Student Conduct Code website at www.uhh.hawaii.edu/studentaffairs/conduct/.

Academic Grievances

A student who believes that a faculty member has failed to meet reasonable standards of academic propriety may register a grievance. The Student Academic Complaint Policy has been established to provide guidelines and processes governing academic grievances. The student should first attempt to resolve the grievance on an informal basis with the faculty member. Should the grievance not be resolved at this level, the student should discuss it with the division chairperson and, if necessary, the dean of the college. Copies of the academic complaint policy are available in the offices of the dean or director of each college, in the office of the Vice Chancellor for Academic Affairs, and online at www.uhh.hawaii.edu/academics.

Participation in Assessment Efforts

The University of Hawai'i at Hilo is committed to providing students the highest quality college experience. In order that we continue to improve programs and activities, students may be required to participate in university assessment efforts including university-wide surveys and surveys relating to General Education or the student's major field of study. Responses will be kept confidential.

Graduation Requirements

A student must satisfy either the graduation requirements in effect at the time he or she first enrolls as a classified student in a specific UH Hilo degree or certificate program, or the requirements in effect at the time of his or her graduation. A student whose UH Hilo enrollment is interrupted for more than two consecutive semesters (excluding summer sessions) must complete the requirements in effect at the time the student is readmitted or the requirements in effect at the time of his or her graduation.

Baccalaureate Degrees: General Requirements

Baccalaureate degrees are granted only to those students who (1) earn at least 120 semester hours, (2) complete satisfactorily the program of courses prescribed for their majors, (3) earn at least a 2.0 UH Hilo cumulative GPA as well as a 2.0 GPA in courses required for the major (a higher GPA may be required for some degrees) and minor (if any), (4) earn a minimum of 30 semester hours in the college from which a degree is sought, (5) are registered as a classified student with a declared major and in attendance at the University of Hawai'i at Hilo during the semester or summer session in which the degree is granted, and (6) meet all requirements of their respective colleges and departments. All degree requirements must be met within the special limitations imposed upon directed reading/directed studies, "credit/no credit" and special topics courses, and the credit by examination policy. Students should consult all appropriate sections of this Catalog or speak with their faculty advisors or college deans for more details on these limitations.

More information on baccalaureate degree requirements is contained in the preceding chapter. Students are urged to pay strict attention to all requirements and to see an advisor regularly.

Application for Graduation

An application for graduation from any of the degree or certificate programs offered by UH Hilo must be cleared by the Registrar's Office and submitted to the Business Office for processing by the deadline specified in the UH Hilo Academic Calendar. The Application for Degree/Certificate form is available at www.uhh.hawaii.edu/forms. A non-refundable fee of $15.00 is charged upon application. Failure to file a graduation application by the specified deadline will result in a delay of graduation.

Graduation in Absentia

Under extraordinary circumstances, students may earn their final credits at an institution other than UH Hilo and, upon official transfer of these credits back to UH Hilo, graduate with their degree from UH Hilo. This practice is called graduation *in absentia.* Students must demonstrate a compelling personal reason to graduate *in absentia,* and their application must be approved by the appropriate dean **before** any courses are taken *in absentia.*

Graduation *in absentia* is not automatic nor is it a right of students. In order to be eligible to be considered for graduation *in absentia,* a student must meet all of the specified conditions. Forms are available at www.uhh.hawaii.edu/forms/.

Students whose application for graduation *in absentia* has been approved must also apply for graduation as described in the preceding section.

Other Important Policies

Student Conduct Code

The purpose of the University of Hawai'i is to pursue knowledge through teaching, learning, and research in an atmosphere of physical and intellectual freedom. In order to fulfill this purpose, members of the academic community engage in teaching, learning, research, and service, and assist one another in the creation and maintenance of an environment that supports these activities. Members of the academic community may neither violate the rights of one another nor disrupt the basic activities of the University.

The University of Hawai'i at Hilo has a Student Conduct Code which defines expected conduct for students and specifies behavior that is subject to University disciplinary action. The full text of the Student Conduct Code, which includes detailed information about impermissible behaviors, disciplinary procedures, and possible sanctions, is available online on the UH Hilo Student Affairs website (www.uhh.hawaii.edu/studentaffairs/), as well as in the office of the Vice Chancellor for Student Affairs (Student Services Building Room 208, 808-974-7335).

Any member of the University community (faculty, staff, or student) may bring forth an allegation that a student has violated the Student Conduct Code. Reports should be submitted in writing to the Vice Chancellor for Student Affairs. Disciplinary authority is exercised through a Judicial Officer or the Student Conduct Committee, or, in cases dealing with academic dishonesty, by a faculty member (refer to the section on academic dishonesty in the "Academic Regulations" section of this catalog). The Judicial Officer, Student Conduct Committee, or faculty member follow set procedures for handling allegations of misconduct.

One or more of the following sanctions may be imposed when a student is found responsible for violating the Student Conduct Code:

- warning;
- probation;
- a failing or reduced grade for a course or an assignment;
- restitution;
- educational sanctions;
- temporary suspension in emergency situations;
- suspension;
- expulsion;
- rescission of grades or degree.

Some behavior that violates the Student Conduct code includes, but is not limited to, the following:

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, to satisfy an academic requirement, any document 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 write-ups 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.

Disruption: Creating noise or other disturbances on campus sufficient to disrupt the normal functioning of campus activities, including classroom instruction and co-curricular programs.

Alcohol and Other Drugs: Consumption of alcoholic beverages is permitted only in the UH Hilo student residence hall rooms and student apartments by students 21 years of age or older, with the exception of Hale Kauanaoe, Hale Kanilehua, and Hale Kehau which are designated alcohol-free. Consumption of alcoholic beverages is forbidden in all public and common areas of the residence halls. All other service or consumption of alcoholic beverages on University property requires a special permit by the Vice Chancellor for Student Affairs or Vice Chancellor for Administrative Affairs.

Expressly prohibited is the manufacture, use, sale, purchase, distribution, or possession of dangerous drugs and narcotics as those terms are used in state and federal law at University sponsored or approved events or on University property. This includes marijuana, cocaine, heroin, morphine, LSD and other hallucinogens, as well as barbiturates and amphetamines. Students who violate state law and/or University policies are subject to campus disciplinary action as stipulated in the UH Hilo Student Conduct Code. The University fully cooperates with law enforcement agencies responsible for enforcement of laws relating to use of illegal drugs or alcohol.

Personal Misconduct: Includes, but is not limited to, the following behavior: harassing; physically threatening or physically abusing any person on campus or at any University-sponsored function or event; conducting oneself in a manner endangering any person's health or safety; theft of or willful damage to any property of the University or of any person on campus; the unauthorized occupation, use of, or entry into any University facility; turning in a false bomb alarm or fire alarm, or misusing fire safety equipment; and possessing, selling or transferring weapons (such as firearms, spear guns, and bows and arrows).

Weapons: Firearms, spear guns, bows and arrows, and other potentially lethal weapons are prohibited in residence halls and in all areas of campus.

Student Health Insurance

Health insurance is highly recommended for all students. The University of Hawai'i Medical Plan is designed for students and is generally less expensive than most other health insurance plans. Applications may be picked up from the Health Services Office (Campus Center 212), or downloaded from www.hmsa.com/portal/student or mailed to you by calling (808) 974-7636.

International students on non-immigrant visas must provide proof of adequate accident and health insurance, carry such insurance each semester, and present proof when picking up their registration materials. A special rider to cover additional accidents and illness, repatriation, and medical evacuation back to the student's home country can be purchased for a low fee.

Medical Clearance

All newly enrolled students must send in the following:

1. A completed Health History Form (mailed from the Admissions Office with the student's acceptance letter or downloaded from www.uhh.hawaii.edu/studentaffairs/health/healthhistory.pdf);
2. Results of a tuberculin skin test (PPD) or chest x-ray performed not more than 12 months prior to enrollment date;
3. If born after 1956, proof of immunity to measles (rubeola).

Note: TB tests and chest x-rays performed in foreign countries are not acceptable for clearance.

Policy for Responsible Computing and Network Access

This policy applies to all computing, information, and network resources administered by the University of Hawai'i Information Technology Services Division. It is posted in all University computer labs and is available at the Reference Desk in the Library. The URL for the policy is www.hawaii.edu/infotech/policies/itpolicy.html.

Email Policy

Email is the official means of communication within the University. The University has the right to send communications to students via email and to expect that those communications will be received and read in a timely fashion. The University will send official email communications to the student's official UH email address. Email may be used for notification of financial notice, legal action, and academic or disciplinary actions such as academic warning, probation, or suspension. Students are responsible for checking their UH email account frequently and consistently to remain current with University communications. For information about obtaining and managing a UH email account and about email policies, visit the Information Technology Services website at www.hawaii.edu/its/ and the "System and Campus-Wide Electronic Channels for Communicating with Students" policy online at www.hawaii.edu/apis/ep/e2/admin.html.

Policy for Tobacco Products

In an effort to improve the working and learning environment of the university and protect faculty, staff, students, and visitors from secondhand smoke exposure, the University of Hawai'i has implemented a tobacco products policy that not only prohibits smoking in various outdoor areas, but also prohibits the sale of tobacco products on campuses, the sponsorship of campus events or organizations by tobacco companies, and calls for cessation guidance to be provided to individuals who wish to quit their smoking habit.

Smoking is prohibited in the following areas:

- All interior space owned, rented, or leased by the University;
- In building courtyards, breezeways, and terraces, on exterior stairways and access ramps, and outdoor dining patios, terraces, and lanais;
- Within 20 feet of building entrances, exits, air intake ducts, vents, and windows of buildings that are not air-conditioned;
- Within 50 feet of designated pick-up and drop-off points for campus and public bus transportation;
- Within the gates of the university's outdoor sports and performing arts stadiums and arenas, including walkways, corridors, and seating areas; and,
- Any area that has been designated by the person having control of the area as a non-smoking area and marked with a no smoking sign.

In addition,

- All University residences became smoke-free by the start of the 2004-2005 academic year.
- All advertising and sales of tobacco products on University campuses are prohibited (except for the sale or free distribution of non-university supported magazines and newspapers that incidentally contain tobacco product advertising).
- The distribution of samples of tobacco products or coupons redeemable for tobacco products on university campuses is prohibited.
- The sponsorship of campus events or campus organizations by tobacco industry or tobacco promoting organizations is prohibited.
- On-site tobacco product cessation guidance will be made available to assist and encourage individuals who wish to quit. Supervisors may authorize employees who wish to avail themselves of such on-campus programs to do so without any loss in pay.

This policy applies to the entire university community, including faculty, staff, students and visitors. The Office of the Vice President for Administration and Chief Financial Officer is responsible for policy implementation and compliance in collaboration with heads of all UH campuses. Questions, comments, or complaints relating to this policy should be directed to each respective campus head or designees.

Notice to Persons with Disabilities

In accordance with federal and state law, it is the policy of the University of Hawai'i at Hilo that no otherwise qualified person with a disability shall, solely on the basis of that disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination by any University program or activity. UH Hilo also adheres to a set of institutional policies and procedures for non-discrimination on the basis of disability. [The UH Hilo Polices and Procedural Guidelines for Non-Discrimination Based on Disability is available on the UH Hilo website: (http://www.uhh.hawaii.edu/studentaffairs/uds/udsfiles/uhh_nondiscrim_policy.pdf),} or a hard copy may be obtained by contacting the University Disability Services Office at (808) 933-0816 [V], (808) 933-3334 [TTY], uds@hawaii.edu (email).

Services for students with a disability are provided by the University Disability Services Office. Faculty and staff requesting accommodations should contact their supervisor and/or the University Disability Services Director, Susan Shirachi, (808) 933-0816 (V), (808) 933-3334 (TTY), uds@hawaii.edu (email).

All service animals (*i.e.*, any guide dog or signal dog that is individually trained to provide assistance to a person with a disability) are welcome to accompany the person with a disability while on the UH Hilo campus. UH Hilo staff may inquire of the documentation of the service animal and the individual's accommodation request. Certain medical or laboratory settings may by their nature prohibit service animals for hygiene reasons. Please be aware that the service animal must be leashed, must remain under the control and direct supervision of the person with a disability, may not stray unattended, and may not exhibit disruptive behavior while in a classroom or work setting.

To file a complaint, students should contact the Office of the Vice Chancellor for Student Affairs at (808) 974-7335 (V)/(808) 933-3334 (TTY) for a copy of the complaint procedures. Formal complaints will be handled by a Fact Finder (typically the EEO/AA Director). Faculty, staff, and members of the public should contact the EEO/AA Director at (808) 933-0824 (V) or (808) 933-3334 (TTY) to file a complaint. Detailed information and complaint forms can be found in the on-line document: Policies and Procedural Guidelines for Non-discrimination on the Basis of Disability (www.uhh.hawaii.edu/studentaffairs/uds/udsfiles/uhh_nondiscrim_policy.pdf), or by contacting the offices mentioned above, to request a printed copy. Alternate format copies for all disability related documents may be obtained by contacting the University Disability Services Office at (808) 933-0816 [V], (808) 933-3334 [TTY], uds@hawaii.edu (email).

Nondiscrimination Policy

The University of Hawai'i at Hilo(UH Hilo) is an equal opportunity/affirmative action institution and is committed to a policy of nondiscrimination on the basis of race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, and covered veteran status. This policy covers academic considerations such as admission and access to, and participation and treatment in, UH Hilo's programs, activities, and services, including those pertaining to Title VI of

the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972. With regard to employment, UH Hilo is committed to equal opportunity/affirmative action in all personnel actions such as recruitment, hiring, promotion, and compensation. Sexual harassment is expressly prohibited under UH Hilo policy.

UH Hilo strives to promote full realization of equal opportunity through a positive, continuing program in compliance with the affirmative action in employment mandates of federal Executive Order 11246, as amended. The program includes measuring performances against specific annual goals, monitoring progress, and reporting on good faith efforts and results in annual affirmative action plan reports. As a government contractor, UH Hilo is committed to an affirmative policy of hiring and advancing in employment qualified persons with disabilities, disabled veterans, Vietnam Era Veterans, recently separated veterans, and Armed Forces Service Medal veterans.

For information on equal opportunity/affirmative action policies or complaint procedures for UH Hilo, go to the URL: www.uhh.hawaii.edu/~eeoaa/policy_links.html or contact the following persons:

Students, Title VI, or Non-Athletic Title IX issues:

Dr. Keith Miser
Vice Chancellor for Student Affairs
Student Services Building, Room 208
Phone: (808) 974-7334/TTY: (808) 933-3334/5
kmiser@hawaii.edu
OR
Herbert L. Pitts
Director, Equal Opportunity/Affirmative Action
UCB 238
(808) 933-0824/TTY: (808) 933-3334/5
hpitts@hawaii.edu

Athletic Title IX issues:

Kathleen McNally
Director of Athletics
320C-107B
(808) 974-7621/TTY: (808) 933-3334/5
kmcnally@hawaii.edu

Employees and Applicants for Non-Student Employment:

Kerwin Iwamoto
Director of Human Resources
AS 106
Phone: (808) 974-7449/TTY: (808) 933-3334/5
kerwini@hawaii.edu
OR
Herbert L. Pitts
Director, Equal Opportunity/Affirmative Action
UCB 238
(808) 933-0824/TTY: (808) 933-3334/5
hpitts@hawaii.edu

Applicants for Student Employment and Student Employees With Employment Concerns Other Than First Step Disability or Discrimination Employment Issues:

Randal Usui
Student Employment Director
Career Services Assistant Director
CC202A
(808) 974-7687/TTY: (808) 933-3334/5
rusui@hawaii.edu

Applicants for Admission or Employment and Employees or Students with Disability Related Issues:

Susan Shirachi
University Disability Services Director
Hale Kauanoe A Wing Lounge
(808) 933-0816/TTY: (808) 933-3334/5
shirachi@hawaii.edu
*Available in alternate format upon request. Contact the UDS Office: 808-933-0816; TTY: 808-933-3334

Sexual Harassment and Sexual Assault

It is the policy of the University of Hawai'i Hilo (UH Hilo) to provide a safe and comfortable learning and working environment for students and employees. UH Hilo recognizes the serious issues concerning sexual harassment and sexual assault. Sexual harassment is a form of sex discrimination that can undermine the foundation of trust and mutual respect that must prevail if UH Hilo is to fulfill its educational mission. Sexual assault is defined by the Hawai'i Penal Code, and it is UH Hilo policy that, with the consent of the victim, all reported instances of sexual assault will be investigated by law enforcement agencies and appropriate support services will be provided. Sexual harassment and sexual assault will not be tolerated in any part of UH Hilo programs and activities. Sanctions will be imposed on the members of the UH Hilo community who violate this policy.

Complaint Procedures

The Vice Chancellor for Student Affairs or the EEO/AA Director can give you information on informal and formal complaint procedures. In many cases, informal procedures are effective in stopping sexual harassment. Formal complaint procedures exist to protect all students and employees and may also be directly downloaded at: www.hawaii.edu/svpa/ep/e1/e1203.pdf and http://www.hawaii.edu/svpa/apm/pers/a9920.pdf

Obtaining Information and Assistance

Sexual harassment is sex discrimination and, therefore, illegal. Even if you are unsure that what you are experiencing is harassment, call any of the following persons listed below for information and assistance.

Whom You Can Talk To:

Dr. Candace Rosovsky
Women's Center Director
Women's Center
Campus Center, Room 312
Phone: (808) 974-7306/TTY: (808) 933-3334/5
rosovsky@hawaii.edu

For Counseling Support:

Barbara Bird Heintz
Counselor
Student Services Building, Room 201
Phone: (808) 933-3116 /TTY: (808) 933-3334/5
bheintz@hawaii.edu

To File a Formal Complaint:

Dr. Keith Miser
Vice Chancellor for Student Affairs
Student Services Building, Room 208
Phone: (808) 974- 7334/TTY: (808) 933-3334/5
kmiser@hawaii.edu
OR
Herbert L. Pitts
Director, Equal Opportunity/Affirmative Action
UCB 238
(808) 933-0824/TTY: (808) 933-3334/5
hpitts@hawaii.edu

*Available in alternate format upon request. Contact the UDS Office. 808-933-0816; TTY 808-933-3334.

Educational Rights and Privacy Act

(FERPA statement as of 12/11/97)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

(1) The right to inspect and review the student's education records within 45 days of the day the university receives a request for access. Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

(2) The right to request the amendment of the student's education records that the student believes are inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

If the University decides not to amend the record as re quested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

(3) The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

(4) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-4605

(5) Students are advised that institutional policy and procedures required under FERPA have been published as Administrative Procedure A7.022 Procedures Relating to Protection of the Educational Rights and Privacy of Students. Copies of Administrative Procedure A7.022 may be obtained from the Office of the Vice Chancellor for Student Affairs (Student Services Bldg. Room 209, phone (808) 974-7335), Dean of the College of Arts and Sciences (University Classroom Building, Room 300, phone (808) 974-7300), Dean of the College of Business and Economics (Kanaka'ole Hall, Room 270A, phone (808) 974-7400), Dean of the College of Agriculture, Forestry & Natural Resource Management (College of Agriculture Bldg., phone (808) 974-7393), Director of the College of Hawaiian Language (EKH 235, phone (808) 974-7342), or by accessing www.svpa.hawaii.edu/svpa/apm/a700/a7022a.pdf.

(6) Directory Information. Students are advised that certain personally identifiable information is considered by the university to be Directory Information. The university publishes student directory information on the UH Hilo Web site (www.uhh.hawaii.edu/directory) and in print. In response to public inquiry, directory information may be disclosed without prior consent of the student unless the student otherwise so informs the university not to disclose such information.

(a) Name of student
(b) Local address and zip code
(c) Local telephone number
(d) Major field of study
(e) Educational level
(f) Fact of participation in officially recognized activities and sports
(g) Weight and height of members of athletic teams
(h) Dates of attendance
(i) Enrollment status (full- or part-time)
(j) Most recent educational institution attended
(k) Degrees and awards received
(l) Email address
(m) Photographs

A student has the right to request that 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 each Campus Registrar of each campus he or she is attending which of the above items are not to be disclosed without the prior consent of that student. Report to the Registrar's Office at the Student Services Bldg. Room 101 to make this request.

(7) 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.

Campus Security and Crime Awareness

UH Hilo is committed to providing a safe and healthy environment for students, faculty, staff, and guests. Campus Security is responsible for providing protection and security for the campus community and the facilities at the Main Campus and off site facilities 24 hours every day. Emergency call boxes are located throughout the Main Campus to provide instant communication with the Security Office. Some buildings have alarms and video cameras.

UH Hilo complies with the 1999 Clery Act as amended. For information concerning Security policies and crime statistics please check the UH Hilo Security Office Web site. Along with routine patrol duties and traffic enforcement, other services include conducting investigations, responding to emergencies and alarms, making emergency notifications, and securing rooms and buildings. Upon request, security officers (as available) will provide an escort service for students and staff members on campus. Campus Security also makes public presentations in crime prevention and campus security procedures upon request.

Security Office
Auxiliary Services Building #300, Room 102
Kolin Kettleson, Director of Auxiliary Services (kolin@hawaii.edu)
(808) 974-7911 (V/T)
www.uhh.hawaii.edu/security/

Campus Parking

A University parking permit is required to park a vehicle on campus during the Fall and Spring semesters. Parking applications are available at the UH Hilo Parking Office located at Auxiliary Services Building #300, Room 101. Permits are sold on a first-come, first-served basis. To obtain a permit, the following items are required:

1. A completed application
2. A valid vehicle registration
3. A current driver's license
4. An owner's waiver (if the vehicle is operated by someone other than the owner)

Bring the above items to the Parking Office with payment and verification of enrollment, such as class schedule or fee slip. For additional information, please call (808) 974-7784.

Bookstore

Textbooks and other educational materials and equipment are sold at the UH Hilo Bookstore, as well as convenience and personal items and clothing. The Bookstore is located on the ground floor of Building 346.

Bookstore Hours:

Regular Hours: 8:00 a.m. to 3:30 p.m., Monday through Friday
Saturday before start of classes: 8:00 a.m. to noon
During Registration: 8:00 a.m. to 6:00 p.m.
First three days of classes: 8:00 a.m. to 6:30 p.m.
Remainder of the week: 8:00 a.m. to 5:00 p.m.

Refund Policy (MUST HAVE RECEIPT**)**

1. Seven days from date of receipt. Exception: Spring & Fall semester—Full refund if returned within three weeks from the first day of classes.

2. New textbooks that are damaged, soiled, or marked will be refunded at 75% of the new book price.

3. Defective books may be exchanged for another book. If we are out of stock, cash will be refunded, or we will special order a book at our expense.

4. No refunds on incomplete sets, computer hardware & software, tradebooks, catalogs, and items in non-saleable condition.

University Centers for Community Service

Nā Pua No'eau

David Sing, Director (dsing@hawaii.edu)
Na Pua No'eau Building 381A
Manono Street Campus
(808) 974-7678

Nā Pua No'eau (NPN) is a Hawaiian Culture-based Education Resource Center within the University of Hawaii (UH) that provides educational enrichment program activities to over 1500 Hawaiian children and their families annually in grades K through 12 throughout the State of Hawai'i. In 2007, with a new grant from the U.S. Department of Education, the service is now extended to students in their first year of college at the University of Hawaii campuses. The Program has centers and staffing on all of the islands. With the exception of the Lāna'i site, all sites are at a University of Hawai'i campus. Sites include University of Hawai'i at Hilo, University of Hawai'i at Mānoa, Kaua'i Community College, Maui Community College, Lāna'i High and Elementary School, Moloka'i Education Center, and University of Hawai'i Center at West Hawai'i.

Funding for the Center's operation comes from the Office of Hawaiian Affairs, the U.S. Department of Education, and partnerships with various organizations and programs.

The Center provides a wide range of program activities from a one-day Super Enrichment Saturday to three years of intensive study in land and natural resource studies (Pathways Program) and Hawaiian leadership ('Aha 'Ōpio Alaka'i Program). Students specialize in content areas such as geology, astronomy, marine science, environmental science, volcanology, voyaging, and leadership.

In addition, the Center recently received funding to design and implement a program to increase the retention and graduation rates of students matriculating to the University of Hawaii campuses. The project will assure that the high number of students entering UH campuses through Nā Pua No'eau will have high success rates.

Nā Pua No'eau uses a program model that is designed to make learning meaningful and applicable within a Hawaiian context. The Center has been in operation since 1989.

Hale Kuamoʻo Center for Hawaiian Language and Culture Through the Medium of Hawaiian

Kalena Silva, Director of Ka Haka ʻUla O Keʻelikölani College of Hawaiian Language
(808) 974-7342
www.olelo.hawaii.edu/dual/orgs/hk/

The University of Hawaiʻi at Hilo is acknowledged as a leader in the revitalization of the Hawaiian language, one of two official languages of the state of Hawai'i. Ka Haka `Ula O Ke`elikolani College of Hawaiian Language houses two divisions: the Mokuna Ha`awina Hawai`i (Hawai`ian Studies Division) and the Hale Kuamoʻo Center for Hawaiian Language and Culture Through the Medium of Hawaiian (established by the Hawaiʻi State Legislature in 1989). Through federal, state, and private funding the college has been able to develop an extensive P-20 education system recognized as the U.S. model in indigenous language and culture revitalization.

The Hale Kuamoʻo encourages and supports the use of Hawaiian as a medium of communication in education, business, government, and other contexts of social life, both in the public and private sectors of Hawaiʻi and beyond. Toward this end, the Hale Kuamoʻo focuses on the following areas:

a. The development of instructional materials for use in the state's Hawaiian medium schools;
b. Research of the Hawaiian language;
c. The creation of new vocabulary, dictionaries, and grammatical terminology;
d. The production and distribution of literature for radio, newspaper, television, computer technology, telecommunications, and other related arts and media;
e. Teacher in-service;
f. The development of K-12 Hawaiian medium laboratory schools;
g. Outreach to other nations & people interested in language & culture revitalization.

Upward Bound

Leonard D. Woods, Director (ldwoods@hawaii.edu)
Hale Aloha Building 383, Manono Campus
(808) 974-7337

Upward Bound College Preparatory Program

Upward Bound is a federally funded program which has been a part of UH Hilo since 1980. The program assists disadvantaged high school students on the island of Hawaiʻi develop the skills, motivation, and knowledge to pursue a postsecondary education. Information about the Upward Bound program and applications may be obtained from high school counselors or the Upward Bound Office.

High school students who are considered economically disadvantaged and/or potential first-generation college students may qualify for the program. Admission into the program is based on college potential. The program provides classes, college preparatory workshops, tutoring in college prep classes, academic counseling, and career exploration opportunities. Full-time college students serve as tutors, advisors, and mentors throughout the academic school year as well as during the on-campus Summer Academy.

Upward Bound Math/Science Program

The Upward Bound Math/Science Program serves students from the State of Hawaiʻi. The purpose of the program is to increase the academic skills and motivation of students traditionally underrepresented in careers requiring a command of math and science. Hopefully these students then will be able to pursue successfully a postsecondary degree in mathematics, science, and/or technology. Fifty-five students from the Hawaiian Islands participate yearly.

UH Hilo students are encouraged to apply to be tutors, mentors, and Summer Academy residential staff.

Center for the Study of Active Volcanoes

Don Thomas, Director (dthomas@soest.hawaii.edu)
College Hall C-205
(808) 974-7631
www.uhh.hawaii.edu/~csav/

The Center for the Study of Active Volcanoes (CSAV) is a training and outreach program established by the Hawai'i State Legislature in 1989. CSAV's mission is to provide training and information on volcanic and natural hazards that occur in Hawai'i and worldwide. Our cooperative research program enables us to work with and provide specialized support to the U.S. Geological Survey's Hawaiian Volcano Observatory, and includes seismologic, geodetic, and geochemical monitoring and analysis. CSAV's International Training Course in Volcano Hazards Monitoring has provided training in the techniques of monitoring active volcanoes and forecasting volcanic eruptions to more than 100 scientists from 27 nations. The Center also hosts a unique summer field camp for geology students that provides them an opportunity to conduct hands-on field studies using state-of-the-art equipment on an active volcano.

CSAV offers a variety of programs:

- public outreach, including visits to schools and the presentation of public lectures and symposia
- summer training for scientists from developing nations in techniques in volcanic hazards monitoring and response
- summer training for university students in volcanology field methods.

Hawai'i Small Business Development Center Network

Darryl Mleynek, State Director (Darryl.Mleynek@hawaii-sbdc.org)
(808) 974-7515
www.hawaii-sbdc.org/

UH Hilo has been designated as the lead center for the Hawai'i Small Business Development Center Network (SBDC). SBDC's draw from resources of local, state, and federal government programs, the private sector, and university facilities to provide managerial and technical help, research studies, and other types of specialized assistance of value to small business. These centers, which must be affiliated with a university, provide practical training for small business owners.

SBDC's are part of a business development program of the U.S. Small Business Administration (SBA). Although SBDC's operate under the general management and oversight of the SBA, the SBDC is jointly funded by the State of Hawai'i and the SBA.

The Hawai'i SBDC Network began operation in January 1990 with the State Director's Office and the Hawai'i Island Center. A network of centers on the other islands include centers on Kaua'i, Maui, and O'ahu. Additionally, the Hawai'i SBDC Network operates the Hawai'i Business Research Library that conducts research for small businesses across the state.

Basic business assistance services are available to small business clients throughout the Hawai'i SBDC Network under the direction and administration of the Hawai'i SBDC Network State Director. Individual consultation is provided without charge to small businesses. Services include business skills assessment, local, national and international market development, economic and business data analysis, financial analysis, assistance with process and facility design, technology transfer, planning and loan packaging, and business plan development. Training and educational programs are also provided.

Imiloa Astronomy Center of Hawai'i

Peter B. Giles, Director (pgiles@imiloahawaii.org)
Project Office: (808) 989-9700
www.imiloahawaii.org

'Imiloa Astronomy Center of Hawai`i opened in February 2006. The new center brings the fabled Mauna Kea mountain with its world-famous astronomy within the reach of every visitor to the Big Island of Hawaii. The Center is located in the University of Hawaii at Hilo Park of Science and Technology.

'Imiloa, a Hawaiian word meaning to explore or to pursue profound knowledge, offers visitors an authentic Hawaiian journey through time and space, beginning with a simulated ascent up Mauna Kea. This experience includes the Kumulipo chant, depicting the ancient Hawaiian account of the origins of life, and astronomers' insights into the origins of the universe from a scientific point of view. Visitors will know what it was like to go on an ancient canoe voyage charting their course by the stars, and learn of the 13 observatories on Mauna Kea charting new courses of discovery today. Visitors also traverse the universe in four dimensions in the Subaru Observatory sponsored 4D2U Theater, a presentation from the National Astronomical Observatory of Japan and play astronomer at a real console from Gemini Observatory. The solar system and astronaut-like views from space are presented on the NOAA-sponsored Science on a Sphere in the Moana Hoku Earl and Doris Bakken Hall. All exhibits are in both English and Hawaiian, reflecting the Center's strong commitment to Hawaiian language and culture. A life-size re-creation of a local Hilo Hawaiian language immersion school brings visitors into a close encounter with the movement to restore the Hawaiian language to normalcy. Weekend feature dramatizations and presentations that bring to life Hawaiian legends and the sad tale the suppression of the Hawaiian language and the heroic tale of its resurgence.

'Imiloa, a place of gathering, inspiration and connection, has a 16-meter domed planetarium featuring a signature destination film, Maunakea: Between Earth and Sky. Other planetarium experiences are offered, including the 'Imiloa-produced "One Ocean, One Sky" that celebrates the 2007 voyage of the famed Hokule`a double-hulled canoe, and the `Imiloa Image of The Day from telescopes atop Maunakea, and other observatories. The innovative landscaping around the Center features many native and "canoe" plants brought to the islands by the early Polynesian explorers with tours offered by resident 'Imiloa Astronomy Center of Hawai'i is a vital new bridge connecting Hawaiian culture and science with the journey of today's explorers, the astronomers on Mauna Kea. See www.imiloahawaii.org for more information. `Imiloa Astronomy Center offers internship opportunities to UH Hilo students and works closely with the UH Hilo College of Hawaiian Language and the Department of Physics and Astronomy, as well as with the observatories on Mauna Kea. `Imiloa café seats 108 and offers a menu featuring fresh, local, and organic menu items.

Ahu kupanaha iā Hawai`i `imi loa!

The Hawaiian value of pursuing new knowledge brings bountiful rewards

The Office of Mauna Kea Management

Bill Stormont, Director
640 N. A`ohoku Place, Room 203, Hilo, HI 96720
(808) 933-0734
Email: omkm@maunakea.hawaii.edu
www.malamamaunakea.org

The Office of Mauna Kea Management (OMKM) was established in August 2000 by UH Hilo Chancellor Rose Tseng in response to the adoption of the Mauna Kea Science Reserve Master Plan by the University of Hawai'i Board of Regents. As defined by the Master Plan, OMKM is responsible for ensuring compliance with the Master Plan, including the stewardship function for the entire Mauna Kea Science Reserve.

Also in accordance with the Master Plan, the Chancellor appointed community members to serve on the seven-member Mauna Kea Management Board (MKMB) and nine-member Kahu Ku Mauna council, which serve as advisors to the Chancellor.

OMKM, MKMB, and Kahu Ku Mauna share a jointly formulated mission statement: "Achieve harmony, balance and trust in the sustainable management and stewardship of the Mauna Kea Science Reserve through community involvement and programs

that protect, preserve and enhance the natural, cultural and recreational resources of Mauna Kea while providing a world-class center dedicated to education, research and astronomy."

North Hawai'i Education and Research Center

Farrah-Marie Gomes, Interim Director (fmgomes@hawaii.edu)
45-539 Plumeria St., Honokaa, HI 96727
Telephone (808) 775-8890
Fax (808) 775-1294

The North Hawai'i Education and Research Center (NHERC) is UH Hilo's new outreach Center located in Honoka'a, 40 miles away from the main campus. The Center opened in May 2006. NHERC was designed to serve the approximately 19,000 residents in North Hawai`i from Laupahoehoe through the Hamakua Coast to Kohala and Waikoloa. The five core missions of NHERC include:

1. Serving as a distance learning center for UH Hilo programs;
2. Providing higher education outreach services to the North Hawai`i region;
3. Providing lifelong learning opportunities to the North Hawai`i region;
4. Serving as a base station for field research in the North Hawai`i region;
5. Serving as a community center.

NHERC currently features a computer lab, 20-seat and 30-seat classrooms, a distance learning lab, a 140-seat conference room, two faculty offices, two storage rooms, a director's office, and reception and work areas. Individuals who currently utilize the facility include students in credit and non-credit Osher Lifelong Learning Institute (OLLI) classes as well as community users who use the computers and attend meetings or training at the Center. Phase II of NHERC is currently under construction and is expected to be completed by the end of 2007. Phase II will more than double the amount of current space in order to expand services in the future.

Pacific Aquaculture and Coastal Research Center

Kevin Hopkins, Interim Director (hopkins@hawaii.edu)
Telephone (808) 933-3186
Fax (808) 933-0704
Website: www.uhh.hawaii.edu/~pacrc

The Pacific Aquaculture and Coastal Resources Center provides the infrastructure to support world-class aquaculture, marine science, and conservation biology programs at the University of Hawaii at Hilo. Center activities also include interdisciplinary research and development in coastal areas throughout the world and, through the Hawaii Cooperative Studies Unit, a wide variety of ecological and environmental projects.

The Center has two off-campus facilities: a 12-acre coastal site at Keaukaha, adjacent to the port of Hilo, and an inland site at Pana'ewa, six miles away. Keaukaha facilities include a water quality laboratory, a pearl oyster hatchery, a marine fish hatchery, and a demonstration farm for ornamental fish cultivation. Water supplies include brackish water, saltwater, and, after renovation of a 1200-ft deep well is complete, very cold seawater.

The primary purposes of the Pana'ewa site are health management and integrated agriculture-aquaculture farming systems. State-of-the-art quarantine facilities allow work on exotic species. In addition, contract quarantine services are offered to the local aquaculture industry.

Freshwater pond systems and reuse of nutrient-enriched waters are demonstrated as methods to improve efficiency and profitability of local farms.

Students are actively involved in all aspects of Center operations. The Center coordinates several student internship programs (see Pacific Internship Programs for Exploring Science (PIPES)), and students are employed each year to operate Center facilities. The Center also maintains close relationships with aquaculture firms, many of whom employ UH Hilo graduates.

College of Agriculture, Forestry, and Natural Resource Management

For information, please contact:

Office of the Dean
Business 0ffice-121
(808) 974-7393
(808) 974-7674 (fax)
www.uhh.hawaii.edu/~cafnrm/

OR

UH Hilo Admissions Office
Office of Student Affairs
(808) 974-7414
(808) 974-7691 (fax)
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www.uhh.hawaii.edu/studentaffairs/admissions/

Professors:
Lorna H. Arita-Tsutsumi, Ph.D.
Sheldon C. Furutani, Ph.D.
Kevin D. Hopkins, Ph.D.
Bruce W. Mathews, Ph.D.
William S. Sakai, Ph.D.
Sabry A. Shehata, Ph.D.
Michael H. Shintaku, Ph.D.
William W.M. Steiner, Ph.D.
(Dean, College of Agriculture, Forestry and Natural Resource Management)
Michael J. Tanabe, Ph.D.
Marcel Tsang, Ph.D.

Associate Professors:
Erik R. Cleveland, Ph.D.
Maria C. Haws, Ph.D.

Assistant Professor:
Yiqing Li, Ph.D.

Purpose

The purpose of the College of Agriculture, Forestry, and Natural Resource Management (CAFNRM) is to provide quality education to assist individuals in acquiring the scientific knowledge, attitudes, and practical skills needed to practice environmentally sound, sustainable agriculture and to be productive and responsible global citizens. The program blends comprehensive classroom instruction with practical, technology-based education through the use of the University of Hawai'i at Hilo Agricultural Farm Laboratory and on-campus laboratory facilities. CAFNRM graduates skilled agriculturalists who can further develop and

promote agriculture in the State of Hawai'i, the United States, the Pacific Basin, and other countries. The College is especially interested in moving agriculture in the tropical and semitropical areas of the Pacific Basin toward more economical and self-sustaining methods.

Goals for Student Learning

A student upon graduating from the College should have acquired the following knowledge, skills, and attitudes:

Knowledge

- Scientific principles on which agriculture is based
- Understanding the application of state-of-the-art techniques, processes, and concepts of environmentally sound agriculture, particularly in tropical and sub-tropical climates, in fields selected from:
  - tropical crops (ornamental plants, orchids, fruits and nuts, and vegetables)
  - aquaculture
  - livestock management (sheep, goats, cattle, swine, poultry, and horses)
  - forestry
  - natural resource management
- Ability to develop and adopt innovative approaches to the production, post production, and marketing aspects of agriculture
- An understanding of the role of agriculture in the changing geophysical, economic, and sociocultural world environment
- An understanding of the central role food production plays in supporting sustainable communities

Skills

- Ability to use existing technology for professional purposes
- Proficiency with computer applications and Internet resources, including word processing, data management, presentation software, email communication, and Web information sources
- Effective written and oral communication skills as required for professional objectives
- Mathematical skills required for professional purposes
- Analytic, critical thinking, and problem solving adeptness
- Job finding skills
- Ability to grow one's own food in a sustainable, cost-efficient manner

Attitudes and Values

- Aloha'aina: the commitment to stewardship of natural and agricultural resources
- Aloha, Kokua, 'Ohana, and Laulima: the commitment to work with others to improve agriculture and to benefit the community.

Special Aspects of the College

College Facilities

A unique feature of the College is the University of Hawai'i at Hilo Agricultural Farm Laboratory. On 110 acres of land, students can experience practical learning in various enterprises such as: anthuriums, ornamental foliage, hydroponics, floriculture plants, orchids, forestry, vegetables, sustainable agriculture (including permaculture and organic agriculture principles), livestock production, beekeeping, tropical fruit, and aquaculture. Because direct application of newly gained knowledge is an integral part of the College's educational goals, many laboratories and courses are based on the farm.

On campus, the College of Agriculture, Forestry, and Natural Resource Management building provides laboratories for courses in horticulture, plant tissue culture, animal science, entomology, plant pathology, plant physiology, soil science, agronomy, aquaculture, crop protection, and agribusiness. Students can also utilize the laboratories and campus greenhouses for special projects in directed research courses. Hilo's location in the center of a large farming community provides opportunities for field trips to many diversified agricultural and aquaculture enterprises.

The farm also houses the developing paddocks, rodeo arena, and covered pavilion for College Rodeo Club events, animal science courses, flower shows, and community related events. Equestrian courses in horse training, riding activities, reining, and other events will be taught beginning in 2007.

Students who are members of the CAFNRM Agriculture Student Organization or the Rodeo Club will be able through sponsorship to use portions of the farm to generate funds for activities and ideals that they support. The Clubs in CAFNRM enable scholarship and foster interaction, ability to work together, and collegiality among future leaders in the Agricultural sciences.

NOTE: Shoes or boots are required in all farm and field laboratory classes. In addition, suitable eye protection may be required in certain laboratory classes. Riding events will require wearing of protective head gear for liability purposes.

Student Organization

NAMA – The National Agri-Marketing Association is a great way for college students to begin their careers in agribusiness. A student NAMA member develops marketing and communication skills, attends career fairs to explore a variety of opportunities in agribusiness, and networks with industry professionals. The UH Hilo NAMA chapter participates in a marketing competition at the annual Agri-Marketing Conference & Trade Show. Since the establishment of the UH Hilo NAMA chapter in 1992, it has been a semi-finalist five times and placed third in 1999 in this national competition. Membership is open to students from every discipline on all eleven UH campuses. For additional information, contact Dr. Sabry Shehata at (808) 933-0856 or sabry@hawaii.edu.

CAFNRM Agriculture Students Organization—This organization is open to every student who joins CAFNRM. Students are expected to help in maintaining a collegial atmosphere that is nurturing and enables the growth of the CANFRM ohana. The ASO will manage an on-campus farmer's market, will assist and operate food booths at rodeo and pavilion events, and will pro-

vide students to help in tours and guided educational visits to the campus and the farm. From time-to-time, ASO will provide aid to farm managers in repair and maintenance of farm property and facilities. ASO will through its fund-raising events provide funding for the Welcome New Members first semester event, and the annual end of year CAFNRM Deans celebration, and for other events they deem worthy of support. Through Organization activities, students make life-long friendships, learn business and management skills, participate in group activities, foster collegiality and civility, and bring respect for the agricultural, forestry and natural science disciplines and the issues that surround them.

UHH Rodeo Club "Paniolos"—CAFNRM will begin sign up for a rodeo club beginning Fall 2006. Students must maintain a "C" average to remain in the Club. The Paniolos eventually will compete in College-sanctioned rodeos in one of four leagues on the West Coast. The club members will, through club activities, become proficient in learning animal physiology, behavior, and training, skills that will enable them to develop businesses managing animal care facilities, animal training facilities, and animal feeding and livestock care and sales. The club will aid development of networks among mainland industry professionals and like-minded students. Through competition in College Rodeo sanctioned events, students will learn discipline and skills that will benefit them throughout life. Membership in the Rodeo Club will be open to students in every discipline on all eleven UH campuses as long as one semester can be taken in residence at UHH. For additional information contact Dr. William Steiner, steiner@hawaii.edu.

Curricula

The College offers the Bachelor of Science degree (B.S.) in seven areas of specialization:

1. General Agriculture
2. Agribusiness
3. Agroecology and Environmental Quality
4. Animal Science
   a. Pre-Veterinary Curriculum
   b. Sustainable Livestock Production Curriculum
5. Aquaculture
6. Crop Protection
7. Tropical Horticulture

Full descriptions of the above specialties are given in the next section. Please be aware that in order to provide students a well-balanced education, a good portion of a typical curriculum consists of College of Arts and Sciences courses in addition to CAFNRM courses. Types of courses offered by CAFNRM are as follows:

- **Agriculture (AG)**. Provides a broad preparation in the basic and applied sciences of modern agriculture.
- **Agribusiness (AGBU)**. Provides a strong background in the business aspect of agriculture, including management, sales and distribution.
- **Agricultural Economics (AGEC)**. Provides an understanding of economic theory and economic policy and efficient management with limited economic resources in the production of food and fiber.
- **Agricultural Engineering (AGEN)**. Provides basic mechanical skills and engineering principles required for the student to be successful in modern agricultural enterprises.
- **Agronomy (AGRN)**. Provides the theory and practice of field-crop (food, fiber and feed) production and soil management.
- **Animal Science (ANSC)**. Provides a wide variety of courses that integrate genetics, health, housing, management, nutrition, physiology, reproduction and evaluation of livestock.
- **Aquaculture (AQUA)**. Provides a broad understanding of the scientific basis, design and management of aquaculture systems and fisheries.
- **Entomology (ENTO**). Provides basic knowledge on insects and their habitats as well as how to control insect pests.
- **Forestry (FOR)**. Provides the background for the development and management of forestry and agroforestry, ecology, conservation and product utilization
- **Horticulture (HORT)**. Provides an extensive base of horticultural practices such as grafting, pruning, and cultivating crops that are of economic interest in the tropics and subtropics, as well as advanced techniques such as hydroponics, plant tissue culture, and hormonal manipulation of plants.
- **Natural Resources (NRES)**. Provides a multi-disciplinary systems approach to understanding and managing the environmental resources of island ecosystems, and their relevance to coastal zones in general.
- **Plant Pathology (PPTH)**. Provides the understanding and management of plant disease, the mechanisms by which pathogens produce disease, and the interactions between pathogens and host.
- **Plant Physiology (PPHY)**. Provides the understanding of plant growth and development.
- **Soil Science (SOIL)**. Provides the background for the properties of soil and soil management, with an emphasis on the role soils play in environmental studies as well as agriculture.

In order to earn a Bachelor of Science degree in Agriculture, students must not only fulfill the requirements for the major but also meet all of the University's other baccalaureate degree requirements. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.) Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered. The information is available for each course in the listing at the back of this Catalog.

To assist students in planning their schedules, the College posts curriculum sheets on its Web site: www.uhh.hawaii.edu/~cafnrm/specializations.html. In addition to using these guides, **students are strongly encouraged to meet with their advisor each semester before registering**.

The following section describes the programs of study for the seven areas of specialization within the B.S. in Agriculture.

General Agriculture Specialty

123 semester hours

The General Agriculture specialization is designed to provide students a broad preparation in the basic and applied sciences of modern agriculture. This curriculum integrates theoretical teaching in the classroom with quality "hands on" training at the UH Hilo Agricultural Farm Laboratory. Depending on career goals, a student may concentrate in a particular area of agriculture through elective courses. General Agriculture graduates are well prepared to pursue advance degrees, to start their own enterprise, or to work for private companies and government agencies in a wide range of agriculturally related fields, such as inspectors, research technicians, and teachers.

AGRICULTURE: GENERAL AGRICULTURE SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning (**MATH 104 or higher in Group 2 , Major Requirements, fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities (**COM course and ENG 225 in Group 2 , Major Requirements, fulfill 6 of the 9 semester hours of this requirement)**	3 more
5. Social Sciences **(AGEC 201 or ECON 130 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Group 2fulfills all 10 semester hours of this requirement)**	-
Total.....	**18**
GROUP 2. Major Requirements	
A. Agriscience Requirements	
• AG 291 Directed Work Experience Program	3
• AG 375 Introduction to Genetic Analysis **OR** ANSC 445 Animal Breeding and Genetics	3
• AG 497 Senior Seminar	1
• AGBU 110 Introduction to Micro-computing for Agriculture	3
• AGEC 201 Agricultural Economics **OR** ECON 130 Introduction to Microeconomics	3
• AGEC 221 Agricultural Accounting and Records Analysis **OR** ACC 250 Financial Accounting	3
• AGEC 330 Farm Management	3
• AGEN 231 Introduction to Agricultural Mechanization	3
• ANSC 141 Introduction to Animal Science	3
• ENTO 304 General Entomology	3
• HORT 262 Principles of Horticulture	3
• PPTH 301 Tropical Plant Pathology	3
• SOIL 304 Tropical Soils	3
• Choose <u>ONE</u> course from the following 3-semester-hour ANSC courses: o ANSC 342 Beef Cattle Production o ANSC 351 Swine Production o ANSC 353 Horse Production o ANSC 354 Poultry Production o ANSC 355 Goat and Sheep Production	3
• Choose <u>ONE</u> course from the following HORT courses: o HORT 263 Hydroponics (3) o HORT 266 Nursery Management (4) o HORT 303 Introduction to Plant Tissue Culture (3) o HORT 350 Tropical Landscape Horticulture (3) o HORT 351 Vegetable Crop Production (3) o HORT 352 Tropical Fruit Production (3) o HORT Floriculture and Ornamental Production (4) o HORT 360 Orchid Culture (4) o HORT 450 Advanced Plant Tissue Culture (3) o HORT 460 Turfgrass Management (3)	3-4

• Other Agriculture courses totaling 18 semester hours, 12 of which must be 300-400 level courses	18
B. Required Courses from Related Fields	
• BIOL 175-175L Introductory Biology I with Lab	4
• BIOL 176-176L Introductory Biology II with Lab	4
• CHEM 124/124D/124LGeneral Chemistry I plus Discussion & Lab	5
• CHEM 125/125D/125L General Chemistry II plus Discussion & Lab	5
• ENG 225 Writing for Science and Technology	3
• MATH 104 Pre-calculus Mathematics **OR** higher (but not 107, 108, or 111)	3-4
• Choose ONE course from the following 3-semester-hour COM courses:	3
o COM 100 Human Communication in a Diverse Society	
o COM 200 Fundamentals of Interpersonal Communication	
o COM 251 Public Speaking	
Total.....	**88-90**
GROUP 3. Electives	
Total.....	**15-17**
Total Semester Hours Required For The B.S. in Agriculture, General Agriculture Specialty	**123**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
3. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
4. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Agribusiness Specialty

123 semester hours

Students in the Agribusiness curriculum receive a strong background in agriculture and agribusiness, a combination that is in demand for today's agriculture. The Agribusiness curriculum draws its courses from the areas of business, economics, mathematics, and agricultural production, thus making this curriculum multi-disciplinary in scope. Graduates in Agribusiness can anticipate careers in agricultural finance, management, and marketing in both private enterprises and government agencies. Job opportunities include loan officers, sales representatives for agricultural chemical industries, consulting positions in farm management organizations, and buyers for food processing companies, commercial firms, and private agencies.

AGRICULTURE: AGRIBUSINESS SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning (**MATH 205 in Group 2 , Major Requirements, fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences **(AGEC 201 or ECON 130 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Agricultural Production and MATH courses in Group 2, Major Requirements, fulfill 6 of the 10 semester hours of this requirement)**	4 more
Total.....	**28**
GROUP 2. Major Requirements	
A. Agriscience Requirements	
AGBU 291 Agribusiness Internship/Work Experience	3
AGBU 320 Agribusiness Management **OR**	3
AGBU 321 Agricultural Cooperatives Management	
AGBU 340 Agri-Marketing Research **OR**	3
AGEC 322 Marketing Agricultural Products	

Choose ONE course from the following three courses: • AGEC 201 Agricultural Economics • ECON 130 Introduction to Microeconomics • ECON 301 Intermediate Microeconomics Theory	3
Choose ONE course from the following three courses: • AGEC 330 Farm Management • AGEC 380 Environmental Policy and Management of Hawaiian Natural Resources • ECON 380 Natural Resource and Environmental Economics	3
Choose TWO courses totaling 6 semester hours from AGEC or AGBU or ECON courses.	6
Choose SEVEN AGRICULTURE courses totaling 21 semester hours	21
B. Required Courses from Related Fields	
ACC 250 Financial Accounting	
ACC 251 Managerial Accounting	3
BUS 240 Business Law	3
ECON 131 Introduction to Macroeconomics **OR**	3
ECON 300 Intermediate Macroeconomic Theory	3
MGT 300 Management, Organizations, and Human Behavior	
MKT 310 Principles of Marketing	3
MATH 205 Calculus I	3
Choose ONE of the following MATH courses: • MATH 115 Applied Calculus (3) • MATH 121 Introduction to Statistics and Probability (3) • MATH 206 Calculus II (4)	4 3-4
Choose FIVE courses totaling 15 semester hours in Agricultural Business, Agricultural Economics, Business, or Economics.	15
Total	**82-83**
GROUP 3. Electives. **Total**	**12-13**
Total Semester Hours Required For The B.S. in Agriculture, Agribusiness Specialty	**123**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
3. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
4. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Agroecology and Environmental Quality Specialty

123 semester hours

The Agroecology and Environmental Quality curriculum is designed for students interested in sustaining agrarian and surrounding ecosystems through more efficient management of land, biota, and water. As Earth's population increases, demand will escalate for clean food and water. These activities, in combination with heightened energy requirements, will increase stress on our natural resources, such as soils, surface water, and ground water. Concurrent increased public concern about the long-term sustainability of our food production system will spur the development of more effective and safe cropping, livestock, fertilizer, pest control, and farm waste management practices. Low-input alternative farming methods that emphasize nutrient recycling and "environmentally friendly" production practices will be given special consideration. Students who complete their curriculum will be prepared to meet challenges and can anticipate career opportunities in environmental regulatory agencies, conservation, farm service agencies, farm management, commercial laboratories, and consulting.

AGRICULTURE: AGROECOLOGY & ENVIRONMENTAL QUALITY SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning (**MATH 121 in Group 2 , Major Requirements, fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities (**COM course and ENG 225 in Group 2 , Major Requirements, fulfill 6 of the 9 semester hours of this requirement)**	3 more
5. Social Sciences **(AGEC 201 or ECON 130 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Group 2, Major Requirements, fulfills all 10 semester hours of this requirement)**	-
Total.....	**18**
GROUP 2. Major Requirements	
A. Agriscience Requirements	
AG 230 Sustainable Agriculture	3
AG 291 Directed Work Experience Program	3
AG 375 Introduction to Genetic Analysis	3
AG 497 Senior Seminar	1
AGBU 110 Introduction to Micro-computing for Agriculture	3
AGEC 201 Agricultural Economics **OR** ECON 130 Introduction to Microeconomics	3
AGRN 410 Soil-Plant-Herbivore Interrelations	3
ANSC 141 Introduction to Animal Science **OR** AQUA 262 Introduction to Aquaculture	3
AQUA 425 Water Quality	3
ENTO 304 General Entomology	3
ENTO 374 Insect Pest Control	3
FOR 202 Forestry and Natural Resources **OR** SOIL 350 Soil Fertility & Nutrient Cycling	3
HORT 262 Principles of Horticulture	3
HORT 481 Weed Science	3
NRES 320 Environmental Issues in Asia-Pacific	3
PPTH 301 Tropical Plant Pathology	3
SOIL 304 Tropical Soils	3
B. Required Courses from Related Fields	
BIOL 175-175L Introductory Biology I with Lab	4
BIOL 281 General Ecology	3
CHEM 124-125 General Chemistry I and II	6
CHEM 124-125D General Chemistry I and II Discussion sections	2
CHEM 124-125L General Chemistry I and II Laboratories	2
ECON 380 Natural Resource and Environmental Economics	3
ENG 225 Writing for Science and Technology	3
MATH 121 Introduction to Statistics and Probability	3
PHYS 106-170L College Physics with Laboratory **OR** PHYS 115 Physics for the Liberal Arts	3-4
Choose ONE course from the following 3-semester-hour COM courses: COM 100 Human Communication in a Diverse Society; COM 200 Fundamentals of Interpersonal Communication; COM 251 Public Speaking	3
Total.....	**81-82**
GROUP 3. Electives.	
Total.....	**23-24**
Total Semester Hours Required for the B.S. in Agriculture: Agroecology & Environmental Quality Specialty	**123**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. For students interested in eventually pursuing a graduate degree, the following courses are suggested as electives: CHEM 141, 241, 242; BIOL 410; MATH 205, 206.
3. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Animal Science Specialty

123 semester hours

The undergraduate Animal Science program at the University of Hawai'i at Hilo offers students a choice of two curricula: the Pre-Veterinary Curriculum and the Sustainable Livestock Production Curriculum. Both programs emphasize small class size to allow for more faculty-student interaction and individual attention, and in both programs students take a wide variety of Animal Science courses.

To complement classroom instruction, the College maintains cattle, goats, horses, sheep, and swine on the 110-acre College farm. The animals are used during lab periods to provide hands-on experience for students to help translate classroom instruction into real life situations. Due to the mild climate in Hawai'i, it is possible to work outside with livestock in labs throughout the year. To gain additional hands-on experience, some students work on the College farm.

Pre-Veterinary Curriculum

The Pre-Veterinary curriculum provides students with a well-rounded educational background in animal science, humanities, and natural sciences to help prepare them for post-graduate studies in Veterinary Medicine or Animal Science. Animal Science Pre-Veterinary students are required to take many of the same courses taken by Biology students. Three Animal Science courses are cross-listed as Biology courses. Because of these factors, it is possible for Animal Science Pre-Veterinary students to receive a B.S. in Agriculture and a B.S. in Biology. Another feature of this program is that it meets the entrance course requirements of many veterinary colleges and graduate animal science programs. Students that enter these post-graduate programs are pursuing degrees in Veterinary Medicine (D.V.M.) or Animal Science (M.S., Ph.D.). Former UH Hilo Animal Science students have studied Veterinary Medicine at Colorado State University, Iowa State University, Kansas State University, Oklahoma State University, Oregon State University, Tuskegee University, University of Minnesota, and Washington State University. With a D.V.M. degree, a wide range of employment opportunities exist such as private veterinary practice, representation of drug and pharmaceutical companies, university teaching and research, federal inspection, governmental research and animal care positions. Those who complete a M.S. or Ph.D. degree in Animal Science can take positions as geneticists, meat scientists, nutritionists, researchers, teachers, technicians, or extension livestock agents.

Sustainable Livestock Production Curriculum

This curriculum provides students with a good background in Animal Science, Agriculture, and General Education courses so they will be prepared for careers in or related to livestock production. In this program students receive a Bachelor of Science in Agriculture with specialization in Animal Science. The curriculum helps to prepare students to work with livestock on farms and ranches or to obtain positions in the livestock industry or related fields. Former Animal Science students have taken positions at livestock farms, dairies, ranches, equestrian centers, experiment stations, quarantine stations, veterinary clinics, and zoos. Employment opportunities also exist with government agencies and with livestock and feed companies.

AGRICULTURE: ANIMAL SCIENCE SPECIALTY: Pre-Veterinary REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(MATH course in Group 2 fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 and one COM course in Group 2 count as 6 out of the 9 semester hours of this requirement)**	3 more
5. Social Sciences	9
6. Natural Sciences **(Courses in Group 2 fulfill all 10 semester hours of this requirement)**	-
Total.....	**21**

GROUP 2. Major Requirements	
A. Agriscience Requirements	
• AGBU 110 Introduction to Micro-computing for Agriculture	3
• ANSC 141 Introduction to Animal Science **(see Note 1 below)**	3
• ANSC 244 Fundamentals of Animal Nutrition	3
• ANSC 321 Feeds and Feeding	3
• ANSC 350 Anatomy and Physiology of Farm Animals	3
• ANSC 445 Animal Breeding and Genetics	3
• ANSC 450 Reproduction of Farm Animals	3
• ANSC 453 Animal Diseases and Parasites I	3
• ANSC 454 Animal Diseases and Parasites II	3
• ANSC 490 Animal Science Internship	3
• Choose THREE courses from the following ANSC courses:	9
o ANSC 342 Beef Cattle Production	
o ANSC 351 Swine Production	
o ANSC 353 Horse Production	
o ANSC 354 Poultry Production	
o ANSC 355 Goat and Sheep Production	
B. Required Courses from Related Fields	
• AG 375 Introduction to Genetic Analysis **OR** BIOL 466 Genetics	3
• BIOL 175/175L Introductory Biology I plus Lab	4
• BIOL 176/176L Introductory Biology II plus Lab	4
• BIOL 270/270L Intermediate Cell & Molecular Biology plus Lab	4
• BIOL 275/275L Fundamentals of Microbiology plus Lab	4
• BIOL 380 Biostatistics	3
• BIOL 410 Biochemistry	3
• CHEM 124/124D/124L General Chemistry plus Discussion and Lab	5
• CHEM 125/125D/125L General Chemistry plus Discussion and Lab	5
• CHEM 241/241L Organic Chemistry plus Lab	4
• CHEM 242/242L Organic Chemistry plus Lab	4
• ENG 225 Writing for Science and Technology	3
• PHYS 106/170L College Physics I plus Lab	4
• PHYS 107/171L College Physics II plus Lab	4
• Choose ONE of the following COM courses:	3
o COM 100 Human Communication in a Diverse Society	
o COM 200 Fundamentals of Interpersonal Communication	
o COM 251 Public Speaking	
• Choose ONE of the following MATH courses:	3-4
o MATH 104 Pre-calculus Mathematics	
o MATH 104F Pre-calculus I: Elementary Functions	
o MATH 104G Pre-Calculus II: Trigonometry & Analytic Geometry	
o MATH 115 Applied Calculus (3)	
o MATH 205 Calculus I	
o MATH 206 Calculus II (4)	
Total.....	**99-100**
GROUP 3. Electives. Some suggested electives are other Animal Science courses not listed as requirements, other agricultural courses (AGEC 221 and AGRN 410), and other Biology courses.	
Total.....	**3-4**
Total Semester Hours Required For The B.S. in Agriculture, Animal Science Specialty: Pre-Veterinary	**123**

Notes:

1. ANSC 141 must be completed before taking other Animal Science courses.
2. Students must earn at least a 2.0 GPA in courses required for the major.
3. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)

4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

AGRICULTURE: ANIMAL SCIENCE SPECIALTY: Sustainable Livestock Production REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning (**MATH 121 in Group 2 fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 and one COM course in Group 2 count as 6 out of the 9 semester hours of this requirement)**	3 more
5. Social Sciences **(AGEC 201 counts as 3 out of the 9 semester hours of this requirement)**	6 more -
6. Natural Sciences **(Science Courses in Group 2 fulfill all 10 semester hours of this requirement)**	
Total.....	**18**
GROUP 2. Major Requirements	
A. Agriscience Requirements	
• AG 230 Sustainable Agriculture	3
• AG 497 Senior Seminar **(see Note 1 below)**	1
• AGBU 110 Introduction to Micro-computing for Agriculture	3
• AGEC 201 Agricultural Economics	3
• AGEC 221 Agricultural Accounting & Records Analysis	3
• AGEC 322 Marketing Agricultural Products **OR** AGEC 330 Farm Management	3
• AGEN 231 Introduction to Agricultural Mechanization	3
• AGRN 410 Soil-Plant-Herbivore Interrelations	3
• ANSC 141 Introduction to Animal Science **(see Note 2 below)**	3
• ANSC 244 Fundamentals of Animal Nutrition	3
• ANSC 321 Feeds and Feeding	3
• ANSC 350 Anatomy and Physiology of Farm Animals	3
• ANSC 445 Animal Breeding and Genetics	3
• ANSC 450 Reproduction of Farm Animals	3
• ANSC 453 Animal Diseases and Parasites I	3
• ANSC 454 Animal Diseases and Parasites II	3
• ANSC 490 Animal Science Internship	3
• HORT 262 Principles of Horticulture	3
• SOIL 304 Tropical Soils	3
• Choose <u>THREE</u> courses from the following ANSC courses:	9
o ANSC 342 Beef Cattle Production	
o ANSC 351 Swine Production	
o ANSC 353 Horse Production	
o ANSC 354 Poultry Production	
o ANSC 355 Goat and Sheep Production	
B. Required Courses from Related Fields	
• BIOL 175/175L Introductory Biology I plus Lab	4
• BIOL 176/176L Introductory Biology II plus Lab	4
• CHEM 124/124D/124L General Chemistry plus Discussion and Lab	5
• CHEM 125/125D/125L General Chemistry plus Discussion and Lab	5
• ENG 225 Writing for Science and Technology	3
• MATH 121 Introduction to Statistics and Probability	3
• Choose <u>ONE</u> of the following COM courses:	3
o COM 100 Human Communication in a Diverse Society	
o COM 200 Fundamentals of Interpersonal Communication	
o COM 251 Public Speaking	
Total.....	**109**

GROUP 3. Electives. Some suggested electives are other Animal Science courses not listed as requirements, other agricultural courses, and other science courses. **(See Note 3 below)** **Total**.....	**14**
Total Semester Hours Required For The B.S. in Agriculture, Animal Science Specialty: Sustainable Livestock Production	**123**

Notes:

1. AG 497 may be taken before senior year.
2. ANSC 141 must be completed before taking other Animal Science courses.
3. Students who decide later to apply for a Master of Science or Doctor of Veterinary Medicine program after graduation would find the following science courses useful: BIOL 270, 380, 410, 466; CHEM 241, 242; PHYS 106, 170; and MATH 104.
4. Students must earn at least a 2.0 GPA in courses required for the major.
5. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
6. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
7. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Aquaculture Specialty

123 semester hours

The Aquaculture program is designed to provide students with a broad understanding of the scientific basis, design, and management of aquaculture systems. The program provides hands-on training in a wide-range of aquaculture activities and stresses the international nature of aquaculture. Approximately 40% of the required courses are in aquaculture and agriculture with the other 60% in natural sciences and humanities.

The program produces educated aquaculturists needed by the growing aquaculture industry in Hawai'i and throughout the world. Aquaculture graduates from UH Hilo have the training to obtain employment immediately after graduation with private firms and various government agencies as aquaculture biologists/technicians. Also, because of the broad emphasis of the program on both biology and agriculture technology, they have many of the skills required to start their own aquaculture enterprises. If students desire a career in research or teaching, the aquaculture program is designed to enable the student to be qualified for admittance to graduate programs in aquaculture and fisheries.

The area in close proximity to the UH Hilo campus has unique potential for aquaculture education. The availability of warm freshwater from wells, warm seawater, and cold seawater (from deep sea pipelines) allows the culture of most aquaculture species including trout, salmon, carp, shrimp, tropical fish, various seaweeds, and shellfish. A freshwater aquaculture facility at the UH Hilo Agricultural Farm Laboratory is used for both teaching and research. A newly-developing 12-acre coastal site at Keaukaha, adjacent to the port of Hilo, is a decommissioned, converted wastewater treatment plant which will include a water quality laboratory, a pearl oyster hatchery, a marine fish hatchery, and a demonstration farm for ornamental fish cultivation. Water supplies will include freshwater, saltwater, and, after renovation of a 1200-ft deep well is complete, very cold seawater.

AGRICULTURE: AQUACULTURE SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	**Semester Hours**
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(See Note 1 below)**	3
3. World Cultures	6
4. Humanities **(ENG 225 and one COM course in Group 2 fulfill 6 out of the 9 semester hours of this requirement)**	3 more
5. Social Sciences **(ECON 130 counts as 3 out of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Science Courses in Group 2 fulfill all 10 semester hours of this requirement)**	-
Total.....	**21**

GROUP 2. Major Requirements	
A. Agriscience Requirements	
• AG 291 Directed Work Experience	3
• AG 497 Senior Seminar **(see Note 2 below)**	1
• AGBU 320 Agribusiness Management **OR** AGEC 330 Farm Management	3
• AGEN 400 Aquaculture Engineering	3
• ANSC 141 Introduction to Animal Science **(see Note 3 below)**	3
• ANSC 244 Fundamentals of Animal Nutrition	3
• ANSC 321 Feeds and Feeding	3
• AQUA 262 Introduction to Aquaculture	3
• AQUA 425/425L Water Quality and Aquatic Productivity Laboratory	4
• AQUA 450/450L Aquaculture Production Techniques plus Lab	4
• AQUA 466 Fisheries Science	3
• HORT 262 Principles of Horticulture	3
• HORT 263 Hydroponics	3
• HORT 262 Principles of Horticulture	3
• Choose ONE course from the following three courses:	3
o AG 375 Introduction to Genetic Analysis	
o ANSC 445 Animal Breeding and Genetics	
o BIOL 466 Genetics	
B. Required Courses from Related Fields	
• CHEM 124/124D/124L General Chemistry plus Discussion and Lab	5
• CHEM 125/125D/125L General Chemistry plus Discussion and Lab	5
• CHEM 141/141L Survey of Organic Chemistry and Biochemistry	4
• ECON 130 Introduction to Microeconomics	3
• ENG 225 Writing for Science and Technology	3
• MARE 171 Marine Biology	3
• MARE 371 Biology of Marine Invertebrates	3
• MARE 372 Biology of Marine Plants	3
• MARE 484 Biology of Fishes	3
• PHYS 106/170L College Physics plus Lab	4
• Choose ONE course from the following two courses:	3
o BIOL 281 General Ecology	
o MARE 265 Marine Ecology and Evolution	
• Choose ONE course from the following three courses:	3
o BIOL 380 Biostatistics	
o MARE 250 Statistical Applications in Marine Science	
o MATH 121 Introduction to Statistics and Probability	
• Choose ONE of the following COM courses:	3
o COM 100 Human Communication in a Diverse Society	
o COM 200 Fundamentals of Interpersonal Communication	
o COM 251 Public Speaking	
Total.....	**90**
GROUP 3. Electives. (See Note 3 below)	
Total.....	**5**
Total Semester Hours Required For The B.S. in Agriculture, Aquaculture Specialty	**123**

Notes:

1. Students who choose MATH 121 under Required Courses from Related Fields can count this course as the Quantitative Reasoning requirement in Group 1, General Education Requirements.
2. AG 497 may be taken before senior year.
3. ANSC 141 must be completed before taking other Animal Science courses.
4. Students who decide later to pursue a graduate degree would find the following courses useful: BIOL 410; CHEM 241-242; PHYS 107; and MATH 205-206.
5. Students must earn at least a 2.0 GPA in courses required for the major.
6. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)

7. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
8. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Crop Protection Specialty

123 semester hours

The Crop Protection program trains students to manage a wide variety of problems that affect crop plant production. Since these problems come from many sources, the Crop Protection curriculum includes courses from the areas of Entomology, Plant Pathology, Weed Science, and Horticulture. In addition, the student is required to take production agriculture as well as biology courses, making the Crop Protection curriculum truly interdisciplinary in scope. The B.S. degree in Agriculture with emphasis in Crop Protection signifies a student prepared for jobs with private enterprise or government agencies concerned with plant pest control, crop production, or environmental protection, such as plant quarantine and integrated pest control. In addition, the Crop Protection curriculum is flexible enough to allow the student to meet the entry requirements of most graduate schools and thus further his or her education by pursuing a graduate degree.

AGRICULTURE: CROP PROTECTION SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(MATH 104 or its equivalent in Group 2 fulfills the 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 and one COM course in Group 2 fulfill 6 out of the 9 semester hours of this requirement)**	3 more
5. Social Sciences	9
6. Natural Sciences **(Science Courses in Group 2 fulfill all 10 semester hours of this requirement)**	-
Total.....	**21**
GROUP 2. Major Requirements	
A. Agriscience Requirements	
• AG 291 Directed Work Experience	3
• AG 304 Applied Microbiology	3
• AG 375 Introduction to Genetic Analysis	3
• AG 497 Senior Seminar **(see Note 1 below)**	1
• ENTO 304 General Entomology	3
• ENTO 374 Insect Pest Control	3
• HORT 262 Principles of Horticulture	3
• HORT 481 Weed Science	3
• PPTH 301 Tropical Plant Pathology	3
• PPTH 405 Plant Disease Diagnosis	3
• PPHY 310 Plant Growth and Development	3
• SOIL 304 Tropical Soils	3
• Choose TWO courses from the following six HORT courses:	3-4
o HORT 263 (3) Hydroponics	
o HORT 266 (4) Nursery Management	
o HORT 303 (3) Introduction to Plant Tissue Culture	
o HORT 351(3) Vegetable Crop Production	
o HORT 352 (3) Tropical Fruit Production	
o HORT 354 (4) Floriculture and Ornamental Production	
B. Required Courses from Related Fields	
• BIOL 175/175L Introductory Biology I plus Lab	4
• BIOL 176/176L Introductory Biology II plus Lab	4
• BIOL 281/281L General Ecology	3
• CHEM 124/124D/124L General Chemistry plus Discussion and Lab	5
• CHEM 125/125D/125L General Chemistry plus Discussion and Lab	5
• ENG 225 Writing for Science and Technology	3
• MATH 104 Pre-calculus Math OR higher, but not 107, 108, or 111	3-4
• MATH 121 Introduction to Statistics and Probability	3
• MARE 372 Biology of Marine Plants	3
• MARE 484 Biology of Fishes	3
• PHYS 106 College Physics	3

• Choose ONE of the following COM courses: o COM 100 Human Communication in a Diverse Society o COM 200 Fundamentals of Interpersonal Communication o COM 251 Public Speaking	3
Total.....	**79-81**
GROUP 3. Electives. At least 9 semester hours must be Agricultural courses. (See Note 2 below) **Total.....**	**21-23**
Total Semester Hours Required For The B.S. in Agriculture: Crop Protection Specialty	**123**

Notes:

1. AG 497 may be taken before senior year.
2. Students who decide later to pursue a graduate degree would find the following courses useful: BIOL 270, 410; CHEM 241-242; and MATH 205.
3. Students must earn at least a 2.0 GPA in courses required for the major.
4. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

Tropical Horticulture Specialty

123 semester hours

The Tropical Horticulture curriculum is designed to provide students with a well-rounded background in horticultural science with special emphasis on the production of tropical and subtropical crops. The program offers a wide selection of courses, each providing the student with both the theoretical and the hands-on approach to learning the subject matter. Required and elective horticulture courses cover a wide range of topics such as nursery management, floriculture, orchid culture, tropical landscaping, vegetable crop production, tropical fruit production, and many more. Elective courses utilize state-of-the-art technology in areas such as aseptic micro-propagation (plant tissue culture) and hydroponics. In addition to these specialized courses, the Tropical Horticulture curriculum is based on a solid core of traditional horticultural courses where students learn basic horticultural techniques such as grafting, pruning, pest management, and cultivating crops that are of economic interest in the tropics.

Students are provided with the necessary skills and knowledge required for employment and postgraduate education. Hands-on participation is an integral part of each course and strengthens the students' ability to apply theory. Courses such as plant tissue culture, weed science, and others will generally be accepted as graduate level courses. Additionally, students will broaden their experience through required and elective courses from other agriculture areas of specializations. Graduates from this program typically find employment as entrepreneurs, research associates, teachers, extension agents, grounds superintendents, agriculture products sales representatives, plant quarantine inspectors, and agriculture technicians. Graduates are highly skilled in managing, producing, and marketing horticultural crops.

AGRICULTURE: TROPICAL HORTICULTURE SPECIALTY REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(MATH 104 or its equivalent in Group 2 fulfills the 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 and one COM course in Group 2 fulfill 6 out of the 9 semester hours of this requirement)**	3 more
5. Social Sciences **(AGEC 201 or ECON 130 in Group 2 fulfills 3 out of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Science Courses in Group 2 fulfill all 10 semester hours of this requirement)**	-
Total.....	**18**

GROUP 2. Major Requirements	
A. Agriscience Requirements (70 semester hours)	
• AG 291 Directed Work Experience	3
• AG 375 Introduction to Genetic Analysis	3
• AG 497 Senior Seminar **(see Note 1 below)**	1
• AGBU 110 Introduction to Micro-computing for Agriculture	3
• AGEC 201 Agricultural Economics **OR** ECON 130 Introduction to Microeconomics	3
• AGEC 221 Agricultural Accounting and Record Analysis OR ACC 250 Financial Accounting	3
• AGEN 231 Introduction to Agricultural Mechanization	3
• ANSC 141 Introduction to Animal Science **(see Note 2 below)**	3
• ENTO 304 General Entomology	3
• HORT 262 Principles of Horticulture	3
• HORT 264 Plant Propagation	3
• HORT 481 Weed Science	3
• PPTH 301 Tropical Plant Pathology	3
• PPHY 310 Plant Growth and Development	3
• SOIL 304 Tropical Soils	3
• Choose SIX courses totaling 18-21 semester hours from the following Tropical Horticulture production courses:	18-21
o HORT 263 (3) Hydroponics	
o HORT 266 (4) Nursery Management	
o HORT 303 (3) Introduction to Plant Tissue Culture	
o HORT 304 (3) Plant Tissue Culture Acclimatization	
o HORT 350 (3) Tropical Landscape Horticulture	
o HORT 351(3) Vegetable Crop Production	
o HORT 352 (3) Tropical Fruit Production	
o HORT 354 (4) Floriculture and Ornamental Production	
o HORT 360 (4) Orchid Culture	
o HORT 450 (3) Advanced Plant Tissue Culture	
o HORT 460 (3) Turfgrass Management	
• Choose other Agricultural courses totaling 6-9 hours depending on total credit hours taken in Tropical Horticulture production courses.	
B. Required Courses from Related Fields (23-24 semester hours)	
• BIOL 175/175L Introductory Biology I plus Lab	4
• CHEM 124/124D/124L General Chemistry plus Discussion and Lab	5
• CHEM 125/125D/125L General Chemistry plus Discussion and Lab	5
• ENG 225 Writing for Science and Technology	3
• MATH 104 Pre-calculus Math OR higher, but not 107, 108, or 111	3-4
• Choose ONE of the following COM courses:	3
o COM 100 Human Communication in a Diverse Society	
o COM 200 Fundamentals of Interpersonal Communication	
o COM 251 Public Speaking	
Total.....	**93-94**
GROUP 3. Electives. (See Note 3 below)	
Total.....	**29-30**
Total Semester Hours Required For The B.S. in Agriculture: Tropical Horticulture Specialty	**123**

Notes:

1. AG 497 may be taken before senior year.
2. ANSC 141 must be completed before taking other Animal Science classes.
3. Students who decide later to pursue a graduate degree would find the following courses useful: BIOL 410; CHEM 241-242; and MATH 205.
4. Students must earn at least a 2.0 GPA in courses required for the major.
5. To earn a Bachelor of Science degree in Agriculture, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)

6. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
7. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Agriculture Minor

15-16 semester hours

The valuable learning experiences gained through agriculture studies are not limited to Agriculture majors. Non-agriculture majors at UH Hilo can obtain a minor in Agriculture by completing a minimum of 15 hours of coursework (GPA 2.5 or better) in the College of Agriculture, Forestry and Natural Resource Management:

1. THREE of the following (9 semester hours):

HORT 262 (3)	Principles of Horticulture
ANSC 141 (3)	Introduction to Animal Science
AQUA 262 (3)	Introduction to Aquaculture
AGEN 231 (3)	Introduction to Agricultural Mechanization
SOIL 304 (3)	Tropical Soils

2. ONE of the following (3-4 semester hours):

ANSC 342 (3)	Beef Cattle Production
ANSC 351 (3)	Swine Production
ANSC 353 (3)	Horse Production
ANSC 354 (3)	Poultry Production
ANSC 355 (3)	Goat and Sheep Production
HORT 266 (4)	Nursery Management
HORT 350 (3)	Tropical Landscape Horticulture
HORT 351 (3)	Vegetable Crop Production
HORT 352 (3)	Tropical Fruit Production
HORT 354 (4)	Floriculture and Ornamental Production
HORT 460 (3)	Turfgrass Management
AGRN 310 (3)	Agronomic Crop Production in theTropics
AQUA 450 (3)	Aquaculture Production Techniques
AGBU 320 (3)	Agribusiness Management

3. Agriculture elective (3 semester hours)
   Any 200, 300, or 400 level course.

Plant Tissue Culture Certificate

18 semester hours

The certificate program in plant tissue culture is designed to prepare baccalaureate degree seeking students and non-degree seeking students for employment in the plant tissue culture industry. It focuses on course work that relates directly to this industry and facilitates immediate employment as laboratory proprietors, laboratory supervisors, and laboratory technicians. The curriculum includes a range of plant science and tissue culture courses that provide a strong theoretical base. Additionally, the student must complete six credit hours of Advanced Plant Tissue Culture, primarily a hands-on, laboratory-oriented course. Students in the Plant Tissue Culture Certificate Program must complete the prescribed courses (18 credits) with a cumulative grade average of 2.0 or better.

Courses for the Certificate in Plant Tissue Culture Program are as follows:

HORT 262 (3)	Principles of Horticulture
HORT 264 (3)	Plant Propagation
HORT 303 (3)	Introduction to Plant Tissue Culture
HORT 304 (3)	Plant Tissue Culture Acclimatization
HORT 450 (6)	Advanced Plant Tissue Culture (2 semesters)

Special Programs

In addition to its academic core of course offerings, the College of Agriculture, Forestry and Natural Resource Management has programs offering special opportunities to students:

Student-Managed Farm Enterprise Projects: A unique feature of the College is the student-managed farm enterprise project program. Students select, plan, and complete a management/production project under faculty supervision. If the student's project is successful, some income can be gained along with the valuable first-hand experience in production and agribusiness.

Agriculture Development Program: CAFNRM's Agriculture Development Program allows individuals the opportunity to achieve a Bachelor of Science degree in Agriculture, even though they lack the proper preparation for standard admission (i.e., low placement scores on SAT, low GPA standing, lack of college prep courses, etc.). Students accepted into this program are University of Hawai'i at Hilo CAFNRM students and are obligated to complete all academic requirements. These students are given a chance to take advantage of a comprehensive set of support courses and assistance to enhance their successes.

Information on how to apply to this program is available from the College office at (808) 974-7393 or Admissions at (808) 974-7414.

College of Arts and Sciences

For information, please contact:

Office of the Dean
University Classroom Building 304
(808) 974-7300
(808) 974-7690 (fax)
Email: casdean@hawaii.edu
www.uhh.hawaii.edu/academics/cas/

OR

UH Hilo Admissions Office
Office of Student Affairs
Student Services Building Room 115
(808) 974-7414 or (800) 897-4456
(808) 974-7691 (fax)
Email: uhhadm@hawaii.edu
www.uhh.hawaii.edu/studentaffairs/admissions/

Purpose

The purpose of the College of Arts and Sciences is to provide quality education in the liberal arts and sciences, as well as a select group of high quality professional and pre-professional programs. Therefore, the academic emphasis in the College of Arts and Sciences is on the traditional arts and sciences subjects, particularly those with special relevance to Hawai'i.

Educational Philosophy

The College of Arts and Sciences offers students a diversified and quality liberal arts curriculum which combines a traditional format with the flexibility to meet the needs of every student.

The purpose of this traditional, yet flexible, liberal arts curriculum is to provide students with an opportunity to achieve a

common basis for intellectual discourse so that they will be prepared to meet the demands of both profession and citizenship. Accordingly, students in the College receive an education which enables them to:

1. Communicate in both the written and spoken media with precision and cogency;
2. Think critically and engage in reasoned discussions about complex issues;
3. Understand major historic and philosophical concepts, and scholarly, literary, and artistic accomplishments of the past and present;
4. Comprehend the physical universe, our own and other societies, the mathematical and experimental methods of the natural sciences, and the qualitative and quantitative methods of the social sciences; and
5. Achieve a depth of understanding and competence in a specific field of knowledge.

Instructional Methods

In the teaching of numerous subjects, the College seeks to make use of Hawai'i Island and its multi-cultural heritage and physical setting as a miniature continent in the midst of a tropical ocean. Classes frequently conduct field studies at various sites on Hawai'i Island. Archaeology students participate in investigating ancient Hawaiian sites and artifacts. Geology, biology, and geography students explore the island's volcanoes, marine environment, and varied ecosystems. Numerous social science courses make use of the wide ethnic heritages represented on Hawai'i Island.

Although UH Hilo is isolated from the tensions of the metropolitan environment, the College is not isolated from the world. Many courses at Hilo have a strong international accent. Both the Eastern and Western traditions are studied in courses in philosophy, religion, and history. Languages routinely taught at the college include French, Japanese, Spanish, and, less frequently, Chinese.

Students in the College of Arts and Sciences have considerable liberty to design, in cooperation with their professors, individualized courses of instruction. Through the "99" sequence of courses, students may undertake directed reading and research. Furthermore, the Liberal Studies Program allows students to design their own majors by combining subjects of study which are demonstrably pertinent to their personal, educational, developmental, or career objectives.

The College employs a wide variety of instructional methods in order to implement the educational philosophy stated above. Experimentation with new pedagogical techniques that show promise of being effective is encouraged. At the College students will encounter instruction in such forms as:

Lectures in both lower- and upper-division courses. Every effort is made to limit the size of classes to allow for student-teacher discourse and to minimize student anonymity in the classroom. Where appropriate, lecture classes are complemented by audio-visual techniques that enrich and enhance the learning process.

Laboratory courses, which provide educational experience in the design, conduct, and analysis of research in real and simulated settings. These courses, which are usually adjuncts to lecture classes, also offer opportunities for the student to develop skills in observations, data collection, problem-solving, interpretation, and working effectively in small teams.

Seminars, which are an important part of the instructional process because they provide an opportunity for students to study in their major fields of interest at an advanced level and in small groups. Seminars are used primarily in upper-division courses, but where appropriate, this format is also used in the lower division.

Independent study and the senior thesis. These provide an opportunity for students to pursue knowledge in an area of particular interest under the supervision of an instructor. Such study is of a specialized nature, and, thus, it is limited to those students who have sufficient background in the field to benefit from independent inquiry.

Field trips, which introduce students to real situations outside of the classroom. These trips are particularly valuable in those areas of study that relate to the physical and cultural environment and the major research facilities on the island.

Internships and practica, whose importance to the instructional process comes from the bridge they form between the classroom and the outside world. These methods provide students with opportunities to apply the knowledge and techniques acquired in the classroom. By placing students in the community, they also serve as a means of strengthening the relationship between the College and the community.

Evaluation of Students

The College of Arts and Sciences does not establish specific methods by which each instructor evaluates students, nor does the College require each instructor to meet identical criteria for such evaluation. The testing methods and standards for each course are determined by the instructor and are presented to the student in the syllabus for the course, which is provided to each class during the first days of each semester. Thus, methods and standards may vary from course to course and instructor to instructor. In the same spirit, the instructor is free to select the material and teach the course in such manner as he or she feels appropriate.

This philosophy, which is based on the principle of academic freedom, provides the student with a great variety of approaches from which to choose and exposes the student to an equally wide variety of teaching methods. However, common to these methods will be basic standards of essential fairness and impartiality of the evaluation process. Students are provided with recourse if they feel that these standards have not been met (see section on "Academic Grievances" of this Catalog). The College of Arts and Sciences is dedicated to providing the student with the best educational experience available, a dedication to which its many successful graduates can attest.

Curricula

	B.A.	B.S.	M.A.	M.Ed.	M.S.	Minor	Certificate
Administration of Justice	✔						
Anthropology	✔					✔	
Art	✔					✔	
Astronomy		✔				✔	
Biology	✔	✔				✔	
Chemistry	✔					✔	
China-U.S. Relations			✔				
Communication	✔					✔	
Computer Science		✔				✔	
Database Management							✔
Earth and Space Science (jointly offered by the Astronomy and Geology departments)						✔	
E-Commerce, Technology and Business							✔
Education*				✔			✔
English	✔					✔	
Environmental Studies							✔
Geography	✔					✔	
Geology	✔	✔				✔	
Health & Physical Education	✔						
History	✔					✔	
International Studies - International Relations Option							✔
Japanese Studies	✔					✔	
Liberal Studies—							
Religious Studies	✔						
Individual Programs	✔						
Linguistics	✔					✔	
Marine Options Program							✔
Marine Science	✔					✔	
Mathematics	✔					✔	
Natural Science	✔					✔	
Nursing		✔					
Pacific Island Studies							✔
Performing Arts	✔						✔
Philosophy	✔					✔	
Planning							✔
Physics	✔					✔	
Political Science	✔					✔	
Psychology	✔	X					
Sociology	✔					✔	
Teaching English as a Second Language							✔
Tropical Conservation Biology & Environmental Science					✔		
Women's Studies							✔

NOTE: The **B.A. degree** requires 120 semester hours; the **B.S. degree** requires between 122-130 semester hours. College of Arts and Sciences major programs are more fully described in the next section. Individual course descriptions are listed alphabetically at the back of the Catalog.

***Post-baccalaureate Teacher Education Program**

The UH Hilo Education Department offers the Teacher Education Program which includes a two- semester post-baccalaureate cohort to qualify teacher candidates for licensure by the State of Hawai'i. Please see the Education section of this Catalog or contact the Education Department, (808) 974-7582, for more information.

Certificate Programs

The College of Arts and Sciences offers certificate programs in 11 academic subjects. Certificates are earned upon completion of a prescribed course of academic study. Depending upon the program, a certificate may be pursued either in addition to a baccalaureate degree program or as a program objective by itself. In order to pursue a certificate, a student must either have a bachelor's degree or be a classified student (a candidate for a degree). Information about specific program requirements may be obtained from the coordinator of each certificate program and by referring to the department section in this Catalog under which each certificate is offered.

Certificate	Catalog Section	Contact Number
Database Management	Computer Science	(808) 974-7450
E-Commerce Technology & Business	Computer Science	(808) 974-7450
Education: Elementary and Secondary*	Education	(808) 974-7582
Environmental Studies	Geography	(808) 974-7547
International Studies - International Relations	Political Science Option	(808) 974-7461
Marine Options Program	Marine Science	(808) 933-3905
Pacific Island Studies	Pacific Islands Studies	(808) 974-7472
Performing Arts	Performing Arts	(808) 974-7479
Planning	Geography	(808) 974-7552
Teaching English as a Second Language	English/Linguistics	(808) 974-7736
Women's Studies	Women's Studies	(808) 974-7460

*requires formal application and acceptance to the program.

Special Programs

In addition to the courses of study listed above, the faculty of the College of Arts and Sciences has established a number of special programs which provide additional pathways to student achievement and success.

The Honors Program

The UH Hilo Honors Program is designed to motivate, challenge, and enrich qualified students. It is open to all UH Hilo students. The Program is described under Honors in the program listings which follow.

Pre-Law Studies

The study of law is a postgraduate professional program usually requiring three years of full-time study beyond completion of the bachelor's degree. No specific pre-law program or major is required for admission to law school, however, many pre-law students major in political science, economics, history, philosophy, English, or business administration. Whatever the major, students intending to apply to law school would benefit from courses emphasizing critical analysis, writing, and interpretation. A number of law schools also suggest a course in accounting as well.

Law schools place a great deal of emphasis in their admissions decisions on the Law School Admission Test (LSAT) as well as grade point average, so students considering law school should start preparing no later than their junior year for the LSAT. It is highly recommended that such students acquire The Official LSAT PrepTest published by the Law School Admission Council or similar publications that help prepare the student for the examination and see the pre-law advisor early in their academic career. The pre-law advisor can assist students in selecting appropriate courses and majors, in preparing for the LSAT, and in selecting law schools.

The UH Hilo pre-law advisor is Dr. A. Didrick Castberg, Professor of Political Science, located in UCB 358.

Minority Biomedical Research Support Program (MBRS)

The National Institutes of Health fund a major program in biomedical research at the College of Arts and Sciences. The program encourages research in the biomedical sciences at universities that have large percentages of students from ethnic minorities which are under-represented in biomedical research careers. Students in the program work on research projects with faculty in anthropology, biology, psychology, and other disciplines. Students selected for the program are paid full-time for work during the summer and part-time during the academic year. Through these projects, students gain training in scientific research and preparation for post-baccalaureate studies. For further information, contact the MBRS Program Director, Social Sciences Division, College of Arts and Sciences, (808) 974-7460.

New Opportunities through Minority Initiatives in Space Science

The University of Hawai'i at Hilo offers the only baccalaureate astronomy degree program in the State of Hawai'i, and has on its campus the base facilities of several of the Mauna Kea observatories. As a result of funding through a NASA Minority University Education and Research Partnership Initiative grant, UH Hilo is forging a unique partnership with Kamehameha Schools, the Department of Education, the Institute for Astronomy, Gemini Observatory, NASA Infrared Telescope Facility, and Subaru Observatory. New Opportunities through Minority Initiatives in Space Science (NOMISS) is designed to engage a broad spectrum of participants, K-12 students and their teachers, undergraduate university students and their professors, and community and business partners by bring-

ing together modern space science and concepts of Pacific sky lore and traditional Hawaiian knowledge. Through new instrumentation courses and new laboratory curriculum, as well as co-operative student internship and research projects with the observatories, the UH Hilo undergraduate program will be ideally suited to provide the pre-professional training needed for students, including those of Hawaiian ancestry, to obtain careers in astronomy and employment in Mauna Kea observatories. A new summer course includes observing and acquiring telescopic images from the summit of Mauna Kea.

The NOMISS program is also focused on extending astronomy-related outreach to K-12 students and teachers, using curriculum that connects Hawaiian celestial navigation with the observational astronomy conducted by Mauna Kea observatories. Teachers now are designing and implementing curriculum activities to increase their students' learning about culture, math and science, particularly astronomy. The ultimate aim of this is to encourage more students of Hawaiian/Pacific Island ancestry to enter careers in space science, as well as to increase awareness of astronomy within the Hawaiian community.

Keaholoa STEM Program

The primary goal of the Keaholoa STEM Program is to increase the number of UH Hilo students of Hawaiian ancestry who take courses or major in science, mathematics, and technology fields. The National Science Foundation's Tribal Colleges and Universities Program funds the four components of Keaholoa STEM:

- **Faculty Development**. To enculturate Hawaiian values, ways of knowing and learning, and use of current technology.
- **Curriculum Enhancement**. To enhance science, technology, engineering, and mathematics disciplines taught at UH Hilo.
- **Outreach**. To reach out to Hawaiian students and Hawaiian communities through special enrichment classes, mentoring, and informational programs.
- **Research**. To integrate mainstream STEM methodology with Hawaiian traditional knowledge and practices reaching from the land and the stars to the surrounding ocean.

UH Hilo Space Grant College

The University of Hawai'i has been a NASA Space Grant College since 1990. The Hawai'i Space Grant College Program funds space science related activities on the Mānoa and Hilo campuses of the University, with the Hilo campus in the flagship role for undergraduate programs in astronomy, space, and related fields. With its close proximity to the astronomical observatories on Hawai'i Island, and its commitment to quality undergraduate education in a liberal arts environment, UH Hilo provides excellent opportunities for college students, teachers, pre-college students, and the general public in the areas of astronomy and space science. Current programs at UH Hilo supported by the Hawai'i Space Grant College Program include:

Space Grant Fellowship Program

A fellowship program is administered in support of undergraduate students interested in space-related programs of study. The fellowships are typically for a period of one year, and provide a stipend of $1,000 per semester, a full tuition waiver, and travel and supplies funding. Space Grant Fellows undertake research programs in collaboration with faculty mentors, and participate in a twice-yearly colloquium with Fellows from other campuses of the University of Hawai'i. Research programs undertaken by Fellows in the last two years have been in the areas of astronomy, biology, mathematics, physics and geography. Several projects have resulted in scientific publications.

Astronomy for Gifted and Talented

The parent University of Hawai'i Space Grant College supports the Nā Pua No'eau Center's two-week course on traditional and contemporary astronomy for ethnic Hawaiian gifted and talented children in grades 9-12. The course, held on campus, with its international telescope center atop Mauna Kea, relates the use of astronomy by Polynesian navigators to the interests of contemporary astronomers.

ADMINISTRATION OF JUSTICE

Program Head:
A. Didrick Castberg, Ph.D. (castberg@hawaii.edu)
Social Sciences Division Office:
University Classroom Building 308, (808) 974-7460
Web Page: www.uhh.hawaii.edu/academics/cas/socsci/admin-justice.php

The Administration of Justice major is a multidisciplinary program designed to prepare students for entry into professions associated with the administration of justice, including, but not limited to, law enforcement, courts, corrections, probation, and parole. It is also designed to qualify those already in these professions for promotion to supervisory positions. Baccalaureate degrees are frequently required for entrance into federal agencies and are strongly recommended for promotion in state and local agencies.

This program is not designed to duplicate police academy or equivalent training but rather to supplement such training at the baccalaureate level by preparing students for mid-level and higher positions in agencies associated with the administration of justice. As such, the program is multidisciplinary, with core courses designed to provide a practical and a theoretical background to the field and electives that may be tailored to a student's specific interests and career goals.

Administration of Justice covers all aspects of the process from crime detection through criminal appeals, using case law, statutes, public administration, philosophy, psychology, and other academic fields as the basis of study. It not only covers the process, but the agencies involved in the process as well, including law enforcement, prosecution, defense, courts, and corrections.

Students may double-major, fulfilling major requirements for fields such as Psychology, Sociology, or Political Science, as well as those for Administration of Justice.

Those students entering the program with an A.A. degree from a community college accredited by a U.S. regional accreditation agency will not be required to take General Education courses and will be given elective credit for selected courses in Administration of Justice that are transferred.

Goals for Student Learning in the Major

All graduates who have majored in Administration of Justice should:

1. Be able to brief appellate court cases
2. Be familiar with leading U.S. Supreme Court cases on criminal procedure.
3. Be proficient in writing.
4. Have a basic understanding of professional ethics.
5. Understand the leading theories of crime causation.
6. Understand basic principles of public administration.
7. Be able to develop a research design.
8. Be familiar with all phases of the criminal process.
9. Understand where the criminal justice process fits in the American system of government.
10. Understand the relationship between law enforcement, prosecution, defense, the judicial system, and the corrections system.

Internships

Internships in county, state, and federal agencies may be available to majors in Administration of Justice. Students earn course credit for their internship experience while learning and participating in their intended career field.

ADMINISTRATION OF JUSTICE REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(ENG 209 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. AJ 101 Introduction to Administration of Justice (to be taken at community college)	3
2. ENG 209 Writing for Business	3
3. PHIL 323 Professional Ethics **OR** PHIL 325 Philosophy of Law	3
4. POLS 322 Criminal Justice	3
5. POLS 324 Crime and Delinquency	3
6. POLS 360 Public Administration	3
7. **18** semester hours from the following three-credit courses with permission of your advisor: • AJ 150 The Correctional Process (to be taken at community college) • AJ 210 Juvenile Justice (to be taken at community college) • AJ 280 Current Issues (to be taken at community college) • ANTH 485 Applied Anthropology • COM 442 Communication and Conflict • HPE 320 Drug Awareness • MGT 330 Human Resource Management • MGT 332 Organizational Behavior & Management • PHIL 220 Social Ethics • PHIL 315 Ethical Theory • PHIL 320 Social and Political Philosophy • PSY 323 Community Psychology • PSY 324 Abnormal Psychology • PSY 360 Cross-Cultural Psychology • SOC 310 Race and Ethnic Relations • SUBS 245 Group Counseling (to be taken at community college) • SUBS 268 Survey of Substance Abuse Problems (to be taken at community college) • SUBS 294 Substance Abuse Practicum I (to be taken at community college) • SUBS 295 Substance Abuse Practicum II (to be taken at community college)	18
Total.....	**36**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**47**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Administration of Justice	**120**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 45 semester hours must be earned in courses at the 300-400 level.
3. To earn a Bachelor of Arts degree in Administration of Justice, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

ANTHROPOLOGY

Department Chair:
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Professors:
Daniel E. Brown, Ph.D.
Christopher A. Reichl, Ph.D.
Associate Professors:
Peter R. Mills, Ph.D.
Lynn Morrison, Ph.D.
Instructors:
Heather Harris, Ph.D.
E. Momi Naughton, Ph.D.
Timothy Scheffler, M.A.
Lynne Wolforth, Ph.D.

Anthropology is the holistic study of human cultures and the human place in nature. The discipline emphasizes comparing human groups to understand the range of variation in human behavior and biology, and therefore considers what it is to be human.

The Anthropology program in the College of Arts and Sciences is designed to provide students with a broad, holistic, and scientific understanding of human culture and the human place in nature. Anthropology helps students gain a fuller understanding of human behavior through introductory and advanced courses in the subfields of archeology, cultural anthropology, linguistics, and physical anthropology. Field courses in these subfields are designed to take advantage of the varied ecology and history and the rich multicultural environment of Hawai'i Island.

The international nature of anthropology makes this field of study increasingly important in our shrinking world. People in all fields of business, politics, medicine, ecology, and academia now work daily with people from other cultures. The success of their enterprise often depends on their ability to understand and communicate with people whose cultures differ from their own.

Anthropology attempts to provide a general worldview, characterized by its holistic ideal: a belief that an understanding of human nature requires drawing together and relating information from all aspects of the human condition. The contribution of anthropology is in integrating concepts from many different disciplines into a meaningful understanding of that most complex animal, *Homo sapiens*.

Goals for Student Learning in the Major

The main goals for student learning in anthropology are to think and communicate more broadly and holistically by gaining a basic understanding and integrated perspectives of the following:

- the nature and range of cultural diversity worldwide and through time;
- how human cultural diversity derives from our cultural and biological adaptations;
- the anthropological enterprise from a four-field approach;
- human origins and present day biological variation;
- the importance of prehistory and the archeological record;
- the role of language in culture, cultural transmission, and intercultural communication;
- the major theoretical orientations in anthropology as they relate to our general understanding of human cultural behaviors and cultural and biological adaptations;
- the human experience that will enable graduates to become more effective at communicating cross-culturally and working in multicultural settings;
- anthropological ethics as they relate to human cultural interaction and research with humans.

We also strive to have our undergraduates gain basic skills in one or more of the field and laboratory research methods used in anthropology, and to provide opportunities for hands-on research by working on special projects either independently or jointly with faculty.

Prospects for Anthropology Graduates

Graduates in anthropology are employed in a number of different occupations, spanning professional anthropology work, education, social services, government service, and business. The international approach and cross-cultural nature of the perspective gained in the anthropology major is of great benefit to our graduates who plan careers in social services, particularly in Hawai'i. People in business also have placed continually greater emphasis on cross-cultural communication skills, as business becomes increasingly international. In addition 21 private consulting firms are working in Hawaiian archaeology and various state and federal offices that regularly employ our graduates. Thus, many local and international jobs are available to anthropology graduates at the bachelor's level.

Anthropology also serves as an excellent major for those students who intend to go on into professional programs such as law, medicine, nursing, public health, and business administration. UH Hilo anthropology graduates include lawyers, teachers, archaeologists, social workers, academic counselors, public health officials, registered nurses, and business professionals.

For graduates who wish to continue in a career in anthropology, graduate work is usually necessary for advancement into professional level positions. Graduates of the Anthropology Department at UH Hilo have been very successful at gaining admission into graduate programs, and these students are beginning to achieve degrees at the master's and doctoral level in anthropology, archaeology, and other social science and humanities disciplines.

Contributions to the UH Hilo General Education Program

Anthropology 100 (Cultural Anthropology) may be counted for three credits in the World Cultures requirement of General Education. Alternatively, it may be counted in the Social Sciences

area requirement. The course uses examples from a variety of cultures worldwide and gives students the tools and concepts to understand and appreciate cultural differences. Anthropology 110 (Archeology), 115 (Human Evolution), 121 (Introduction to Language), and 200b (Oceania) may also be counted for three credits in the Social Sciences area requirement of General Education.

Special Aspects of the Program

The Anthropology Department at UH Hilo currently operates a sizeable archaeology laboratory with facilities for cleaning, sorting, labeling, analyzing, and storing archaeological materials. The Department also has a large preparation room for archaeological fieldwork and operates an energy dispersive X-Ray fluorescence spectrometer to analyze the geochemical characteristics of lithics. Opportunities exist for trained students to participate in archaeological excavations both on Hawai'i Island and elsewhere. Student internships are available for students to work at the national parks, local museums, and with contract archaeology firms.

A physical anthropology laboratory in the department has facilities for studying human adaptability, osteology, and a variety of aspects of human physiology and variation. Trained students also may participate in biomedical anthropology. Ongoing National Institutes of Health-supported biomedical research is carried out in the human biology laboratory and in the community.

Anthropology students also have been involved in ethnographic research on Hawai'i Island. Studies of oral histories of Hawai'i Island communities, as well as the study of culture change on the island, are ongoing. Hawai'i also offers students a natural laboratory of anthropological linguistics, where scholars are studying pidgin and Creole languages and their relationship to an understanding of language in general.

The faculty in anthropology at UH Hilo are committed to undergraduate instruction. This commitment goes beyond the care and energy placed in coursework and extends to extensive work on the individual level with students who major in anthropology. Virtually all anthropology graduates have had at least one, and often several, directed reading/research courses, in which the student worked on an individual basis with a faculty member to explore a topic in anthropological research of mutual interest.

The program prides itself on being one of high standards, but also one where the sense of wonder, interest, and fun that brings people into anthropology has not been lost. People in the program make life-long friends who have shared the unique experience of learning about anthropology in a setting of unique importance for anthropology, the natural laboratory of Hawai'i.

Student Anthropology Club

The Anthropology Club at UH Hilo is one of the most active, and oldest, on campus. The club has sponsored parties, presentations, field trips, anthropological films, and other special events of interest to students. Club activities maintain the excitement of doing anthropology outside the classroom.

ANTHROPOLOGY REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Basic and Area Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures **(ANTH 100 in Major Requirements, Group 2, fulfills 3 of 6 required semester hours)**	3 more
4. Humanities	9
5. Social Sciences **(any ANTH 100-level course except 100 and 199 in Major Requirements, Group 2, fulfills 3 of 9 required hours)**	6 more
6. Natural Sciences	10
Total.....	**34**
GROUP 2. Major Requirements	
Introductory Courses	
1. ANTH 100 Cultural Anthropology	3
2. ANTH 110 Archaeology	3
3. ANTH 115 Human Evolution	3
4. ANTH 121 Introduction to Language	3
Sub-Total	12
An additional 21 semester hours, of which 12 or more must be at the 300 level or above including:	
1. ANTH 475 History of Anthropological Theory	3
AND	
2. <u>One</u> ANTH methods course from:	
ANTH 445 Ethnographic Field Techniques	3
ANTH 450 Physical Anthropology Laboratory	4
ANTH 470 Museology	3
ANTH 481 Archaeometry	3
ANTH 482 Archaeological Research Methods	4-6
ANTH 484 Stone Tool Analysis	3
Subtotal	21
Total.....	**33**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 3 below)	
Total.....	**53**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Anthropology	**120**

Notes:

1. Students may demonstrate proficiency at the 100 level in archaeology, physical anthropology, cultural anthropology, and linguistics in place of taking the required introductory anthropology course. Consult an advisor for other courses that allow students to demonstrate proficiency in these areas.
2. With the approval of the advisor, 6 semester hours of the required 21additional hours of the major may be from other disciplines. Typically, this option is applied to transfer credits from anthropology-related programs (e.g. Indigenous Studies, Ethnic Studies). It is not applied typically to regularly-listed UH Hilo classes not already cross-listed.
3. Students must earn at least a 2.0 GPA in courses required for the major.
4. At least 45 semester hours must be earned in courses at the 300-400 level.
5. To earn a Bachelor of Arts degree in Anthropology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
6. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
7. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

The Anthropology Minor

21 Semester Hours

Requirements

1. 3 of the 4 introductory courses. Choose from:

ANTH 100 (3)	Cultural Anthropology
ANTH 110 (3)	Archaeology
ANTH 115 (3)	Human Evolution
ANTH 121 (3)	Introduction to Language

2. 4 additional courses with at least two of the blocks represented:

Block I:	ANTH 200, 320, 323, 324, 354, 356, 357, 358, 386, 387, 399, 445, 475, 485, 495, 499.
Block II:	ANTH 315, 384, 399, 415, 450, 495, 499.
Block III:	ANTH 321, 331, 347, 399, 495, 499.
Block IV:	ANTH 385, 388, 389, 399, 470, 481, 482, 484, 490, 495, 499.

A minimum GPA of 2.0 in minor courses is required.

ART

Department Chair:
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Humanities Division Office:
Kanaka'ole Hall 214, (808) 974-7479
Web Page: www.uhh.hawaii.edu/academics/cas/humanities/art.php
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Professor:
Michael D. Marshall, M.F.A.
Wayne A. Miyamoto, M.F.A.
Associate Professors:
Andrew Grabar, M.F.A.
Assistant Professor:
Jean Ippolito, Ph.D.

The baccalaureate program in Art is the study of visual art. The program explores the creative, experimental, and developmental aspects of art. The study of Art involves the practice of art in the studio environment, art as an expression of our cultural heritage, and an understanding of the history of art. The program provides students, the university, and the community with visual arts experiences in regional, national, and international contexts.

Lower-division courses provide study in basic theory, study of different media, and the development of skills in the application and practice of studio art. Courses in the upper-division pursue advanced theory and studio applications involving explorations of individual expression.

The program emphases are painting, drawing, and printmaking studio. Other specific areas of study can be arranged through consultation with the Art Department and the College of Arts and Sciences.

Goals for Student Learning in the Major

The Art Department provides an environment supporting scholarship and practice in the visual arts. Students pursue an understanding of the practice of art forms, an understanding of art movements in the contemporary mainstream, comprehension of aesthetic theory, and a perspective of the history of art in Eastern and Western contexts.

The program goals for student learning are as follows:

1. The development of working relationships with materials, techniques, and procedures and training in creative exploration of individual expression and ideas.
2. The development of creative thinking and critical analysis in the area of the visual arts. Critical thinking skills and the ability to express this process are significant aspects of studio practice.
3. The understanding of the history of world cultures and art as an expression of cultural heritage.
4. An appreciation for visual art developments in the contemporary mainstream. Experience with and exposure to mainstream visual arts through national and international exhibitions establish a broader base of comprehension for contemporary movements in art.
5. Preparation for graduate studies in studio art. The areas of painting, printmaking, and drawing provide an educational program requiring portfolio development and the studio art preparation necessary for graduate school admission.
6. The development of a foundation in the visual arts for applied arts and teaching professions.
7. The development of organizational and planning skills and experiences required in the profession of art.

Prospects for Art Majors

The Bachelor of Arts degree in Art provides study in Art for all students and prepares students for graduate study in studio art and continued study in areas of applied arts and art education. The body of work accomplished during the period of study in the program is a portfolio representing the student's achievements.

Students are also prepared in the program to function as professionals in graphic design, illustration, applied arts, and teaching. The study of studio media, methods, applications, art history, and art theory form the basis for an understanding of the creative process and addresses imagination, aesthetic concepts, creative applications, and the ability to consider, with equal awareness, minute details and larger perspectives.

Contributions to the General Education Program

Art is an important component of a strong liberal arts education. Students selecting art courses to fulfill General Education requirements develop abilities for skillful creative applications, the growth of imagination, and an insight into cultural relationships.

Special Aspects of the Art Major

Photography, textiles, fiber arts, and ceramics courses are offered only through concurrent registration with Hawai'i Community College or through the summer session. Please consult with the Art Department for additional information.

Student Art Association

The Student Art Association is a registered student organization sponsoring activities and projects relating to the study of art. The Association has presented papermaking demonstrations during Earth Day celebrations, sponsored visiting artists, and organizes and presents the Annual Student Art Exhibition featured in the Campus Center Galleries from May to September.

ART REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(ART 101 in Major Requirements, Group 2, fulfills 3 of 9 required semester hours)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. ART 101 Introduction to Visual Arts	3
2. Foundation Studio Program	
ART 121 FP Studio: Beginning Drawing	3
ART 122 FP Studio: Beginning Painting	3
ART 123 FP Studio: 2- Dimensional Design	3
ART 124 FP Studio: 3-Dimensional Design	3
3. Art History	
ART 270 Aspects of Western Art	3
ART 280 Aspects of Asian Art (fulfills Group 4 H/A/P requirement)	3
(AND 6 additional credits from the following 3-credit courses):	6
ART 360 Renaissance and Baroque	
ART 370 Modern Art	
ART 375 Christianity and the Arts	
ART 380 Art of China	
ART 381 Art of Japan	
ART 385 Religious Arts of East Asia	
ART 390 Seminar in Contemporary Art	
4. Studio Specialization (18 credits including 6 credits in upper division courses in drawing, painting, and printmaking from the following 3-credit studio courses.) Students are encouraged to participate in all three areas of studio art. ART 221 and upper division studio courses are repeatable for credit.	18
ART 221 Intermediate Drawing	
ART 321 Advanced Drawing	
ART 222 Intermediate Painting	
ART 322 Advanced Painting	
ART 215 Printmaking: Intaglio	
ART 216 Printmaking: Lithography	
ART 315 Advanced Printmaking: Intaglio	
ART 316 Advanced Printmaking Seminar	
Total.....	**45**
GROUP 3. Electives, including enough 300-400 level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**38**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. In Art	**120**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. The B.A. in Art requires a total of only 30 credits of 300/400-level course work because of the number of 100/200-level courses required in the major.
3. Check the **prerequisites** for your major course requirements so you can select lower division courses more efficiently.
4. The Foundation Studio Program requirements of 12 credits and ART 101 should be completed, if possible, during the first two years of study. Juniors and seniors pursue individual art work through their sequence of studio courses.
5. Students are encouraged to develop a portfolio of their work.

6. To earn a Bachelor of Arts degree in Art, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
7. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
8. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Art Minor

24 Semester Hours

Block I: **12 semester hours.**

ART 121 (3)	FP Studio: Beginning Drawing
ART 122 (3)	**FP Studio: Beginning Painting**
ART 123 (3)	FP Studio: 2-Dimensional Design
ART 124 (3)	FP Studio: 3-Dimensional Design

Block II: 3 semester hours. Select one course from:

ART 101 (3)	Introduction to the Visual Arts
ART 270 (3)	Aspects of Western Art
ART 280 (3)	Aspects of Asian Art

Block III: 9 semester hours. Select three studio courses numbered 200 or above.

ASTRONOMY

Natural Sciences Division Office:
Life Sciences 2, (808) 974-7383
Web Pages: www.uhh.hawaii.edu/academics/cas/natsci/astronomy.php AND www.astro.uhh.hawaii.edu

The Physics and Astronomy Department

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Philippe M. Binder, Ph.D.
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Norman G. Purves, M.S.
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Jay Slivkoff, B.A.

Astronomy is rich in history as man has tried to explain his universe over the years. Astronomers combine the basic sciences (physics, chemistry, optics, etc.) with computers and complex technology in order to scan and to explain the heavens and the world in which we live. UH Hilo's proximity to some of the most advanced astronomy facilities in the world provides opportunities for undergraduate students that are rarely experienced. The UH Hilo academic astronomy program utilizes the astronomy infrastructure of Mauna Kea and the University Park of Science and Technology to provide students with high levels of knowledge of astronomy and training in modern methods of observational astronomy.

The B.S. degree program provides the training needed for students seeking careers in astronomy, both as professional research astronomers and as observatory technical staff members. In most universities, students are able to study astronomy only at the graduate level. The Bachelor of Science in Astronomy at UH Hilo is the only such undergraduate university program within the State of Hawai'i. It has the principal aim of providing training and instruction at the undergraduate level for students seeking careers in astronomy and related fields, but the program is rich in opportunities for students with interests in other areas who are also interested in astronomy.

To accomplish this, the program incorporates the following elements:

1. Emphasis on training in observational astronomy, thereby building on the resource represented by the astronomical observatories atop Mauna Kea
2. A full array of courses which provide the theoretical and conceptual background for understanding astronomy
3. A strong component of computer assisted computation and analysis
4. Flexibility to allow students to prepare adequately for a wide variety of career choices, such as: entrance to astronomy graduate school, training for technical careers in astronomy observatory support roles, preparation for careers in related fields such as planetary geosciences or remote sensing, and preparation of teachers, who wish to incorporate astronomy into the public school curriculum.

The Department offers a range of astronomy courses suitable for all levels of interest and mathematical preparation. Students in other disciplines who have always wondered about the universe are served by an introductory, non-mathematical course. Students planning a more detailed study of the subject will wish to enroll in the year-long astronomy sequence suitable for astronomy and physics majors. The astronomy program also provides the astronomy components of the Natural Sciences degree and General Education programs, for the enrichment of students in a field of major importance to the State of Hawai'i.

Goals for Student Learning in the Major

1. A basic knowledge of all major fields of modern astronomy, and an understanding of the relationship between astronomy and other areas of science and knowledge;
2. Advanced training in all aspects of modern observational astronomy and related research methods;
3. Acquisition of a deep understanding of the physical principles underlying modern astronomy;
4. Development of basic skills in computational and data analysis techniques of current importance in research astronomy and observatory operations;
5. Acquisition of basic scientific reasoning, critical thinking, and communications skills.

Special Aspects of the Astronomy Program

The Department will be housed in a new Science and Technology Building which is in the final stages of design. Construction will begin in early 2007. Modern offices, classrooms, introductory and advanced undergraduate labs, and faculty research facilities will all provide students with the most modern facilities possible.

With the assistance of a grant from the National Science Foundation, the Department is currently developing a 0.9-meter telescope that will be sited on Mauna Kea among some of the largest and most powerful instruments in the world. When completed within the next year, this telescope will provide students with the opportunity to pursue research-grade projects under the supervision of Department faculty.

Under a grant from the National Science Foundation Tribal Colleges and Universities Program, the Department participates in the development of courses and learning opportunities for students of Hawaiian ethnicity.

Astronomy majors at UH Hilo get real hands-on experience by participating in research projects with faculty members and observatory staff. Some of these projects make use of telescopes on Mauna Kea, the Hubble Space Telescope, and other observatories. UH Hilo astronomy students also have access to the University's own 24-inch telescope on Mauna Kea which is equipped with electronic detectors for imaging and spectroscopy. In addition, advanced students have the opportunity of internships at the various observatories with headquarters on campus.

Students benefit from the Department's international collaborations. Department faculty and student Interns are extensively involved in the All-sky High Resolution Air shower (*Ashra*) detector program which studies cosmic radiation by observing Nitrogen fluorescence and cherenkov radiation. The Department is a partner, along with UH Manoa Institute for Astronomy, Maui High Performance Computer Center, MIT Lincoln Laboratories, and Science Applications International Corporation in developing the Panoramic Survey Telescope and Rapid Response System (*PanSTARRS*) asteroid detection system. Projects like these provide UH Hilo students with unique opportunities to become involved in major efforts at the boundaries of science.

In addition, the Observatory Internship program, coordinated with institutions based in the University Park of Science and Technology, offers students a unique opportunity to gain practical or research experience at astronomical observatories atop Mauna Kea prior to obtaining their degree.

The Space Grant Fellowship Program offers competitive fellowships to students of exceptional promise, usually during their senior year. The fellowships provide a full tuition waiver and $1,000/semester stipend. Space Grant Fellows conduct a proposed research project under the supervision of a faculty mentor and participate in University-wide Space Grant College symposia. Funding for travel to meetings is available from this program.

ASTRONOMY **REQUIREMENTS FOR BACHELOR OF SCIENCE DEGREE**	**Semester Hours**
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science requirements in Group 2 fulfill all 10 semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Required courses in Astronomy and Physics	
• ASTR 180 Principles of Astronomy I	3
• ASTR 181 Principles of Astronomy II	3
• ASTR 250 Observational Astronomy	3
• ASTR 260 Computational Physics and Astronomy	3
• ASTR 350 Stellar Astrophysics	3
• ASTR 351 Galactic & Extragalactic Astrophysics	3
• ASTR 495A&B Seminar (2 semesters)	2
• PHYS 172-170L General Physics I-Particles and Waves	5
• PHYS 173-171L General Physics II-Electricity and Magnetism	5
• PHYS 270 General Physics III-Introduction to Modern Physics	3
• PHYS 371 General Physics IV-Classical Mechanics	3
• PHYS 331 Optics	3
• AND NINE additional hours from Physics or Astronomy numbered 300 or higher, not including ASTR 400	9
2. Required courses in Mathematics	
• MATH 205-206 Calculus I-II	8
• MATH 231-232 Calculus III-IV	6
• MATH 300 Ordinary Differential Equations	3
Total.....	**65**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 3 below)	
Total.....	**28**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Astronomy	**120**

Notes:

1. A minimum 2.0 cumulative GPA is required.
2. A 2.0 or better in every required course above in ASTR, PHYS and MATH is required.
3. A minimum of 30 upper division semester hours (300 level courses or above) is required.
4. To earn a Bachelor of Science degree in Astronomy, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Astronomy Minor

15 Semester Hours

Requirements:

ASTR 180 (3) Principles of Astronomy I
ASTR 181 (3) Principles of Astronomy II
ASTR 250 (3) Observational Astronomy (Prerequisite: MATH 104G (3) Precalculus II)

AND six additional semester hours from ASTR courses 300 level or above, not including ASTR 400.

The Minor In Earth And Space Science

24 Semester Hours

Requirements:

ASTR 110L (1) General Astronomy Lab
ASTR 180 (3) Principles of Astronomy I
ASTR 181 (3) Principles of Astronomy II
ASTR/GEOL 352 (3) Comparative Planetology
GEOL 111-111L (4) Understanding the Earth
GEOL 112-112L (4) History of the Earth and Its Life
GEOL 205 (3) Geology of the Hawaiian Islands

AND one of the following courses:

GEOL 300 (3) Climatology
GEOL 450 (3) Geological Remote Sensing
GEOL 470 (3) Remote Sensing and Air Photo Interpretation

Note: The minor in Earth and Space Science is undergoing review. Students are advised to consult with a Geology or Astronomy advisor before pursuing this program of study.

BIOLOGY

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Web Pages: www.uhh.hawaii.edu/academics/cas/natsci/biology.php
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Associate Professors:
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Elizabeth Stacy, Ph.D.
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Christine A. Kornet, M.S.

Curricula

B.A., Biology	Cell and Molecular Track
B.A., Biology	Evolution, Ecology and Conservation Biology Track
B.S., Biology	Cell and Molecular Track
B.S., Biology	Evolution, Ecology and Conservation Biology Track
Minor, Biology	Cell and Molecular Track
Minor, Biology	Evolution, Ecology and Conservation Biology Track
M.S.	Tropical Conservation Biology and Environmental Science (described on the Web at http://tcbes.uhh.hawaii.edu)

Biology is the study of living things. Biology encompasses many areas of study: botany–the study of plants; zoology–the study of animals; microbiology–the study of living things too small to be seen with the unassisted eye; ecology–the study of relationships between living things and their environment; cell biology–the study of structures and activities of individual cells; molecular biology and genetics–the study of inherited characteristics and the molecular basis of their inheritance; and biochemistry–the study of the complex chemical composition and chemical activities of living things.

Mission Statement

The mission of the Department of Biology is to provide students at the University of Hawai'i at Hilo with sound and rigorous training in the biological sciences. The program emphasizes hands-on, individualized learning for students and active faculty research with opportunities for students to participate.

Goals for Student Learning in the Major

The Biology program trains students in a wide variety of biological disciplines ranging from ecology, evolution, and conservation biology to cell and molecular biology. Two degree options and multiple tracks prepare students for the job market or further study in graduate school in the biological sciences, as well as professional schools in medicine, dentistry, veterinary medicine, and other health related programs. The program also provides the scientific background for teaching biology at the intermediate and high school levels.

Students in all tracks acquire a thorough grounding in the major topical areas of biology, including:

- Cell Biology: biochemistry and cell organelle processes, macromolecules, enzyme activity and regulation, and cell-cell communication
- Molecular Biology and Genetics: molecular genetics, including DNA replication and mutation, gene structure, regulation of gene expression, bacteriophages and viruses, and genetic engineering
- Organismal Biology: diversity of organisms, including phylogenetic relationships, classification, morphology, life histories, and general biology of all life forms; adaptations of organisms to habitats; and origin of life
- Population Biology, Evolution, and Ecology: natural selection and population genetics, patterns of evolution, physical environmental influences, population ecology, community ecology, ecosystems, and human impacts

Biology majors also acquire analytical skills for applying scientific methodology to problems, hypothesis testing, and an understanding of the limitation of science as a way of knowing. They develop proficiency with quantitative concepts and familiarity with units of measure, statistical analyses, and the graphical and tabular presentation of data. They will also develop skill in oral and written presentation of scientific information.

Those non-biology majors who opt to fulfill part of their General Education requirements with a Biology course will gain an appreciation of modern biology to apply to understanding of current societal impacts of biology such as advances in biomedicine, environmental issues, and biological evidence in jury proceedings.

Special Aspects of the Biology Program

The two degree options available to undergraduates interested in studying biology are the Bachelor of Arts in Biology and the Bachelor of Science in Biology. A Biology minor is also available. Students in both degree programs have two tracks from which to choose: the "Cell and Molecular Track" and an "Ecology, Evolution, and Conservation Biology Track."

Instruction includes classroom, laboratory, and field experiences emphasizing the unique environment of Hawai'i. Majors are provided with individual attention and the opportunity to work on research projects directed by the faculty. Minority students headed for professional careers in the health sciences may apply for participation in UH Hilo's Minority Biomedical Research Support Program funded by the National Institute of Health.

All Biology majors complete a capstone seminar course. They research a topical issue in the biological sciences, organize the

material, and make a critical oral presentation with illustrations. This presentation is reviewed by faculty and by student peers and evaluated for the quality of scientific preparation, delivery, and audiovisual aids.

Students also complete one or more senior-level laboratory courses that qualify for Writing Intensive credit. In these courses, they write a series of laboratory reports demonstrating their ability to perform experiments and to organize, analyze, and interpret the quantitative results of experimental work.

BIOL 101 and BIOL 101L are non-majors courses not credited toward the major or minor in Biology.

In order to graduate with a Biology major in four years, students are strongly urged to begin in their freshman year to take chemistry courses, which are often prerequisites for required biology courses. Students are reminded that they must not only fulfill the requirements below for the major but also meet all of the University's other baccalaureate degree requirements. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.) Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered, information that is available for each course in the listing at the back of this Catalog. To ensure progress toward graduation, **students are strongly encouraged to meet with an advisor each semester before registering.**

BIOLOGY, BACHELOR OF ARTS DEGREE: REQUIREMENTS FOR CELL and MOLECULAR TRACK	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Required courses from Biology	
• BIOL 175-175L Introduction to Biology I	4
• BIOL 176-176L Introduction to Biology II	4
• BIOL 270-270L Intermediate Cell and Molecular Biology	4
• BIOL 281 General Ecology	3
• BIOL 357 Evolution	3
• BIOL 375-375L Biology of Microorganisms	4
• BIOL 380 Biostatistics	3
• BIOL 410-410L Biochemistry	5
• BIOL 415 Cell Biology	3
• BIOL 466 Genetics	3
• BIOL 495A&B Seminar (2 semesters)	2
• AND at least ONE additional advanced laboratory course, 415L OR 466L	1-2
2. Required courses from related fields	
• CHEM 124-124DandL General Chemistry I	5
• CHEM 125-125DandL General Chemistry II	5
• CHEM 241-241L and CHEM 242-242L Organic Chemistry	8
• PHYS 106-170L, 107-171L College Physics **OR**	8 or
PHYS 170-170L, 171-171L General Physics	10
• MATH 115 Applied Calculus **OR**	3 or
MATH 205 Calculus I	4
Total.....	**68-72**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major[1]	
Total.....	**21-25**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Biology: Cell and Molecular Track	**120**

[1] The B.A. in Biology: Cell and Molecular Track requires a minimum of 17 upper division (300-400 level) semester hours to graduate.

BIOLOGY, BACHELOR OF ARTS DEGREE: REQUIREMENTS FOR ECOLOGY, EVOLUTION and CONSERVATION TRACK	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Required courses from Biology	
• BIOL 175-175L Introduction to Biology I	4
• BIOL 176-176L Introduction to Biology II	4
• BIOL 270-270L Intermediate Cell and Molecular Biology	4
• BIOL 281-281L General Ecology	4
• BIOL 357-357L Evolution	4
• BIOL 380 Biostatistics	3
• BIOL 381 Conservation Biology	3
• BIOL 443 Ecological Animal Physiology	3
• BIOL 481-481L Theory and Methods of Ecology and Evolution	5
• BIOL 495A&B Seminar (2 semesters)	2
2. Required courses from related fields	
• CHEM 124-124DandL General Chemistry I	5
• CHEM 125-125DandL General Chemistry II	5
• CHEM 241-241L and CHEM 242-242L Organic Chemistry	8
• PHYS 106-170L, 107-171L College Physics **OR**	8 or
PHYS 170-170L, 171-171L General Physics	10
• MATH 115 Applied Calculus **OR**	3 or
MATH 205 Calculus I	4
Total.....	**65-68**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major[2]	
Total.....	**25-28**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Biology: Ecology, Evolution and Conservation Track	**120**

[2] The B.A. in Biology: Ecology, Evolution and Conservation Track requires a minimum of 15 upper division (300-400 level) semester hours to graduate.

BIOLOGY, BACHELOR OF SCIENCE DEGREE: REQUIREMENTS FOR CELL and MOLECULAR TRACK	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 in Major Requirements, Group 2, fulfills 3 out of 9 required semester hours of Humanities)**	6 more
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**24**
GROUP 2. Major Requirements	
1. Required courses from Biology	
• BIOL 175-175L Introduction to Biology I	4
• BIOL 176-176L Introduction to Biology II	4
• BIOL 270-270L Intermediate Cell and Molecular Biology	4
• BIOL 281 General Ecology	3
• BIOL 357 Evolution	3
• BIOL 375-375L Biology of Microorganisms	4
• BIOL 380 Biostatistics	3
• BIOL 410-410L Biochemistry	5
• BIOL 415-415L Cell Biology	4
• BIOL 466-466L Genetics	5
• BIOL 495A&B Seminar (2 semesters)	2
2. Required courses from related fields	
• CHEM 124-124DandL General Chemistry I	5
• CHEM 125-125DandL General Chemistry II	5
• CHEM 241-241L and CHEM 242-242L Organic Chemistry	8
• CHEM 333 Quantitative Analysis with Laboratory	5
• CHEM 350-350L Physical Chemistry for the Life Sciences **OR**	5 or
CHEM 351-351L Physical Chemistry I	4
• PHYS 170-170L, 171-171L General Physics	10
• MATH 205-206 Calculus I-II	8
• ENG 225 Writing for Science and Technology	3
Total.....	**89-90**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major[3]	
Total.....	**9-10+**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Biology: Cell and Molecular Track	**123 -123+**

[3] The B.S. in Biology: Cell and Molecular Track requires a minimum of 35 upper division (300-400 level) semester hours to graduate.

BIOLOGY, BACHELOR OF SCIENCE DEGREE: REQUIREMENTS FOR ECOLOGY, EVOLUTION and CONSERVATION TRACK	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 in Major Requirements, Group 2, fulfills 3 out of 9 required semester hours of Humanities)**	6 more
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**24**
GROUP 2. Major Requirements	
1. Required courses from Biology	
• BIOL 175-175L Introduction to Biology I	4
• BIOL 176-176L Introduction to Biology II	4
• BIOL 270-270L Intermediate Cell and Molecular Biology	4
• BIOL 281-281L General Ecology	4
• BIOL 357-357L Evolution	4
• BIOL 375-375L Biology of Microorganisms	4
• BIOL 380 Biostatistics	3
• BIOL 381 Conservation Biology	3
• BIOL 410-410L Biochemistry	5
• BIOL 443-443L Ecological Animal Physiology	5
• BIOL 466-466L Genetics	5
• BIOL 481-481L Theory and Methods of Ecology and Evolution	5
• BIOL 495A&B Seminar (2 semesters)	2
2. Required courses from related fields	
• CHEM 124-124DandL General Chemistry I	5
• CHEM 125-125DandL General Chemistry II	5
• CHEM 241-241L and CHEM 242-242L Organic Chemistry	8
• PHYS 170-170L, 171-171L General Physics	10
• MATH 205-206 Calculus I-II	8
• ENG 225 Writing for Science and Technology	3
Total.....	**91**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major[4]	
Total.....	**8 - 8+**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Biology: Ecology, Evolution and Conservation Track	**123 - 123+**

[4] The B.S. in Biology: Ecology, Evolution and Conservation Track requires a minimum of 36 upper division (300-400 level) semester hours to graduate.

Additional Courses Recommended For Specific Plans After Graduation:

- **Graduate studies in biology:** At least two semesters of Directed Studies (BIOL 199, 299, 399, or 499).
- **Application to medical, dental, veterinary school:** At least one semester of Directed Studies (BIOL 199, 299 ,399, or 499) and participation in volunteer and shadowing experiences in the local medical, dental, or veterinary community as appropriate.
- **Careers that may include teaching:** one or more semesters of Teaching Assistance and Tutoring in Biology (BIOL 496).
- **Careers in environmental biology:** a course in geographic information systems (GEOG 480 or GEOL 445).

Notes:
1. BIOL 101 and BIOL 101L are non-major courses and do not count toward the major or minor in Biology.
2. Students should begin chemistry courses their freshmen year so they can graduate in four years. Chemistry courses are often prerequisites for required biology classes.
3. Students must earn at least a 2.0 GPA in courses required for the major.
4. The upper division credits needed for graduation for all degrees in Biology are met in the process of completing these degrees.
5. To earn a Bachelor of Arts or Bachelor of Science degree in Biology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
6. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
7. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Biology Minor

21 semester hours

Cell and Molecular Track Requirements

BIOL 175-175L (4) Introduction to Biology I
BIOL 176-176L (4) Introduction to Biology II
BIOL 270 (3) Intermediate Cell and Molecular Biology
BIOL 275-275L (4) Fundamentals of Microbiology OR
BIOL 375-375L (4) Biology of Microorganisms
BIOL 281 (3) General Ecology
AND three additional semester hours of biology in courses numbered above BIOL 125 (3).

Ecology, Evolution and Conservation Biology Track Requirements

BIOL 125 (3) Introduction to Cell and Molecular Biology OR
BIOL 270 (3) Intermediate Cell and Molecular Biology
BIOL 175-175L (4) Introduction to Biology I
BIOL 176-176L (4) Introduction to Biology II
BIOL 156 (3) Natural History and Conservation of the Hawaiian Islands
BIOL 281-281L (4) General Ecology
BIOL 357 (3) Evolution

CHEMISTRY

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Chemistry is the study of matter and energy and the changes that they undergo. Everything that is known in the physical universe is made up of either matter or energy and the rest is just empty space. Chemistry is often referred to as the central science. All other branches of the natural sciences will touch upon the subject of chemistry and, indeed, here at UH Hilo all majors in the Natural Sciences Division except for Mathematics and Physics are required to take courses in chemistry.

The mission of the undergraduate degree program in chemistry is to offer a general and specific set of courses in several areas in chemistry that will provide students within its majors a fundamental understanding, through qualitative and quantitative reasoning, of matter and energy and the changes that they undergo. The program is designed to prepare students for advanced degrees in graduate or professional programs and for students who are seeking to immediately enter the work force as teachers and technicians.

Curricula

The Chemistry Program offers two majors designed to meet the differing needs of students:

B.A., Chemistry. A traditional curriculum with a strong physical science emphasis.
B.A., Chemistry-Health Sciences. Combines the study of chemistry with 21 semester hours of selected biology courses.

Goals for Student Learning in the Major

Both programs of study are designed to provide students with the following:

1. A fundamental understanding of analytical, inorganic, instrumental, organic and physical chemistry.
2. A basic understanding of physics.
3. Basic knowledge of the differential and integral calculus and statistical analysis.
4. Basic chemistry laboratory skills.
5. Skills to do chemical research.
6. The ability to engage in scientific inquiry.
7. An understanding of the relationship of chemistry and the environment.
8. The experience of preparing and presenting a seminar.

In addition, the Health Sciences Emphasis imparts to students a basic knowledge of anatomy, physiology, biochemistry, and genetics.

Prospects for Chemistry Graduates

Either B.A. curriculum prepares the student for the job market immediately after graduation or for further education in graduate or professional school. As the name implies, the Health Science emphasis is designed for students who are seeking careers in health related fields such as medicine. Chemistry majors who also complete the UH Hilo Teacher Education Program may apply for initial basic teaching certificates in elementary and secondary education in the State of Hawai'i.

Chemistry for Non-Majors

Non-chemistry majors who choose to fulfill part of their General Education requirements with Chemistry 114 will gain insight into the chemical nature of the universe. It is also possible to pursue a minor in chemistry. Requirements for all programs are described below.

CHEMISTRY REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Required courses from Chemistry	
• CHEM 124-124D-124L Chemistry I	5
• CHEM 125-125D-125L Chemistry II	5
• CHEM 241-241L and 241-241L Organic Chemistry	8
• CHEM 333 Quantitative Analysis with Lab	5
• CHEM 351-351L Physical Chemistry I	4
• CHEM 352-352L Physical Chemistry II	4
• CHEM 421 Intermediate Inorganic Chemistry	3
• CHEM 431-431L Instrumental Analysis	4
• CHEM 495A&B Seminar (2 semesters)	2
• **AND** a minimum of SIX additional hours in CHEM courses above the 200 level. (By agreement of the department, students may substitute courses in related fields.)	6
2. Required courses from related fields	
• MATH 205-206 Calculus I-II	8
• MATH 231 Calculus III	3
• PHYS 170-170L, 171-171L General Physics I and II	10
Total.....	**67**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**26**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Chemistry	**120**

Additional recommended courses include:

- Eight semester hours of a foreign language (French, Spanish, or Japanese)
- ENG 225 (Writing for Science and Technology)
- MATH 300 (Ordinary Differential Equations)
- MATH 311 (Introduction to Linear Algebra)

CHEMISTRY— HEALTH SCIENCES REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Required courses from Chemistry	
• CHEM 124-124D-124L Chemistry I	5
• CHEM 125-125D-125L Chemistry II	5
• CHEM 241-241L and 241-241L Organic Chemistry	8
• CHEM 333 Quantitative Analysis with Lab	5
• CHEM 351-351L Physical Chemistry I	4
• CHEM 431-431L Instrumental Analysis	4
• CHEM 495A&B Seminar (2 semesters)	2
• **AND** a minimum of THREE additional hours in CHEM courses above the 200 level. CHEM 341(Qualitative Organic Analysis) or CHEM 441 (Intermediate Organic Chemistry) is recommended.	3
2. Required courses from related fields	
• MATH 205 Calculus I	4
• MATH 206 Calculus II **OR**	4 **OR**
MATH 121 Introduction to Statistics and Probability	3
• PHYS 106-170L, 107-171L College Physics I and II with labs	8
• BIOL 125 Introduction to Cell and Molecular Biology **OR**	3 **OR**
BIOL 270 Intermediate Cell and Molecular Biology	3
• BIOL 243-243L Human Anatomy and Physiology, Sem 1 **OR**	4 **OR**
BIOL 275-275L Fundamentals of Microbiology	4
• BIOL 244-244L Human Anatomy and Physiology, Sem 2 **OR**	4 **OR**
BIOL 415-415L Cell Biology	4
• BIOL 410-410L Biochemistry	5
• BIOL 466-466L Genetics	5
Total.....	**72-73**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**20-21**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Chemistry—Health Sciences	**120**

Additional recommended courses include:

- Eight semester hours of a foreign language (French, Spanish, or Japanese)
- ENG 225 (Writing for Science and Technology)
- MATH 300 (Ordinary Differential Equations)
- MATH 311 (Introduction to Linear Algebra)

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. Physical Chemistry majors must take at least 21 upper division credits (courses 300 or above); Health Sciences Chemistry majors must take at least 24 upper division credits (courses 300 or above).
3. To earn a Bachelor of Arts in Chemistry, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Chemistry Minor

22 semester hours

Requirements:

CHEM 124-124D-124L (5)	General Chemistry I
CHEM 125-125D-125L (5)	General Chemistry II
CHEM 241-241L and 242-242L (8)	Organic Chemistry

AND one 4-credit CHEM course with laboratory at the upper-division level (300 or above)

COMMUNICATION

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Rayna Morel, M.A.

Department of Communication

The UH Hilo Department of Communication offers a communication major and minor and courses in the areas of interpersonal, intercultural, organizational, public, and mass communication.

The Department of Communication provides a strong foundation in human communication theories and practices. Our program emphasizes multicultural team and community building in a personalized learning environment. The program emphasizes multicultural perspectives, authentic communication, valuing diversity, professional and personal empowerment, and enhanced self-awareness. Students develop oral, written, group, interpersonal, intercultural, and organizational communication skills that prepare them for leadership and citizenship in a diverse civil democratic society.

Mission

The mission of the Communication Department is guided by the assumption that culture permeates every level of communication. Consequently, our mission is to:

1. explore and promote diverse theories and perspectives related to communication;
2. facilitate practical skills for effective communication in multicultural contexts;
3. develop leaders that can relate to global and local cultures;
4. cultivate healthy individuals, relationships, organizations, and communities;
5. promote dialogue among diverse individuals, communities, and organizations.

We seek to empower our students by facilitating the development of skills that encourage replacing monologue with dialogue, and fragmentation with connection. Students are encouraged to develop projects relevant to their personal and professional goals. They develop the talents and skills necessary to succeed as leaders and change agents in a wide variety of settings.

Special Aspects of the Communication Program

Communication and Culture Emphasis

Located in one of the most diverse areas of the world, our program places the relationship between culture and communication at the center of our curriculum. Our program has a special emphasis on communication and culture as they influence and are influenced by wisdom, context, process, and community.

- *Wisdom:* All cultures have accumulated indigenous wisdom and information that provides valuable insights on the relationship between humanity and communication. Consequently, our department is committed to the advancement of diverse theoretical standpoints. We explore both traditional and non-traditional theories of communication. We seek to provide students with a wide range of communication models and concepts that they can meaningfully relate to their diverse cultural backgrounds and experiences.

- *Context:* Given UH Hilo's unique location, our department especially aims to broaden and deepen our students' understanding of communication in Pacific-Asian contexts. We strive to encourage students to continually consider the role that context plays in organizational, professional, interpersonal, and mass communication. Additionally, we foster the ability to respect, adapt to, bridge, change, translate, and transcend this context, as is appropriate.

- *Process:* Culture can be a contested zone that generates conflicting views and clashes of opinions. Conflict, however, also opens up the possibility of dialogue. As the metaphor of "island laboratory" indicates, our department encourages students to experience the multicultural aspects of Hawai`i. We believe that seeing local events in the global context and globalization in the local context is an important asset of a world citizen in the 21st century.

- *Community:* Communication and culture work together in the formation of communities. In an "ideal" multicultural community, human dialogue overshadows monologue, and connection replaces fragmentation. Our program encourages multicultural team-building, community-building, and dialogue. Further, our program seeks to empower our students as facilitators or multicultural dialogue.

Lambda Pi Eta: National Communication Association Honor Society

Students with a 3.25 grade point average in the major and 3.0 overall are eligible for induction in the Mu Pi UH Hilo chapter of the National Communication Association Honor Society. Membership in this prestigious organization demonstrates students' achievement, their commitment to communication, and their future potential to the academic and professional communities.

Prospects for Graduates

The ability to communicate effectively in diverse contexts is highly desirable. In a report on the fastest growing careers, the U.S. Department of Labor stated that communication skills will be in demand well into the 21st century. When 1,000 faculty members from a cross-section of disciplines were asked to identify basic competencies for every college graduate, communication skills topped the list. Executives with Fortune 500 companies indicate the college students need better communication skills that include the ability to work in teams and with people from diverse backgrounds.

With its multicultural emphasis, our program provides a foundation for students to pursue graduate study of careers in education, business, counseling, social or human services, the media, journalism, law, public relations, health care, organizational management, community development, performance, or in any other field where multicultural communication competence is crucial.

Goals for Student Learning in the Major

Upon graduation students should posses the following knowledge and abilities:

A. *Knowledge. Students will be able to:*
   - Participate in the communication discipline's discourse community.
   - Describe the major paradigms, theories, concepts, and subfields within the discipline.
   - Discuss non-western and alternative communication perspectives.
   - Explain the relationship of culture and communication in regard to wisdom, context, process, and community.

B. *Performance Skills. Students will be able to:*
   - Make effective public or professional presentations.
   - Demonstrate interpersonal communication competence.
   - Facilitate dialogue and group discussions.
   - Display sensitivity to the perspectives of others.

C. *Capstone Paper or Project. Students will be able to:*
   - Demonstrate their learning through the successful completion of a "capstone" paper or project.
   - Before graduation, design, implement, and/or evaluate a research project, a communication intervention, or a campaign. This project will demonstrate the student has mastered the knowledge and performance skills of A and B as stated above.

COMMUNICATION REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(3 of the 9 required hours are met in Major Requirements, Group 2)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Core Knowledge and Behaviors Courses	
COM 200 Fundamentals of Interpersonal Communication	3
COM 251 Public Speaking	3
COM 270 Introduction to Theories of Human Communication	3
2. Culture or Diversity Course (Choose ONE of the following 3-semester hour courses)	3
COM 240 Health, Culture, and Diversity	
COM 260 Mass Communication	
COM 359 Intercultural Communication	
3. COM Electives and Advanced Courses (18 semester hours, at least 9 of which must be 300-400 level COM courses) (See Note 3 below)	18
4. Capstone Paper or Project (Choose ONE 3-semester-hour course from the following courses)	3
COM 400 Seminar in Human Dialogue	
COM 441 Leadership and Communication	
COM 444 Public Relations	
COM 451 Communication and Ethnography	
COM 456 Asian Perspectives on Communication	
COM 460 Mass Media Analysis	
COM 494 Special Topics (see Note 4 below)	
COM 499 Directed Studies (see Notes 4 and 10 below)	
Total.....	**33**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 6 below) **Total.....**	**50**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Communication	**120**

Notes:

1. A major in Communication may be declared after the completion of a minimum of 30 UH Hilo semester hours (and/or recognized college transfer hours) with a cumulative GPA of at least 2.5.
2. A 2.0 or better is required in every required course above in COM and ENG.
3. With advisor approval 6 semester hours of the total elective hours may be from a related discipline.
4. A student who chooses COM 494 or 499 to complete the capstone course requirement MUST have this choice approved by the student's advisor and the department. It is strongly recommended that students complete COM 350 (Research Methods) before pursuing this option.
5. A minimum of 12 semester hours out of the total 33 semester hours required for the major must be taken from 300-level courses or above.
6. At least 45 total semester hours must be earned in upper division courses (300-level courses or above) for graduation.
7. To earn a Bachelor of Arts degree in Communication, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
8. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
9. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

10. Policies and Criteria for COM 499 (Directed Studies). In order to support students in meeting their personal and professional goals, the Communication Department offers majors opportunities to pursue their interested through the Directed Studies option.
    - A directed study must be in, or related to, the field of communication.
    - A directed study typically requires the submission of a paper (or papers) totaling a minimum of 16 typed, double-spaced pages.
    - A written 1-2 page proposal must (1) describe the nature of the directed study and the criteria for evaluation, (2) include a summary statement of the study and a list of at least five references to be used for the study, and (3) be approved by the directing faculty member and the department chair before the registration deadline.
    - Each hour of credit must entail at least four hours per week of intensive study and/or research.
    - In cases that do not explicitly meet the above criteria, the communication faculty will determine whether or not the proposal should be accepted, modified, or rejected.

The Communication Minor

21 Semester Hours

Requirements:

1. Core Knowledge and Behaviors Courses (9 semester hours)
- COM 200 Fundamentals of Interpersonal Communication
- COM 251 Public Speaking
- COM 270 Introduction to Communication Theory

2. Culture or Diversity Elective (Choose ONE course from the following 3-semester-hour courses)
- COM 240 Health, Culture, and Diversity
- COM 260 Mass Communication
- COM 359 Intercultural Communication

3. An additional 9 semester hours of Communication electives (at least 6 hours must be from 300-400 level courses). With approval of an advisor, 3 semester hours may be from a related discipline.

COMPUTER SCIENCE

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Computer science is not the science of the computer – it is the science of problem-solving using a computer. If you are a computer science major, you will see this in many forms – the study of algorithms, of machine hardware, of programming languages, operating systems, database design, and more. And the career opportunities are equally varied – software engineer, database manager, network administrator, project manager, and many others. The Bureau of Labor Statistics, part of the U.S. Department of Labor, gives the following information (the latest available) in its summary of occupations with the largest projected job growth, 2004-2014; not only are all these in the top 30 of projected growth, they are in the top 10 of the fastest-growing list in terms of average salary.

Occupation	Projected % growth in job opportunities from 2004 to 2014
Computer systems software engineer	43
Computer applications software engineer	48
Computer systems analyst	31
Database administrator	38
Network systems and data communication analyst	56

And because computers are so pervasive, a computer science degree gives you the opportunity to make an impact in the world of science, business, health care, education, the law, art, entertainment, or almost anything else that interests you. Even if you are not a computer science major, taking computer science courses will improve your logical thinking and problem solving skills.

Mission Statement

The mission of the Computer Science Department is to:

- Educate computer science majors in a rigorous B.S. degree program so that graduates are prepared to enter high-quality technical professional positions or go on to graduate programs
- Provide computer education that serves the needs of various student components of the University

Goals for Student Learning in the Major

The Bachelor of Science degree in Computer Science is designed to prepare students for success as computer science professionals. Students graduating from this program should be able to apply their knowledge to a specific design problem, including detailing the specifications, analyzing the problem, and providing a design and implementation that functions as desired, while meeting criteria for performance, reliability, maintainability, and cost. A broad background in the humanities and social sciences, together with a course emphasizing professional ethics, provides students a basis for understanding the societal implications of work performed in their chosen profession.

Students finishing this program should also be prepared for graduate studies in computer science.

Special Features of the Computer Science Program

Computer Science at UH Hilo offers you small class sizes, very available faculty who take a great interest in student success, opportunities for team experiences, and a strong sense of community among the upper-division students. Students in this program generally score above the national average on the Major Field Achievement Test in Computer Science, and graduates are employed by major companies in Hawai'i and on the mainland.

The year-long software engineering sequence, CS 460-461, provides a project-based capstone experience that draws on the knowledge and skills made available from previous courses and emphasizes the teamwork needed to solve real-world problems.

The Department also offers a number of courses designed for non-computer-science majors: CS 100 (Principles of Computer Science), CS 101 (Digital Tools for the Information World), CS 102/MATH 111 (Microcomputer Applications for Sciences), CS 110 (Visual Basic Programming), CS 130 (Beginning Graphics and Game Programming), CS 135 (Narrative Programming), CS 200-201 (Web Technology I and II), and CS 300 (Web Site Management). These courses are heavily laboratory-oriented, giving students considerable hands-on experience. In order to assist students in mastering the technologies they encounter in these courses, the Department has developed a number of learning aids, including specialized laboratory manuals, specialized software, audio-visual tutorial files, and carefully structured laboratory exercises.

The UH Hilo Computer Science Department occupies three labs, two classrooms, a network administrative office, and several nearby faculty offices. All laboratory and office workstations are part of a local area network and also have high-speed Internet connections. All workstations are set up with connections to both the Department's Windows servers and Linux servers, as instructional and research needs require. In addition, the department has its own supercomputer, an IBM cluster of 128 nodes connected as a single system, each node with two .933 GHz Intel Pentium III processors with 1 GB of RAM. This resource supports research in parallel processing and compute-intensive applications.

COMPUTER SCIENCE REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math courses in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(Humanities courses in Group 2 fulfill 6 of the 9 semester hours of this requirement)**	3 more
5. Social Sciences	9
6. Natural Sciences **(Science courses in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**21**
GROUP 2. Major Requirements	
1. Humanities Required Courses	
COM 251 Public Speaking	3
ENG 209 Writing for Business **OR**	3
ENG 225 Writing for Science & Technology	
2. Mathematics Required Courses	
Math 205 Calculus I	4
Math 206 Calculus II	4
Math 311 Introduction to Linear Algebra	3
3. Natural Science Required Courses	
Phys 170, 170L General Physics I plus Lab	5
Phys 171, 171L General Physics II plus Lab	5
Choose one from the following courses:	3-4
o ASTR 180 or 181	
o BIOL 125 or 175-175L or 176-176L or 275-275L	
o CHEM 124	
o GEOL 111	
o MARE 201	
4. Computer Science Required Core Courses	
CS 141 Discrete Mathematics for Computer Science I	3
CS 150 Introduction to Computer Science I	3
CS 151 Introduction to Computer Science II	3
CS 241 Discrete Mathematics for Computer Science II	3
CS 266 Computer Organization and Assembly Language	3
CS 321 Data Structures	3
CS 407 Introduction to Numerical Analysis I	3
CS 410 Elements of Computer Architecture	3
CS 420 File Management	3
CS 430 Operating Systems	3
CS 450 Organization of Programming Languages	3
CS 460 Software Engineering I	3
CS 461 Software Engineering II	3
CS 470 Theory of Computing	3
CS 495 CS Professional Seminar	1
5. Computer Science Required Elective Courses	
CS 340 Graphical User Interfaces **OR** CS 350 Systems Programming	3
Two courses from the following:	6
CS 421 Database Management System Design	
CS 431 Computer Networks and Data Communications,	
CS 451 Compiler Theory	
One other 400 level CS course not previously taken	3
Total.....	**85-86**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 3 below)	
Total.....	**18**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Computer Science	**124-125**

Notes:
1. A minimum of a 2.0 cumulative GPA is required.
2. A minimum of 2.0 or better in each CS course required for the degree and in MATH 311.
3. 45 upper division (300-400 level) semester hours are required.
4. To earn a Bachelor of Science degree in Computer Science, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering and to use the helpful planning aids provided by the Department at http://cs.uhh.hawaii.edu/cs/.

The Computer Science Minor

18 semester hours

Students pursuing non-Computer Science degrees may minor in Computer Science by completing the following requirements with a GPA of at least 2.0 in every course:

CS 141 (3)	Discrete Mathematics for Computer Science I
CS 150 (3)	Introduction to Computer Science I
CS 151(3)	Introduction to Computer Science II
CS 321 (3)	Data Structures

Plus two 400-level Computer Science electives for a total of 6 semester hours.

Certificate In Database Management

25 semester hours

The Certificate in Database Management is intended to give students a thorough, technical foundation in the theory, design, implementation and application of databases.

Required courses:

MATH 205 (4)	Calculus I
CS 141 (3)	Discrete Mathematics for Computer Science I
CS 150 (3)	Introduction to Computer Science I
CS 151 (3)	Introduction to Computer Science II
CS 321 (3)	Data Structures
CS 420 (3)	File Management
CS 421 (3)	Database Management System Design
CS 422 (3)	Advanced Database Systems

Students must complete CS 150, CS 151, and MATH 205 or the equivalent with a grade of "C" or better in each course before applying for admission to the certificate program.

Students must obtain a grade of "C" or better in each required course in order to be awarded the certificate.

Certificate In E-commerce Technology And Business

21 semester hours

The Certificate in E-Commerce Technology and Business offers a unique combination of computer science and business courses. The intent is to produce highly-skilled workers who have both a strong technical foundation in Internet site development and management, and an understanding of how businesses must plan their structures and strategies to compete successfully in the world of e-Commerce.

Required courses:

CS 101 (3)	Digital Tools for the Information World
CS 200 (3)	Web Technology I
CS 201 (3)	Web Technology II
CS 300 (3)	Web Site Management
MGT 235 (3)	Planning, Process and Structure in Electronic Business
MKT 318 (3)	Internet Marketing
QBA 365 (3)	Managing Electronic Commerce

Students must complete ENG 100 and MATH 104 or the equivalent with a grade of "C" or better in each course before applying for admission to the certificate program.

EDUCATION PROGRAM

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Instructor:
T. Marcia Miller, M.A.

The UH Hilo Education Department provides preservice and inservice teachers with high quality, integrated, inquiry-and field-based professional development, serves as a resource to area educators who are meeting the challenges of teaching in a culturally rich, technologically advanced society, and conducts as well as guides action research to expand knowledge of teaching and learning. The Department offers a Teacher Education Program (TEP), which leads to initial licensure in the State of Hawai'i, and a Master of Education Program (M.Ed.) for the professional development of inservice teachers.

The need for qualified teachers in Hawai'i is constant. Shortage areas in the state include mathematics, science, vocational education, special education, and Hawaiian language, especially immersion programs. TEP graduates are successfully employed in teaching upon completion of the program. Hawai'i is currently a party to Interstate Certification Compact (ICC) approval, allowing graduates reciprocal licensure without transcript evaluation in most states. Graduates of the TEP may be eligible for teacher licensure by transcript evaluation in the states that are not ICC members.

Mission

The UH Hilo Education Department is dedicated to the holistic development of transformational educators who are committed to equity, empowerment, and a critical understanding of our world. The Department envisions its future as the heart of a learning community of caring, ethical, and creative people as faculty seek to fulfill the following mission: to promote the professionalization of teaching by providing and engaging in educational experiences that are holistic, empathic, artistic, rigorous, and transformational.

Teacher Education Program (TEP)

The TEP at UH Hilo is designed to qualify teacher candidates for a license issued by the State of Hawai'i, either at the elementary (grades K-6) or secondary (grades 7-12) level.

Goals for Student and Candidate Learning in the Teacher Education Program

TEP graduates will be recommended for state licensure, receive a Certificate in Teacher Education, and be able to:

- Engage students in appropriate experiences that support their development as independent learners
- Create and maintain a safe and positive learning environment
- Provide learning opportunities that are inclusive and adapted to diverse learners
- Foster effective communication in the learning environment
- Demonstrate knowledge of content
- Design and provide meaningful learning experiences
- Use active student learning strategies
- Use appropriate assessment strategies
- Demonstrate professionalism
- Foster parent and school community relationships

Requirements

Students who consider seeking licensure should ideally begin preparation during their undergraduate program of study. To ensure that they prepare adequately, students should contact the Education Department Office at (808) 974-7582 to make an appointment for advising.

To complete the TEP, students must:

A. Take the appropriate Content Preparation and Initial Education courses.

B. Apply and be accepted to the TEP cohort. Students must present passing scores on certain PRAXIS tests at that time. Details on admission criteria are provided below.

C. Take the appropriate courses required of candidates who have been admitted to the TEP cohort.

1. Initial Education Requirements for All TEP Students (9 semester hours)

- ED 310 (3) Introduction to Education
- ED 314 (3) Media and Technology
- ED 350 (3) Developmental Concepts of Learning

Note: Each of the above courses must be passed with a grade of "C" or better:

2. Content Preparation Requirements for All Elementary TEP Students (15 semester hours)

- ED 341 (3) Teaching Beginning Reading, Grades K-3
- ED 342 (3) Science for Elementary School Teachers
- ED 343 (3) Math for Elementary School Teachers
- ED 344 (3) Social Studies for Elementary School Teachers
- HPE 233 (3) Physical Education: Elementary

Note: Each of the above courses must be passed with a grade of "C" or better. Content preparation courses, in combination, must be passed with a 2.75 GPA or better.

3. Content Preparation Electives for Elementary TEP Students

- ED 346 (3) Teaching Children's Literature
  - DNCE 419 (3) Dance in Education
  - MUS 419 (3) Music for Elementary Teachers

4. Content Preparation Requirements for Secondary TEP Students Seeking Social Studies License: (6 semester hours)

Choose one US History course from the following:

- HIST 380, 381, 382, or 383 (3)

Choose one Hawaii course from the following:

- ANTH 386 (3) Hawaiian Culture before 1819 or
- GEOG 332 (3) Geography of the Hawaiian Islands or
- HIST 374 (3) History of Hawai`i

5. Content Preparation Requirements for Secondary TEP students:Non-English Majors seeking English license (15 semester hours)

Choose one sequence from the Literature Survey courses below:

- ENG 251-252 (6) Major Works of British Literature or
- ENG 253-254 (6) World Literature or
- ENG 351-352 (6) Survey of American Literature

Choose one course from the English Composition courses below:

- ENG 215 (3) Writing for Humanities and Social Sciences or
- ENG 315 (3) Advanced Composition or
- ENG 482 (3) Teaching Composition

Choose one course from the Language courses below.

- ENG 320 (3) History of the English Language
- ENG/LING 324 (3) Modern English Grammar and Usage
- ENG 347 (3) Pidgins and Creoles
- LING 102 (3) Introduction to Linguistics
- LING 121 (3) Introduction to Language

Choose one course from the Shakespeare courses below:

- ENG 461 (3) Shakespeare
- ENG 462 (3) Shakespeare II

NOTE: Some of the above courses have prerequisites, thereby adding to the total credit hour admission requirements.

Admission to the Teacher Education Program Cohort

Admission to the TEP Cohort in Elementary and Secondary fields is for Fall entry only, and enables a cohort of full-time teacher candidates to complete instructional and field experiences together during the Fall and Spring semesters. Applicants must have completed all degree and designated required Content Preparation courses listed above prior to the Fall semester entry into the cohort.

The priority deadline for admission for Fall is February 1. Applicants will be considered on a space available basis pending the acceptance of qualified applicants who met the priority deadline.

Applicants will be evaluated competitively on the following criteria:

- Completion of application packet (available at the UH Hilo Admissions Office or the Education Department Office)
- Completion of baccalaureate and designated Content Preparation and Initial Education course requirements
- Assessment of dispositions by faculty
- Minimum cumulative GPA of 2.75 at time of application.
- Passing scores established by the State on the PRAXIS Pre-Professional Skills Test (PPST) or Computer Pre-Professional Skills Test (C-PPST). PRAXIS test registration and State passing scores are available at www.ets.org/praxis and the UH Hilo Counseling Center, Student Services Building, (808) 974-7312)
- Interview with Education faculty, if deemed necessary
- For Elementary TEP applicants, minimum GPA of 2.75 and minimum GPA of 2.75 for Content Preparation courses
- For Secondary TEP applicants, minimum major GPA of 2.75 or passing scores established by the State on the appropriate Subject Area PRAXIS.
- For Secondary TEP applicants, passing scores established by the State on the Content Knowledge component of the appropriate Subject Area PRAXIS, except in those subject areas where no PRAXIS exam is offered

TEP Cohort Course Requirements

32 semester hours

FALL SEMESTER (18 semester hours)

Elementary Required Courses

ED 469 (1)	Principles of Instructional Planning for Elementary Education
ED 470 (3)	Diverse Learners in the Classroom
ED 471 (3)	Art of Classroom Management
ED 472 (4)	Elementary Integrated Math/Science Methods
ED 473 (4)	Elementary Literacy, Language Arts and Social Studies Methods
ED 479 (2)	Field Experience I
ED 483 (1)	Seminar in Teaching I

Secondary Required Courses

ED 469 (1)	Principles of Instructional Planning for Secondary Education
ED 470 (3)	Diverse Learners in the Classroom
ED 471 (3)	Art of Classroom Management
ED 474 (4)	Secondary Language Arts and Social Studies Methods **OR**
ED 475 (4)	Secondary Math/Science Methods
ED 476 (2)	Content Area Literacy
ED 478 (2)	Issues in Assessment & Evaluation in Secondary Schools
ED 479 (2)	Field Experience I
ED 483 (1)	Seminar in Teaching I

SPRING SEMESTER (14 semester hours)

Required Courses for Both Elementary and Secondary TEP Students

ED 484 (1)	Effective Teaching Portfolio
ED 485 (3)	Seminar in Teaching II
ED 486 (10)	Field Experience II

Academic Status, Progression, and Readmission Policies

Participants are required to be enrolled full-time during both Fall and Spring semesters. During this time candidates are ex-

pected to devote all their energies and efforts to the course work, field experiences, and other requirements of the program. There are no elective courses.

Grades below "C" will not be accepted in courses designated to fulfill certificate requirements. Required TEP courses, unless designated "credit/no credit," may **not** be taken on a "credit/no credit" basis. A 3.0 GPA must be maintained in all cohort program course work. A candidate whose GPA in cohort courses falls below 3.0 may be dismissed from the program. In order to enroll in cohort courses, students must be admitted as teacher candidates into the program. Candidates must progress through the cohort coursework and field experiences in two consecutive semesters. Spring semester enrollment is based on recommendation of the Education faculty. A candidate may be removed from a field experience when, in the judgment of the Education faculty, Department of Education cooperating teacher, and school principal the student is disrupting the educational process or is not making satisfactory progress toward meeting the requirements of the program. Such removal may result in complete dismissal from the program.

Students and candidates who stop out of the University must reapply and meet all criteria in effect for the respective Admission deadline.

Master of Education Program

The Department offers a Master of Education Program (M.Ed.) for the professional development of inservice teachers. For details, refer to the Department Web site.

ENGINEERING PROGRAM

Pre-Engineering Advisor:
John H. Gersting, Ph.D. (College Hall 3-C, johng@hawaii.edu)
Natural Sciences Division Office:
Life Sciences 2, (808) 974-7383

Engineers apply scientific and mathematical principles to design, create, and operate useful devices, structures, or processes in an efficient and economical manner. Many branches of engineering exist within this broad definition. Examples are the following:

- ***Electrical Engineering:*** Electrical engineers deal with the capture and transmission of energy and information (think of fuel cells, solar panels, hydroelectric plants, satellite transmission, TV, your cell phone).
- ***Mechanical Engineering:*** Mechanical engineers harness power and mechanical forces to develop all sorts of machines (think of supersonic jets, automobiles, robots, and even artificial organs). They also design and build heating and cooling systems, manufacturing facilities, and machine tools.
- ***Civil Engineering:*** Civil engineers design and supervise construction of visible infrastructure items (think of bridges, highways, airports, skyscrapers, or waste-water treatment facilities).
- ***Systems Engineering:*** Systems engineers help integrate many different components of a project to see that they work together smoothly and still meet performance, scheduling, and cost goals.

Students can complete the first two years of their engineering program at the University of Hawaii at Hilo by following the suggested schedule below. This two-year program can serve as preparation for transfer to many Civil, Electrical, or Mechanical Engineering programs.

Year 1 Suggested Schedule

Semester I (15 semester hours)		Semester II (16 semester hours)	
ENG 100	Composition	CS 150	Introduction to Computer Sci I
CHEM 124, 124L	Chemistry I plus lab	CHEM 125	Chemistry II
COM 251	Speech	PHYS 170, 170L	Physics I plus lab
MATH 205	Calculus I	MATH 206	Calculus II

Year 2 Suggested Schedule

Semester I (17 semester hours)		Semester II (16 semester hours)	
CE 270	Applied Mechanics I	CE 271	Applied Mechanics II
MATH 231	Calculus III	MATH 232	Calculus IV
PHYS 171, 171L	Physics II plus lab	EE 211	Basic Circuit Analysis I
HIST 151	World History I	HIST 152	World History II
Hum/SocSci	Elective	ECON 100	Introduction to Economics

ENGLISH

Department Chair:
Sherryll S. Mleynek, Ph.D. (sherryll@hawaii.edu)
Humanities Division Office:
Kanakaʻole Hall 214, (808) 974-7479
Web Page: www.uhh.hawaii.edu/academics/cas/humanities/english.php

Professors:
April Komenaka, Ph.D.
David R. Miller, Ph.D.
Kenith L. Simmons, Ph.D.
Associate Professors:
Sherryll S. Mleynek, Ph.D.
Jennifer Wheat, Ph.D.
Assistant Professors:
Seri Luangphinith, Ph.D.
Mark Panek, Ph.D.
Jennifer Richardson, Ph.D.
Instructors:
Luke Bailey, M.A.
Karla Hayashi, M.A.
Lauri Sagle, M.A.
Susan Wackerbarth, M.A.

The English Department serves all UH Hilo students through its introductory and specialized courses in composition, its literature survey courses, and its linguistics courses. These are designed to strengthen students' awareness of the complexity and power of the written language and to increase students' ability to think critically and to express themselves logically and persuasively.

The English major is designed to expose students to a wide range of intellectual history through the reading and analysis of important literary works. The English Department offers students a choice among four major emphases leading to the Bachelor of Arts in English:

I. The Literary Studies Emphasis
II. The Rhetoric, Composition, and Creative Writing Emphasis
III. The Cultural Studies Emphasis
IV. The ESL/TESOL/Linguistics emphasis.

Each emphasis requires careful, critical reading of and writing about English language texts.

I.The Literary Studies Emphasis, combined with a well-balanced General Education program, provides English majors with a comprehensive humanities education, giving students a thorough grounding in the literary tradition in English as well as the tools for addressing the multifaceted questions that literary study raises, including issues of gender, class, and ethnicity. Literature courses address great works written or translated into English, the nature and context of literary production and study, and the historical and theoretical backgrounds and contexts of a wide range of texts. Program requirements ensure that students will graduate with a well-rounded background in humanities that will prepare them to pursue a wide range of career options, including graduate study in areas such as teaching and law.

II. The Rhetoric, Composition, and Creative Writing Emphasis offers students opportunities to study and practice the arts of rhetoric, argument, and critical and creative expression in written communication. Students will develop analytical, critical, and persuasive skills by writing for a variety of audiences and professions, including business, law, government, and administration. In addition, students will explore rhetoric's historical origins; sample the latest theories; develop skills for teaching, web designing, document production, and visual communication; learn to write proposals and grant applications; and edit technical and scientific documents, whether print or online. Finally, through the study of creative and literary texts, students will develop a broad appreciation of writing as an artistic endeavor.

III. The Cultural Studies Emphasis encourages critical analysis of culture and texts, chiefly literature, film, visual art and popular culture, in light of guided interdisciplinary inquiry into the socio-economic and political conditions which give rise to thought and expression. Students will study specific areas of cultural production, and specific issues in and sites of cultural politics, including those of nation, class, gender, sexuality, ethnicity and race. This emphasis addresses questions about the hegemonic functions of culture, the institutions in which culture is produced and transmitted, and its role in the formation of identities. Forms of cultural expression are thus analyzed in context both as discourse and as praxis.

IV. The ESL/TESOL/Linguistics Emphasis gives students a solid background in linguistics, aspects of the history and uses of the English language, and methods for teaching ESL. Practical teaching experiences, both on and off campus are provided. The 18 semester hour TESOL Certificate prepares students to teach ESL.

UH Hilo requires all students to complete English 100, English 100T, or ESL 100. To enroll in these courses, students must perform at an appropriate level on the UH Hilo Writing Placement Exam. In addition, all non-native speakers must take the English Proficiency Test. On the basis of their performance in the writing placement test, students might be required to successfully complete certain courses before they can proceed to English 100/100T or ESL 100. Credits earned in ESL courses other than ESL 100 do not count towards graduation, but they do count for visa and financial aid purposes.

Note: ENG 100/ESL 100 is required for ALL other English courses. Any additional prerequisites for courses are indicated as needed.

The English Major

Students with a degree in English will develop:

1. Familiarity with the literary tradition of England, the United States, and other English-speaking cultures of the world
2. Understanding of the sociocultural and biological nature and structure of human language, in particular the English language
3. Understanding of the social, political, and cultural foundations of literature in English
4. Understanding of the principles and practice of literary criticism and literary theory
5. The ability to assess diverse viewpoints, to identify the assumptions that underlie discourse, to assess the reliability of sources, and to analyze and synthesize information from a variety of sources
6. The ability to write clearly, effectively, and concisely in formats appropriate for the presentation of work to a variety of audiences and for a variety of purposes, including audiences and purposes common to academic and career settings
7. The skills to pursue and appropriately present the results of library research
8. Familiarity with the diversity of literary art and literary standards of excellence

Students must earn a grade of "C" or higher in all courses required for the major.

To earn a Bachelor of Arts degree in English, students must fulfill the requirements both of the major and of the University's General Education program. (Please see the chapter entitled Baccalaureate Degree Requirements in this Catalog.) Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered. This information is available in the course listing at the back of this Catalog. To ensure progress toward degree completion, **students are urged to meet with an advisor each semester before registering.**

CORE REQUIREMENTS FOR ALL ENGLISH MAJORS (24 SEMESTER HOURS)

1. Required Lower Division Courses (12 semester hours)
   - ENG 100 (3) Expository Writing
   - ENG 215 (3) Writing for Humanities and Social Sciences
   - ENG 251 (3) Major Works of British Literature I
   - ENG 252 (3) Major Works of British Literature II

2. Required Upper Division Courses (6 semester hours)
   - ENG 300 (3) Introduction to Literary Studies
   - ENG 315 (3) Advanced Composition

3. One Pre-1700 (3 semester hours) Choose ONE course from the following:
   - ENG 301 (3) The Bible as Literature
   - ENG 303 (3) Backgrounds to English Studies
   - ENG 435 (3) Chaucer
   - ENG 437 (3) Renaissance Poetry and Prose
   - ENG 438 (3) Milton
   - ENG 459 (3) Medieval Literature
   - ENG 460 (3) Renaissance Drama
   - ENG 461 (3) Shakespeare I
   - ENG 462 (3) Shakespeare II
   - ENG 488 (3) Single Author

4. One Post-1700 (3 semester hours) Choose ONE course from the following:
   - ENG 351 (3) Survey of American Literature: To the Civil War
   - ENG 352 (3) Survey of American Literature: Civil War to the Present
   - ENG 355 (3) Women in Modern Literature and Film
   - ENG 387(3) Literature of the Environment
   - ENG 423 (3) Post-Colonial Literature
   - ENG 430 (3) Pacific Islands Literature
   - ENG 440 (3) Restoration and 18th Century Literature
   - ENG 442 (3) Romantic Literature
   - ENG 445 (3) Victorian Literature
   - ENG 464 (3) Modern Literature
   - ENG 483 (3) Modern Drama
   - ENG 488 (3) Single Author

I. THE LITERARY STUDIES EMPHASIS REQUIREMENTS (30 SEMESTER HOURS)

1. **Choose FOUR 300-400 level English courses OUTSIDE area of emphasis (12 semester hours)**
2. **ENG 303 (3) Backgrounds to English Studies (3 semester hours)**
3. **Choose FIVE of the following courses. (Four of these courses must be 300-400 level courses. All courses must be different from English Core Requirements.) (15 semester hours)**

- ENG 253 (3) World Literature: Classical to 17th Century
- ENG 301 (3) Bible as Literature
- ENG 345 (3) Children and Literature
- ENG 351 (3) Survey of American Literature: To the Civil War
- ENG 352 (3) Survey of American Literature: Civil War to the Present
- ENG 355 (3) Women in Modern Literature and Film
- ENG 423 (3) Post-Colonial Literature
- ENG 435 (3) Chaucer
- ENG 437 (3) Renaissance Poetry and Prose
- ENG 438 (3) Milton
- ENG 440 (3) Restoration and 18th Century Literature
- ENG 442 (3) Romantic Literature
- ENG 445 (3) Victorian Literature
- ENG 459 (3 Medieval Literature
- ENG 460 (3) Renaissance Drama
- ENG 461 (3) Shakespeare I
- ENG 462 (3) Shakespeare II
- ENG 464 (3) Modern Literature
- ENG 475 (3) Theoretical and Practical Criticism
- ENG 483 (3) Modern Drama
- ENG 488 (3) Single Author

II. THE RHETORIC, COMPOSITION, AND CREATIVE WRITING EMPHASIS (30 SEMESTER HOURS)

1. **Choose FOUR 300-400 level English courses OUTSIDE area of emphasis (12 semester hours)**
2. **Choose SIX of the following courses. (Five must be 300-400 level courses. All courses must be different from English Core Requirements.) (18 semester hours)**

- ENG 285 (3) Introduction to News Writing and Reporting
- ENG 286 (3) Introduction to Creative Writing (Pre-requisite for 431, 432, 433)
- ENG 287 (3) Introduction to Rhetoric (Pre-requisite for 300-400 level Rhetoric courses)
- ENG 324 (3) Modern English Grammar and Usage
- ENG 349 (3) Instruction and Practicum in Tutoring Writing
- ENG 431 (3) Fiction Writing
- ENG 432 (3) Non-Fiction Writing
- ENG 433 (3) Poetry Writing
- ENG 460 (3) Mass Media Rhetoric
- ENG 482 (3) Teaching Composition
- ENG 485 (3) World Wide Web Writing: Praxis
- ENG 486 (3) Applied Professional Writing
- ENG 487 (3) Technical Writing
- ENG 490 (3) World Wide Web Writing: Theory and Rhetoric
- ENG 494 (1-3) Special Topics in English
- ENG 499 (1-3) Directed Studies

III. THE CULTURAL STUDIES EMPHASIS (30 SEMESTER HOURS)

1. **Choose FOUR 300-400 level English courses OUTSIDE area of emphasis (12 semester hours)**
2. **ENG 303 (3) Backgrounds to English Studies (3 semester hours)**
3. **Choose FIVE of the following courses. (Four of these courses must be 300-400 level courses. All courses must be different from English Core Requirements.) (15 semester hours)**

- ENG 254 (3) World Literature: 17th Century to the Present
- ENG 275 (3) Literature of the Earth
- ENG 323 (3) Literature of Hawaii
- ENG 355 (3) Women in Modern Literature and Film
- ENG 365 (3) Japanese Literature in English
- ENG 387 (3) Literature of the Environment
- ENG 423 (3) Post-Colonial Literature
- ENG 430 (3) Pacific Islands Literature
- ENG 475 (3) Theoretical and Practical Criticism
- ENG 494 (1-3) Special Topics in English
- ENG 499 (1-3) Directed Studies

IV. THE ESL / TESOL / LINGUISTICS EMPHASIS (30 SEMESTER HOURS)

1. **Choose FOUR 300-400 level English courses OUTSIDE area of emphasis (12 semester hours)**
2. **Linguistics Courses (6 semester hours)**
   - LING 102 (3) Introduction to Linguistics
   - LING 121 (3) Introduction to Language
3. **Choose FOUR of the following courses (12 semester hours):**
   - ENG 320 (3) History of the English Language
   - ENG 321 (3) Morphology and Syntax
   - ENG 322 (3) ESL Teaching Practicum
   - ENG 324 (3) Modern English Grammar and Usage
   - LING 331 (3) Language in Culture and Society
   - ENG 344 (3) Children and Language
   - ENG 347 (3) Pidgins and Creoles
   - ENG 350 (3) Second Language Acquisition Theory
   - ENG 356 (3) Language and Gender
   - ENG 484 (3) ESL Materials and Methods

The English Minor

24 semester hours

Requirements:

1. **ONE** 200-level literature course (3 semester hours)
2. **ONE** 200-level writing course (3 semester hours)
3. ENG 315 Advanced Composition (3 semester hours)
4. **FIVE** 300-400 level English courses (15 semester hours)

Certificate in Teaching English as a Second Language

18 semester hours

The Certificate in Teaching English as a Second Language is intended for students pursuing any major, including, but not limited to, English or Linguistics, who wish to receive basic training in preparation for teaching English as a Second Language. Courses in Linguistics and English may be counted toward majors in those departments as indicated in the requirements for those majors.

Requirements

1. LING 102 (3)	Introduction to Linguistics
2. LING 121 (3)	Introduction to Language **OR**
LING 331(3)	Language in Culture and Society
3. ENG/LING 324 (3)	Modern English Grammar and Usage
4. ENG/LING 350 (3)	Second Language Acquisition Theory
5. ENG 484 (3)	ESL Materials and Methods
6. ENG 322 (3)	ESL Teaching Practicum

ENVIRONMENTAL STUDIES/SCIENCE

Program Chair:
James O. Juvik, Ph.D. (jjuvik@hawaii.edu)

Mission
The mission of the interdisciplinary Environmental Studies/Science BA/BS Program is as follows:

- to promote multidisciplinary analysis of environmental issues;
- to enhance students' awareness of the complexity and seriousness of regional and global environmental problems;
- to capitalize on UH Hilo's unparalleled natural and cultural environment to create knowledge and understanding vital for sustainability of natural systems, especially island ecosystems.

Environmental Studies/Science is an overlap of many academic fields, such as biology, geology, chemistry, marine science, geography, anthropology, agriculture, political science, economics, and sociology. This degree provides an innovative multidisciplinary approach for undergraduate students interested in a broad span of environmental topics. At the same time it provides a strong foundation in major concepts in a variety of fields. Although both majors share a significant common core of coursework, the Bachelor of Arts program (53 credits) offers a stronger social science background and approach to environmental policy perspectives, while the Bachelor of Science program (60 credits) offers a stronger focus on a natural science background and approach to human interaction with environmental processes.

Program Goals

- To educate students to become environmental professionals;
- To equip students with the tools to express themselves within both the scientific and larger society;
- To expose students to methods and techniques used by natural and social sciences to identify, analyze, and interpret environmental problems;
- To provide an interdisciplinary approach to education.

The curriculum is designed to challenge students to think critically and to stimulate connections across disciplines and contemporary issues. Students will be encouraged to view themselves as major participants and to think critically about their own lives in the context of earth systems and environmental issues.

Note: In addition to the B.A. and B.S. programs described below, the Department of Geography and Environmental Studies offers a certificate program in Environmental Studies. See the description at the end of this section.

ENVIRONMENTAL STUDIES REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Basic and Area Requirements	
1. English Composition	3
2. Quantitative Reasoning **(see Note 3 below)**	3
3. World Cultures	6
4. Humanities **(ENG 225 in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences **(Science requirements in Group 2 fulfill 9 of the 10 semester hours of this requirement; students will need to take a lab)**	1 more of a lab
Total.....	**28**
GROUP 2. Major Requirements	
Core Courses	
1. BIOL 175 or 176 Biology I or II	3
2. BIOL 281 General Ecology	3
3. CHEM 124/124D General Chemistry I and Discussion	4
4. CHEM 125/125D General Chemistry II and Discussion	4
5. ENG 225 Writing for Science and Technology	3
6. ENSC 100 Introduction to Environmental Science	3
7. ENSC 385 Field Methods: Environmental Science	3
8. ENSC 441 Environmental Impact Assessment	3
9. ENSC 495 Senior Seminar: Environmental Science	3
10. GEOG 326 Natural Resources	3
Quantitative Methods: Chose ONE course from the courses listed below:	3
BIOL 380 Biostatistics	
GEOG 380 Quantitative Methods in Geography	
MARE 250 Statistical Applications in Geography	
MATH 121 Introduction to Statistics and Probability **(see Note 3 below)**	
Environmental Studies: Choose TWO courses from the courses listed below:	6
ECON 380 Natural Resource and Environmental Economics	
GEOG 340 Principles of Land Use Planning	
GEOG 387 Literature of the Environment	
POLS 335 Environmental Politics and Policy	
Environmental Science: Choose TWO courses from the courses listed below:	6
BIOL/GEOG 309 Biogeography	
BIOL 381 Conservation Biology	
GEOG 409 Landscape Ecology	
GEOL 300 Advanced Environmental Earth Science	
GEOL 360 Surface Water	
Related Courses: Choose TWO courses (one at 300 or higher) from the courses listed below, but do not repeat a course you have already taken:	6-7
ANTH 315 Ecological Anthropology	
ANTH 481 Archaeometry	
BIOL/GEOG 309 Biogeography	
BIOL 381 Conservation Biology	
CHEM 241/241L Organic Chemistry I with Lab	
CHEM 360 Environmental Chemistry	
ECON 380 Natural Resource and Environmental Economics	
FOR 202 Forestry and Natural Resources	
GEOG 300 Climatology	
GEOG 319 Natural Hazards	
GEOG 387 Literature of the Environment	
GEOG 440 Advanced Environmental Planning	
GEOG 470 Remote Sensing and Air Photo Interpretation	
GEOG 480 GIS and Visualization	
GEOG 481 Advanced Geo-Spatial Techniques	
GEOL 300 Advanced Environmental Earth Science	
GEOL 342 Earth Surface Processes	
GEOL 360 Surface Water	
GEOL 445 GIS for Geology	
GEOL 450 Geological Remote Sensing	
GEOL 460 Groundwater	
MARE 282 Global Change	

POLS 335 Environmental Politics and Policy SOIL 304 Tropical Soils	
Total.....	**53-54**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below) **Total**.....	**38-39**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Environmental Studies	**120**

Notes:
1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 45 semester hours must be earned in courses at the 300-400 level.
3. MATH 121 in Group 2 above counts as a Quantitative Reasoning course in Group 1 above.
4. To earn a Bachelor of Arts degree in Environmental Studies, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

ENVIRONMENTAL SCIENCE REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Basic and Area Requirements	
1. English Composition	3
2. Quantitative Reasoning **(MATH 205 in Group 2 fulfills all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
5. Social Sciences **(ENSC 100 in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Science requirements in Group 2 fulfill all10 semester hours of this requirement)**	-
Total.....	**21**
GROUP 2. Major Requirements	
Core Courses	
1. BIOL 175 or 176 Biology I or II	3
2. BIOL 281 General Ecology	3
3. CHEM 124/124D/124L General Chemistry I plus Discussion and Lab	5
4. CHEM 125/125D/124L General Chemistry II plus Discussion and Lab	5
5. ENG 225 Writing for Science and Technology	3
6. ENSC 100 Introduction to Environmental Science	3
7. ENSC 385 Field Methods: Environmental Science	3
8. ENSC 441 Environmental Impact Assessment	3
9. ENSC 495 Senior Seminar: Environmental Science	3
10. MATH 205/206 Calculus I and II	8
Quantitative Methods: Chose ONE course from the courses listed below:	3
BIOL 380 Biostatistics	
GEOG 380 Quantitative Methods in Geography	
MARE 250 Statistical Applications in Geography	
MATH 121 Introduction to Statistics and Probability	
Environmental Studies: Choose ONE course from the courses listed below:	3
ECON 380 Natural Resource and Environmental Economics	
GEOG 326 Natural Resources	
GEOG 340 Principles of Land Use Planning	
POLS 335 Environmental Politics and Policy	
Environmental Science: Choose ONE concentration listed below, 3 courses from either:	9-11
Biological Concentration	
BIOL/GEOG 309 Biogeography	
BIOL 375 Biology of Microorganisms	
BIOL 381 Conservation Biology	
BIOL 481/481L Theory and Methods of Ecology and Evolution plus Research Methods Lab **(this course is 5 semester hours of credit)**	
GEOG 409 Landscape Ecology	
GEOG 410 Plants and People	
Physical Science Concentration	
CHEM 141 Survey of Organic Chemistry	
GEOG 300 Climatology	
GEOG 319 Natural Hazards	
GEOL 300 Advanced Environmental Earth Science	
GEOL 360 Surface Water	
GEOL 460 Groundwater	
Related Courses: Choose TWO courses (one at 300 or higher) from the courses listed below, but do not repeat a course you have already taken:	6
ANTH 315 Ecological Anthropology	
ANTH 481 Archaeometry	
BIOL/GEOG 309 Biogeography	
BIOL 381 Conservation Biology	
CHEM 241/241L Organic Chemistry I with Lab	
CHEM 360 Environmental Chemistry	
ECON 380 Natural Resource and Environmental Economics	
FOR 202 Forestry and Natural Resources	
GEOG 300 Climatology	
GEOG 319 Natural Hazards	
GEOG 387 Literature of the Environment	
GEOG 440 Advanced Environmental Planning	
GEOG 470 Remote Sensing and Air Photo Interpretation	

GEOG 480 GIS and Visualization GEOG 481 Advanced Geo-Spatial Techniques GEOL 300 Advanced Environmental Earth Science GEOL 342 Earth Surface Processes GEOL 360 Surface Water GEOL 445 GIS for Geology GEOL 450 Geological Remote Sensing GEOL 460 Groundwater MARE 282 Global Change POLS 335 Environmental Politics and Policy SOIL 304 Tropical Soils **Total**.....	**60-62**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below) **Total**.....	**37-39**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Environmental Science	**120**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 45 semester hours must be earned in courses at the 300-400 level.
3. To earn a Bachelor of Science degree in Environmental Science, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

Certificate in Environmental Studies

24-25 semester hours

The Environmental Studies Certificate is a multi-disciplinary program that emphasizes a theoretical and applied approach to environmental and natural resource assessment, classification, problem or phenomenal mitigation, policy, and related issues. This certificate program includes courses in the social and natural sciences.

Requirements:

Group I. (18-19 semester hours)

GEOG 101 (3) Geography and the Natural Environment OR
ENSC 100 (3) Introduction to Environmental Science
CHEM 114 (3) Introductory Chemistry OR
CHEM 124 (4) General Chemistry I
GEOL 111 (3) **Physical Geology OR** equivalent
MARE 201 (3) Oceanography **OR**
MARE/BIOL 360 (3) Marine Resources
ECON 380 (3) Natural Resource and Environmental Economics OR
POLS 335 (3) Environmental Politics and Policy
GEOG 441 (3) Environmental Impact Assessment

Group II. (3 semester hours)

Choose one of the following courses:
BIOL 101 (3) General Biology
BIOL 175 (3) Introductory Biology I
BIOL 176 (3) Introductory Biology II

Group III. (3 semester hours)

Choose one of the following courses:
SOIL 304 (3) Tropical Soils
AG/GEOG 312 (3) Food and Societies
GEOG 326 (3) Natural Resources

GEOGRAPHY

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Geography aims to help people understand *why* things happen *where* they do. Many of the problems and issues facing our world today, such as environmental quality, social justice, housing, agricultural production, global trade and business, and resource management have geographic dimensions. An education in Geography and Environmental Studies provides essential skills for problem solving and making sense of an increasingly complex world.

The study of both natural and human environments is an outstanding feature of Geography and Environmental Studies. Geography and Environmental Studies students will acquire a liberal arts education while specializing in one of the subfields of the discipline. Popular subfields are *Physical Geography* (including climatology, biogeography, and geomorphology), *Human Geography* (including nature-society relations, cultural and social transformation, landscape change, resource management, and land use planning), and *Geographic Techniques* (including remote sensing, geographic information systems, and cartography). The Department also participates in an interdisciplinary graduate program (M.S.) in Tropical Conservation Biology and Environmental Science.

Hawai'i Island has diverse natural and cultural environments ideal for the study of Geography and Environmental Studies. Field excursions and associated student research activities are an integral and enriching component of the student's geographic education at UH Hilo. Computer-based spatial analysis, cartography, and image processing contribute to a balanced and modern curriculum.

Geography Department graduates have gone on to a wide range of careers, including resource management, community development, cartography and map design, GIS analysis, land use planning, environmental engineering, publishing and editorial work, environmental law, landscape architecture, and teaching at all levels.

Goals for Student Learning in the Major

The study of Geography and Environmental Studies helps students understand:

- The natural processes that make places distinctive
- How humans modify the natural environment and other nature-society relations
- Globalization and its effects on environmental and cultural change
- The representation, measurement, and analysis of geographic data
- How to use maps and other geographic tools, technologies, and methods
- The uneven global distribution of wealth, resources, population, and how geography shapes and is shaped by political, economic, and social relationships
- The historical development of the discipline of Geography and Environmental Studies
- Their role in environmental conversation and sustainable resource management

Contributions to the UH Hilo General Education Program

As an integrative discipline, Geography and Environmental Studies gives students a comprehensive view of the world and an appreciation of environmental and cultural diversity. The Department's contribution to the general education mission of the University is well served by the following courses:

- GEOG 101 Geography and the Natural Environment (introduces physical geography and explores the diversity of Earth's natural features)
- GEOG 102 Geography of World Regions (gives a geographic overview of the world's major cultural/environmental regions)
- GEOG 103 Geography and Contemporary Society (introduces human geography with particular focus on current and key areas of geographic inquiry)
- GEOG 105 Geography of the United States (explores the distinctive natural and cultural landscapes of North America)
- GEOG 121 Weather and Climate of Hawai'i (examines the impacts of these phenomena on the Hawaiian Islands)
- GEOG 201 Interpretation of Geographic Data (introduces students to a variety of methods and techniques for collecting, analyzing, and presenting geographic data)

GEOGRAPHY REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Basic and Area Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(ENG 215 or 225 in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
5. Social Sciences **(any GEOG 100-200 level course in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
6. Natural Sciences	10
Total.....	**34**
GROUP 2. Major Requirements	
Core Courses	
1. GEOG 101 Geography and the Natural Environment	3
2. GEOG 103 Geography and Contemporary Society	3
3. GEOG 201 Interpretation of Geographic Data	3
4. GEOG 321 Geography of Economic Activity	3
5. GEOG 328 Cultural Geography	3
6. GEOG 380 Quantitative Methods in Geography or Equivalent Statistics Course	3
7. ENG 215 Writing for Humanities and Social Sciences **OR** ENG 225 Writing for Science and Technology	3
Block I. Physical Geography: <u>Two</u> courses (6 semester hours) from the following list: GEOG 300 Climatology GEOG 309 Biogeography GEOG 319 Natural Hazards and Disasters GEOG 320 Earth Surface Processes GEOG 409 Landscape Ecology	6
Block II. Analytical Techniques: <u>One</u> course (3 semester hours) from the following list: GEOG 385 Field Methods in Geography and Environmental Science GEOG 441 Environmental Impact Assessment GEOG 470 Remote Sensing and Air Photo Interpretation GEOG 480 Geographic Information Systems and Visualization GEOG 481 Advanced Geo-spatial Techniques	3
Block III. Culminating Experience: <u>One</u> course (3 semester hours) from the following list: GEOG 490 Senior Thesis GEOG 495 Senior Seminar	3
Four additional 300-400 level course in Geography (12 semester hours)	12
Total.....	**45**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 3 below)	
Total.....	**41**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Geography	**120**

Notes:

1. Where appropriate, and with the approval of the Geography chairperson, one Special Topics course (GEOG 494) may be substituted for a course under Blocks I or II.
2. Students must earn at least a 2.0 GPA in courses required for the major.
3. At least 45 semester hours must be earned in courses at the 300-400 level.
4. To earn a Bachelor of Arts degree in Geography, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Geography Minor

21 Semester Hours

Required (9 semester hours):

GEOG 101 (3) Geography and the Natural Environment
GEOG 103 (3) Geography and Contemporary Society
GEOG 201 (3) Interpretation of Geographic Data

AND four additional courses (12 semester hours) in Geography at the upper-division level with at least one course from each of the following three blocks:

Block I:
Physical Geography
GEOG 300 (3) Climatology
GEOG 309 (3) Biogeography
GEOG 319 (3) Natural Hazards and Disasters
GEOG 320 (3) Earth Surface Processes
GEOG 409 (3) Landscape Ecology

Block II:
Human Geography
GEOG 312 (3) Food and Societies
GEOG 321 (3) Geography of Economic Activity
GEOG 328 (3) Cultural Geography
GEOG 329 (3) Development Geographies
GEOG 331 (3) Tourism Geographies
GEOG 430 (3) Gender, Place and Environment

Block III:
Analytical Techniques
GEOG 385 (3) Field Methods in Geography & Environmental Science
GEOG 441 (3) Environmental Impact Assessment
GEOG 470 (3) Remote Sensing and Air Photo Interpretation
GEOG 480 (3) Geographic Information Systems and Visualization
GEOG 485 (3) Advanced Geo-spatial Techniques

Certificate in Planning

18 semester hours

The Geography program also offers a Certificate in Planning. This is an optional program designed to complement the major in Geography. Non-geography majors may pursue the planning certificate with the approval of the department chair. Students accepted into the certificate program are required to obtain at least a C grade in each course.

Requirements:

Group I. (9 semester hours)
GEOG 340 (3) Principles of Land Use Planning
GEOG 440 (3) Advanced Environmental Planning
GEOG 441 (3) Environmental Impact Assessment

Group II. (6 semester hours)
Two upper-division electives approved by the planning advisor (6 semester hours)

Group III. (3 semester hours)
GEOG 496 (3) A one-semester internship with a private or public firm or agency (3 semester hours).

The internship normally will be completed in the student's senior year. Up to two courses in the certificate program also may be counted as Geography major electives. For further details on the planning certificate program, contact any member of the Geography faculty.

GEOLOGY

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Geology is the study of the earth: its form and composition, the changes it has undergone and the dynamic forces shaping it today. Geologists are interested in what makes volcanoes erupt, what forces produce mountain ranges, where earthquakes occur and how they can be predicted, how glaciers carve out the landscape, and where petroleum and minerals can be located.

The mission of the UH Hilo Geology Department is to provide students with a rigorous, high-quality foundation in geological science. The primary goal is to prepare students for graduate studies, work as professional geologists, or careers in secondary education, planning, or natural resource management. The Geology Department also supports the liberal arts mission of the University by providing general education students with a broader knowledge of their natural environment. Although delivery of quality undergraduate education is the focus of the Department's efforts, the Department also supports and contributes to advancement of scientific knowledge, application of geologic knowledge, and community education and service.

The Geology program exposes students to the theory and application of a wide range of disciplines within the geosciences. The curriculum focuses on the composition, structure, history and dynamics of the Earth. Students will acquire a strong background in the basic sciences as they address geological problems using the tools of chemistry, physics, and mathematics. Hilo's unique natural setting on the slope of an active volcano makes it an ideal place to experience firsthand the more dynamic aspects of geology.

Both laboratory and field activities are important components of the program, and students can expect to develop their descriptive, analytical and interpretive skills. Students are advised that field trips are sometimes conducted outside of class hours.

The study of geology prepares students for careers in environmental science, natural resources, and scientific research on diverse topics including volcanism and hydrology. Many of the students graduating from the B.S. program go on to pursue graduate degrees. Graduates who wish to pursue secondary science education are eligible to apply to the University's Teacher Education Program.

Goals for Student Learning in the Major

Content

Both the B.S. and B.A. programs in Geology are designed to lead to student mastery of basic concepts and vocabulary in the following areas:

1. Plate tectonics
2. Origin and classification of rocks and minerals
3. Geological time scale and how this relates to major events in the history of Earth and its life
4. Geophysical properties of the Earth and crustal deformation
5. Processes that shape the surface of the Earth
6. Environmental hazards and issues

Skills

Graduates are also expected to:

1. Develop skills in observing and recording geologic features and processes
2. Develop competency in the interpretation of earth science data, including both qualitative and quantitative analyses
3. Express earth science concepts in writing4. Become proficient at
   a. Locating and interpreting scientific literature
   b. Giving oral presentations
   c. Using computers at a level consistent with current professional practice

Special Aspects of the Program

The Department's laboratories, classrooms, and support facilities have been designed to house a complete and state-of-the-art geology program. Laboratory facilities include those for rock preparation, mineralogy and petrology, wet chemistry, seismic monitoring, and a geographic information system (GIS) computer laboratory.

Students also have access to instruments and computers used for volcano monitoring through the Center for the Study of Active Volcanoes (CSAV), which is a training and outreach program associated with the Geology Department. CSAV's mission is to provide training and information on volcanic and natural hazards that occur in Hawai'i and worldwide. Instruments available to the Geology program through CSAV include Global Positioning System (GPS) receivers, total field station and EDM instruments, precise leveling instruments, portable seismometers, and gas geochemical instruments.

The Geology Club is an active student organization that provides field experiences and interaction with other individuals with an interest in geology.

GEOLOGY REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math courses in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Science courses in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. GEOL 111, 111L Understanding the Earth	4
2. GEOL 112, 112L History of the Earth and Its Life	4
3. GEOL 212 Earth Materials I: Minerals	4
4. GEOL 320 Earth Material II: Igneous/Metamorphic Rocks	4
5. GEOL 495 A, B Seminar (2 semesters)	2
6. ASTR 180 Principles of Astronomy I **OR** MARE 201 Oceanography	3
7. CHEM 114, 114L Introductory Chemistry	4
8. MATH 115 Applied Calculus	3
9. PHYS 106, 170L College Physics I	4
10. Two courses from the following courses: GEOL 330 Deformation of the Earth GEOL 340 Sedimentary Processes GEOL 342 Earth Surface Processes GEOL 370 Field Methods	6
11. Six additional 300-400 level GEOL courses (Up to two of the six courses may be substituted from GEOG 300, 319, 470, MARE 360, 425, 461, and SOIL 304.)	18
Total.....	**56**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (See Note 2 below)	
Total.....	**37**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Geology	**120**

Notes:

1. All courses in Group 2, Major Requirements, must be completed with a grade of C or better.
2. At least 34 semester hours must be earned in courses numbered 300-400.
3. CHEM 124, 124L may substitute for CHEM 114, 114L.
4. PHYS 170 may substitute for PHYS 107.
5. MATH 205 may substitute for MATH 115.
6. To earn a Bachelor of Arts degree in Geology, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
7. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
8. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

GEOLOGY REQUIREMENTS FOR BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math courses in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 in Group 2, fulfills 3 of 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences **(Science courses in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**24**
GROUP 2. Major Requirements	
Required Courses from Geology	
1. GEOL 111, 111L Understanding the Earth	4
2. GEOL 112, 112L History of the Earth and Its Life	4
3. GEOL 212 Earth Materials I: Minerals	4
4. GEOL 320 Earth Material II: Igneous/Metamorphic Rocks	4
5. GEOL 330 Deformation of the Earth	3
6. GEOL 340 Sedimentary Processes	3
7. GEOL 342 Earth Surface Processes	3
8. GEOL 370 Field Methods	3
9. GEOL 495 A, B Seminar (2 semesters)	2
10. **AND** twelve additional semester hours in GEOL 300-400 level courses	12
Required Courses from Related Fields	
1. CHEM 124, 124D, L General Chemistry I	5
2. CHEM 125, 125D, L General Chemistry II	5
3. ENG 225 Writing for Science and Technology	3
4. MATH 205 Calculus I	4
5. MATH 206 Calculus II	4
6. PHYS 170, 170L General Physics I: Particles and Waves	5
7. PHYS 171, 171L General Physics II: Electricity and Magnetism	5
Total.....	**73**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (See Note 3 below)	
Total.....	**23**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.S. in Geology	**120**

Notes:

1. All required Courses in Geology in Group 2, Major Requirements, above must be completed with a grade of C or better.
2. Students must earn a 2.0 GPA in all required courses listed in Group 2, Major Requirements, above.
3. At least 30 semester hours must be earned in courses numbered 300-400.
4. A course in oral communication such as COM 251 (Public Speaking) is recommended as part of General Education Requirements.
5. Students preparing for graduate school should consider taking a summer field course in Geology and possibly MATH 300 (Ordinary Differential Equations), CS 150 (Introduction to Computer Science), or PHYS 260 (Computational Physics and Astronomy).
6. To earn a Bachelor of Arts degree in Geology, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
7. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
8. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

Minor in Geology

20 Semester Hours

Requirements:

1. GEOL 111, 111L (4) Understanding the Earth
2. GEOL 112, 112L (4) History of the Earth and Its Life
3. AND 12 additional semester hours of GEOL courses. (At least six of the additional 12 semester hours must be at the 300-400 level.)

Note: Each course must be passed with a grade of C or better.

Minor in Earth and Space Science

24 Semester Hours

Requirements:

ASTR 110L (1)	General Astronomy Lab
ASTR 180 (3)	Principles of Astronomy I
ASTR 181 (3)	Principles of Astronomy II
ASTR/GEOL 352 (3)	Comparative Planetology
GEOL 111-111L (4)	Understanding the Earth
GEOL 112-112L (4)	History of the Earth and Its Life
GEOL 205 (3)	Geology of the Hawaiian Islands

AND one of the following courses:

GEOL 300 (3)	Climatology
GEOL 450 (3)	Geological Remote Sensing
GEOL 470 (3)	Remote Sensing and Air Photo Interpretation

HEALTH AND PHYSICAL EDUCATION

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The Health and Physical Education program within the College of Arts and Sciences provides students with a diverse range of high quality instruction and opportunities within the areas of health, physical education, recreation, and the exercise sciences. A wide range of activity courses provides individuals with exposure to a variety of physical activities and opportunities to enhance their overall well being. Lecture type courses provide introductory and advanced preparation for the fields of elementary and secondary education, coaching, recreational management, and the exercise sciences.

Goals for Student Learning in the Major

A student who completes the Health and Physical Education degree program will be able to:

1. Participate in basic physical and recreational activities
2. Apply for acceptance into the Teacher Education Program with the desire to become a Secondary Health and Physical Education teacher
3. Apply for acceptance into Graduate School in the areas of the exercise sciences
4. Identify and understand the various health issues within our society, especially those encountered by elementary and secondary school students
5. Have an understanding of the anatomical, physiological and kinesiological functions of the human body

HEALTH AND PHYSICAL EDUCATION REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities	9
5. Social Sciences **(PSY 100 in Group 2 fulfills 3 of 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(BIOL 243, 243L in Group 2 fulfill 4 of the 10 semester hours of this requirement)**	6 more
Total	**33**
GROUP 2. Major Requirements	
• Three one-semester-hour HPE activity courses of choice	3
• HPE 201 School Health Problems	2
• HPE 204 Introduction to Coaching Athletics	2
• HPE 206 Basic Human Movement	3
• HPE 207 Basic Human Nutrition	3
• HPE 208 Elementary Tests and Measurements	3
• HPE 232 Safety and Accident Prevention	2
• HPE 234 Care and Prevention of Athletic Injuries	3
• HPE 306 Advanced Human Movement	3
• HPE 310 Basic Motor Learning	3
• HPE 320 Drug Awareness	3
• HPE 334 Advanced Care and Prevention of Athletic Injuries	3
• HPE 343 Musculoskeletal Anatomy	3
• HPE 344 Musculoskeletal Physiology	3
• HPE 370 Sport Psychology	3
• HPE 443 Adapted Physical Education	3
• BIOL 125 Introduction to Cell and Molecular Biology	3
• BIOL 243, 243L, 244, 244L Human Anatomy and Physiology	8
• PSY 100 Survey of Psychology	3
• PSY 320 Developmental Psychology	3
Total	**62**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (See Note 3 below)	
Total	**25**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Health and Physical Education	**120**

Notes:

1. The following courses in Group 2, Major Requirements, must be completed with a grade of C- or better: HPE 306, 310, 320, 334, 343, 344, 370, and 443 plus PSY 320.
2. An overall GPA of 2.0 in the major is required.
3. At least 45 semester hours must be earned in courses numbered 300-400.
4. To earn a Bachelor of Arts degree in Health and Physical Education, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

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The History faculty provides students with an understanding of the past and its application to the present. The curriculum leading to the Bachelor of Arts in History is designed to develop broad historical knowledge and the skills in data analysis and communication of critical importance in all professional endeavors:

1. The History major provides students with a basic knowledge of history in the United States, Europe, East Asia, Hawaii, and the Pacific Islands; and with a basic knowledge of historiography.
2. The History major assists students in the development of their ability to communicate clearly, both orally and in writing, and in the development of their ability to gather, process, and analyze information from various sources, including primary and secondary source material found in print and Internet formats.
3. The History major provides students with the opportunity to apply their discipline-based skills and knowledge in a capstone experience.

The Department's full-time faculty members each cover one of the five discipline-based specialties in addition to working with students in research and capstone courses. The History major requires a total of 36 upper-division credit hours. The Department also offers a minor requiring 15 upper-division credits. (Program course requirements are below.)

Prospects for History Graduates

History graduates have an excellent foundation for any profession and are actively engaged in the following career paths: education at all levels; preservation and interpretation at museums and historic sites; the National Park Service, civilian historians of the armed forces and government agencies; the legal professions; journalism; film and documentary media; information management; archives and records management; librarianship and information technology; and business careers such as banking, insurance, marketing, and public relations.

Special Aspects of the History Program

History students are eligible for membership in Alpha Beta Omicron chapter of Phi Alpha Theta (the national history honor society). Through the History Club students participate in community activities such as Toys for Tots and food bank drives, excursions to historic sites, and film nights. Students are also able to use the History Resource Room with its library, computers, and study facilities.

Contributions to the General Education Program

The study of History applies directly to important goals of UH Hilo's General Education program. The Department is committed to offering high quality, lower-division courses directly applicable to General Education requirements. History 151 and 152 may be applied to the Area Requirement in Social Sciences or to the World Cultures Requirement, but the same course cannot satisfy both requirements.

HISTORY REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements (see Note 1 below)	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures **(HIST 151, 152 are required)**	6
4. Humanities	9
5. Social Sciences **(GEOG 102 or 103 is required plus 6 more semester hours)**	9
6. Natural Sciences **(CS 101 is required plus 7 more semester hours)**	10
Total.....	**40**
GROUP 2. Major Requirements	
Required Core Courses (24 semester hours)	
1. HIST 300 Historical Methods	3
2. <u>One</u> 300-level course in European History. Choose from:	3
HIST 319 European Women's History	
HIST 322 The Bible and History	
HIST 323 Ancient Greece	
HIST 341 Ancient Rome	
HIST 354 Introduction to Islamic History	
HIST 356 Medieval Europe	
HIST 357 Renaissance & Reformation	
HIST 359 Christianity & the Western Tradition	
HIST 365 War and Empire in Eighteenth-Century Europe	
HIST 375 Europe in the Nineteenth Century	
HIST 385 Europe in the Era of World War I	
HIST 395 Europe in the Era of World War II	
3. <u>One</u> 300-level course in East Asian History. Choose from:	3
HIST 309 History of Asian Religions	
HIST 310 History of Japan I: Early Japan	
HIST 311 History of Japan II: Tokugawa to Meiji	
HIST 312 History of China I: Early China	
HIST 313 History of China II: Qing	
HIST 314 History of Japan III: 20th Century to Present	
HIST 318 History of China III: 20th Century to Present	
HIST 392 Japanese Women	
4. <u>One</u> 300-level course in U.S. History. Choose from:	3
HIST 340 History of Religion in America	
HIST 360 American Women's History	
HIST 379 History of Entrepreneurship in America	
HIST 380 United States 1620-1789	
HIST 381 United States 1790-1865	
HIST 382 United States 1866-1929	
HIST 383 United States 1930-1980	
5. <u>One</u> 300-level course in Pacific History. Choose from:	3
HIST 316 Pacific History I	
HIST 317 Pacific History II	
HIST 321 History of Australia and New Zealand	
HIST 331 World War II in the Pacific	
6. One 300-level course in Hawaiian History. Choose from:	3
HIST 332 Hawaiian Kingdom	
HIST 333 Twentieth-Century Hawaii	
HIST 336 Disease & Medicine in 19th Century Hawaii	
7. HIST 490 Historiography and Research Methods	3
8. HIST 491 Senior Thesis OR HIST 492 Senior Project	3

Area Specialization Requirement (All Area Specializations require12 upper division semester hours, including <u>three</u> 300-400 level courses and <u>one</u> 400-level course.) **STUDENTS MUST SELECT <u>ONE</u> AREA OF SPECIALIZATION. All courses below are three semester hours of credit.**	12
<u>East Asia</u>. Choose from:	
HIST 309 History of Asian Religions	
HIST 310 History of Japan I: Early Japan	
HIST 311 History of Japan II: Tokugawa to Meiji	
HIST 312 History of China I: Early China	
HIST 313 History of China II: Qing	
HIST 314 History of Japan III: 20th Century to Present	
HIST 318 History of China III: 20th Century to Present	
HIST 392 Japanese Women	
HIST 420 Mao	
HIST 485 Seminar in World History	
<u>Europe</u>. Choose from:	
HIST 319 European Women's History	
HIST 322 The Bible and History	
HIST 323 Ancient Greece	
HIST 341 Ancient Rome	
HIST 354 Introduction to Islamic History	
HIST 356 Medieval Europe	
HIST 357 Renaissance & Reformation	
HIST 359 Christianity & the Western Tradition	
HIST 365 War and Empire in 18th Century Europe	
HIST 375 Europe in the Nineteenth Century	
HIST 385 Europe in the Era of World War I	
HIST 395 Europe in the Era of World War II	
HIST 425 History of Russia to 1700	
HIST 435 Russia since Peter the Great	
HIST 445 European Imperialism	
HIST 455 European Intellectual History Since 1789	
HIST 459 Germany Since Frederick the Great	
HIST 485 Seminar in World History	
HIST 486 Women in Ancient European Civilization	
<u>Hawaii</u>. Choose from:	
HIST 332 Hawaiian Kingdom	
HIST 333 Twentieth-Century Hawaii	
HIST 336 Disease & Medicine in 19th Century Hawaii	
HIST 480 Race & Ethnicity in the Pacific	
HIST 485 Seminar in World History	
<u>Pacific</u>. Choose from:	
HIST 316 Pacific History I	
HIST 317 Pacific History II	
HIST 321 History of Australia and New Zealand	
HIST 331 World War II in the Pacific	
HIST 480 Race & Ethnicity in the Pacific	
HIST 481 Land and Sovereignty in the Pacific	
HIST 485 Seminar in World History	
<u>United States</u>. Choose from:	
HIST 340 History of Religion in America	
HIST 360 American Women's History	
HIST 379 History of Entrepreneurship in America	
HIST 380 United States 1620-1789	
HIST 381 United States 1790-1865	
HIST 382 United States 1866-1929	
HIST 383 United States 1930-1980	

HIST 470 United States in the World 1865-2003 HIST 471 US Constitutional History HIST 485 Seminar in World History **Total**	**36**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (See Note 3 below) **Total**.....	**44**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required for the B.A. in History	**120**

Notes:

1. **The following courses in GROUP 1, General Education Requirements**, must be passed with a **C- or better grade:**
English Composition
Quantitative Reasoning
HIST 151
HIST 152
GEOG 102 OR 103
CS 101
2. A minimum GPA of 2.8 must be maintained in upper-division (300-400 level) History courses.
3. At least 45 semester hours must be earned in courses numbered 300-400.
4. To earn a Bachelor of Arts degree in History, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

The History Minor

15 semester hours of History courses at the **300 level**

JAPANESE STUDIES

Department Chair:
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Humanities Division Office:
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Web Page: www.uhh.hawaii.edu/academics/cas/humanities/japanesest.php

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Hsueh Li Cheng, Ph.D.
Douglas Mikkelson, Ph.D.
Christopher A. Reichl, Ph.D.
Lawrence Rogers, Ph.D.
Associate Professors:
Masafumi Honda, Ed.D.
Enbao Wang, Ph.D.
Assistant Professors:
Jonathan Dresner, Ph.D.
Yumiko Ohara, Ph.D.
Yoshiko Okuyama, Ph.D.

The mission of the undergraduate degree program in Japanese Studies is to offer a broad range of coursework and research opportunities for students that is designed to develop an understanding of Japan in all of its dimensions: culture, society, language, art, political science, history, music, and others. The Japanese Studies major provides undergraduate research opportunities, a liberal arts foundation, and preparation for a variety of careers.

Separate curricula are designed for two types of students:

1. **Non-native speakers of Japanese:** these students are enabled to master the Japanese language in its aspects of structure (Japanese linguistics), literature, and translation, in addition to the areas of study mentioned above.
2. **Native speakers of Japanese:** these students are enabled to master the English language in its aspects of structure (English linguistics), literature and translation, in addition to the areas of study mentioned above. Native speakers of Japanese are also enabled to develop explicit knowledge of Japanese language phonology, morphology, semantics and syntax.

The program involves significant multidisciplinary study of Japanese civilization centered on a core of language study. It should be of special interest to students who intend to pursue advanced degrees and/or careers in Japanese Studies or in related professional areas, including international business, tourism, journalism, government service, the arts, translation, and, in general, culture brokerage between Japan and the United States. Anyone simply interested in Japanese society and culture will derive considerable benefit from majoring in Japanese Studies.

Goals for Student Learning in the Major

Among the learning goals for majors are the development of:

1. Appropriate language ability:

   a. Japanese language ability and expertise for non-native speakers of Japanese,

   b. English language ability and expertise for native speakers of Japanese.

2. An. appreciation of how the Japanese cultural background may influence the communications, styles of interaction, and family structure.
3. An ability to integrate information from the different approaches to the study of Japan and shape it into an overall understanding of Japanese language, culture, and behavior.

Special Features of the Program

The Japanese Studies program also strongly supports the General Education core and the University's mission as a comprehensive regional university with a special focus on the Asia and Pacific region. The program offers a number of courses that can be used to satisfy the college's Hawaiian/Asian/Pacific requirement.

Most summers, UH Hilo offers students the opportunity to visit and study in Japan through the Foreign Field Experience course (Interdisciplinary Studies 393).

JAPANESE STUDIES REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(3 - 4 of the 9 required hours are met in Major Requirements, Group 2)**	5 - 6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**36 - 37**
GROUP 2. Major Requirements	
1. Language Core Courses	
For NON-NATIVE speakers of Japanese only:	
JPNS 101-102 Elementary Japanese	8
JPNS 201-202 Intermediate Japanese	8
JPNS 301-302 Third-Year Japanese	6
OR	
For NATIVE speakers of Japanese only:	3
LING 102 Introduction to Linguistics	3
LING 121 Introduction to Language	3
LING 321 Morphology and Syntax	3
LING 324 Modern English Grammar and Usage	3
JPST 425 Translation Workshop	
Two upper division Writing Intensive Courses	6
2. Japan-related Courses (18 semester hours required, selected from at least two of the following three blocks:	18
Block I.	
JPST 310 (3) History of Japan I: Early Japan	
JPST 311 (3) History of Japan II: Tokugawa to Meiji	
JPST 314 (3) History of Japan III: 20th Century to present	
JPST 353 (3) Politics of Japan	
JPST 356 (3) Japan	
JPST 358 (3) Japanese Immigrants	
JPST 494 (3) Special Topics in Japanese Studies	
Block II.	
JPST 315 (3) East Asian Religions	
JPST 365 (3) Japanese Literature in English	
JPST 375 (3) Japanese Music	
JPST 381 (3) Art of Japan	
JPST 430 (3) Philosophy of Zen	
JPST 450 (3) Mahayana Buddhist Philosophy	
JPST 494 (3) Special Topics in Japanese Studies	
Block III.	
JPST 340 (3) Japanese Composition	
JPST 394 (1-3) Special Topics in Japanese Studies	
JPST 401 (3) Fourth-Year Japanese (NON-NATIVE speakers only)	
JPST 425 (3) Translation Workshop	
JPST 451 (3) Structure of Japanese (first of two-semester course sequence)	
JPST 452 (3) Structure of Japanese (second of two-semester sequence)	
JPST 481 (3) Readings in Modern Japanese Literature	
Total.....	**39-40**

GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 4 below) **Total……**	**43-45**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses One additional Writing Intensive course and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Japanese Studies	**120**

Notes:
1. A 2.0 GPA or better is required in courses that are required for the major.
2. At least 45 total semester hours must be earned in upper division courses (300-level courses or above) for graduation.
3. To earn a Bachelor of Arts degree in Japanese Studies, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

THE JAPANESE STUDIES MINOR

22 Semester Hours

Language Core

JPNS 101-102 (8) Elementary Japanese
JPNS 201-202 (8) Intermediate Japanese
JPST 356 (3) Japan

AND <u>three</u> semester hours chosen from the following**:**

JPST 310 (3) History of Japan I: Early Japan
JPST 311 (3) History of Japan II: Tokugawa to Meiji
JPST 314 (3) History of Japan III: 20th Century to Present

Interested students must see the Japanese Studies advisor during the first two years of language study.

LANGUAGES

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Associate Professor:
Masafumi Honda, Ed.D.
Assistant Professors:
Yumiko Ohara, Ph.D.
Yoshiko Okuyama, Ph.D.
Instructors:
Kamila Dudley, M.A.
Faith Mishina, M.A.

The Language Department offers instruction in Chinese, French, Japanese, and Spanish, as well as related courses in literature and culture. (Please see Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language for information on the Hawaiian language programs.)

Each program is comprehensive in approach, developing the functions of speaking, comprehension, reading, and writing. The Department's course offerings in languages can be found at the back of this Catalog under the following course prefixes:

Chinese: CHNS
French: FR
Japanese: JPNS
Spanish: SPAN

Hawaiian Language courses offered by Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language are listed under HAW at the back of this Catalog.

The Language Department does not offer a Language major. The Japanese Studies program, however, offers a related major, and Ka Haka ʻUla O Keʻelikölani College of Hawaiian Language offers a master of arts degree in Hawaiian Language and Literature.

LIBERAL STUDIES

Liberal Studies Coordinator:
April Komenaka, Ph.D. (komenaka@hawaii.edu)
Office: University Classroom Building 304, (808) 974-7300

The Liberal Studies Program is designed for the student in the College of Arts and Sciences (CAS) who wishes to (1) study a particular problem or theme through a multi-disciplinary constellation of courses, or (2) create an academic major-equivalent for which there are relevant courses but for which there is no approved degree program.

The major-equivalent must be an academically sound, interdisciplinary course of study with thematic integrity and continuity. A student seeking a Liberal Studies degree must work closely with an academic advisor to formulate the particular course of study to ensure academic substance and rigor.

Any student in good academic standing (2.0 GPA or better) may apply for admission to the Liberal Studies degree program. At the time that the degree proposal is submitted to the CAS Faculty Senate, a student must have at least 21 more credits of course work still to undertake in the major-equivalent beginning with the subsequent semester or term.

An application form for the major-equivalent must be completed, which will include the following:

a. a cover letter addressing the student's intentions in applying for a Liberal Studies major-equivalent;
b. educational goals for the proposed program;
c. an explanation of why these goals cannot be achieved through an existing major program;
d. justification of the courses that will comprise the major-equivalent, which have a minimum of 33 semester hours, of which at least 24 hours must be in upper-division courses.

University regulations applying to prerequisites and graduation requirements apply to all students at UH Hilo, including those with approved Liberal Studies major-equivalents. (*Please see the appropriate chapter in the Catalog which outlines baccalaureate degree and graduation requirements.)*

The application form must be approved by the Faculty Advisor, the Liberal Studies Coordinator, and the College of Arts and Sciences Faculty Senate. The form must be submitted to the Liberal Studies Coordinator no later than **November 1 for the fall semester or April 1 for the spring semester. Once the proposal is accepted, the student should meet with the academic advisor each semester before registering.**

Pre-Approved Program of Study

In addition, the University offers one approved Liberal Studies program: Religious Studies. Students should apply directly to the faculty member coordinating this area of interest:

Religious Studies

Dr. David Miller (davidmil@hawaii.edu) 974-7396

In order to earn a Bachelor of Arts degree in this pre-approved program of study, students must not only fulfill the requirements for the major but also meet all of the University's other baccalaureate degree requirements. (*Please see the appropriate chapter in the Catalog which outlines baccalaureate degree and graduation requirements.)*

Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered, information that is available for each course in the listing at the back of this Catalog. To ensure progress toward degree completion, **students are strongly encouraged to meet with the program coordinator each semester before registering.**

Liberal Studies-Religious Studies

33 semester hours

Religious Studies Program Coordinator
David Miller, Ph.D. (davidmil@hawaii.edu)Program Coordinator's Office: Kanaka`ole Hall 214 (808-974-7396)
Web Page: www.uhh.hawaii.edu/academics/cas/humanities/religiousst_ls.php

Participating Faculty

Professors:
Hsueh-Li Cheng, Ph.D., Philosophy Department
Barry Curtis, Ph.D., Philosophy Department
Lawrence L. Heintz, Ph.D., Philosophy Department
Douglas Mikkelson, Ph.D., History Department
David R. Miller, Ph.D., English Department
Sandra Wagner-Wright, Ph.D., History Department
Associate Professors:
Michael Bitter, Ph.D., History Department
Christopher Reichl, Ph.D., Anthropology Department
Assistant Professor:
Jean Ippolito, Ph. D., Art Department
Lecturer:
Amy C. Gregg, M.Div., Women's Studies Program

The mission of the undergraduate degree program in Liberal Studies-Religious Studies is to enable students to understand the role and importance of the study of religion. The program is designed to provide exposure to the perspectives of religious traditions, past and present, and to facilitate a student's ability to engage in the academic study of religion. It provides an interdisciplinary background useful for student who pursue careers in teaching, law, government service, business, medicine, and cultural exchange.

Religious Studies is an interdisciplinary program leading to a B.A. degree under the Liberal Studies Program, administered by the Religious Studies Committee. Its interdisciplinary scope offers students in Hawai'i insights on religious phenomena both within particular historical-cultural traditions and across cultural boundaries. Religious Studies provides an integration of scholarship relevant to the field and in the development of methodologies appropriate to the history of religion to the present. It is an invaluable program in many disciplines including anthropology, art history, business, history, medicine, philosophy, sociology, and comparative studies.

Goals for Student Learning in the Major

By the time of graduation, Liberal Studies—Religious Studies majors will be expected to:

1. Be able to think critically about religious world views
2. Be able to employ the vocabulary of the academic study of religion
3. Be familiar with the range of the major Western religious traditions
4. Be familiar with the range of major Eastern religious traditions

Requirements

Note: The Religious Studies major is undergoing revision, but will continue to be offered as a Liberal Studies baccalaureate degree option. Students pursuing or considering this major should consult with Dr. David Miller, Religious Studies Program Coordinator.

LINGUISTICS

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April R. Komenaka, Ph.D.
William H. Wilson, Ph.D.
Associate Professors:
Masafumi Honda, Ed.D.
Christopher A. Reichl, Ph.D.
Assistant Professors:
Yumiko Ohara, Ph.D.
Yoshiko Okuyama, Ph.D.

Linguistics is the scientific study of language, examining it both as an abstract system and in its psychological and social contexts. Linguistics focuses on how the human mind structures, processes, and acquires language and on how language use is an integral part of human interaction. With the central role played by language in the social world, linguistics is situated at the intellectual intersection of the humanities and the sciences, including the social, biological, and behavioral sciences. Accordingly, students receive broad training that cuts across and breaks down traditional boundaries between disciplines.

Goals for Student Learning in the Major

The Bachelor of Arts degree in Linguistics provides students with a broad introduction to the field. Upon successful completion of their degree, students will be able to:

- understand the basis for approaching language from a scientific perspective
- analyze and work with formal systems
- appreciate the psychological and social issues surrounding languages
- appreciate the applied nature of linguistics, that is, how it can enhance our understanding of environment and social problems
- clarify the nature of language without passing value judgments
- engage in data analysis, problem-solving, and logical thinking
- understand how languages differ from each other on various levels
- understand how linguistic knowledge is acquired
- appreciate different teaching methodologies and theories that support them
- understand how languages vary from person to person and region to region
- understand how the structure of language can be represented
- understand the genetic relationships among world languages

Prospects for Linguistics Graduates

Students majoring in Linguistics will develop skills that will be valuable in many fields including:

- computer programming
- artificial intelligence
- elementary education, as a teacher or counselor
- secondary education as a teacher, professor, administrator
- teaching English as a second language either in the United States or abroad
- translation and interpretation
- language documentation of and fieldwork on indigenous and minority languages
- foreign language teaching
- publishing, as a technical writer or a journalist
- standardized testing
- lexicography (constructing and working on dictionaries)
- language consultant, assisting in such fields as law and medicine
- speech therapy
- foreign service, as a diplomat or embassy administrator
- other governmental work, such as the FBI, CIA, etc.

Some graduates from the UH Hilo Linguistics Department have entered graduate programs and have earned graduate degrees at the master's and doctoral level in linguistics as well as in other areas of specialization related to language and language teaching.

Contributions to the UH Hilo General Education Program

Linguistics is an important component of a liberal arts education. The Linguistics program recommends Linguistics 102: Introduction to Linguistics to students wishing to choose a linguistics course to fulfill part of their General Education requirements. Background in linguistics will be useful for majors in anthropology, English, foreign languages, Japanese Studies, Hawaiian Studies, psychology, and communication as well as for students seeking licensure or certificates in education, Hawaiian, and Teaching English as a Second Language.

Special Aspects of the Program

The University of Hawaii at Hilo is one of only a few colleges and universities in the United States to offer a bachelor of arts in linguistics. The program offers a broad range of courses taught by experts in the field. We provide students with a strong general background in both theoretical and applied linguistics, including courses related to language learning and teaching. We also are proud to be able to offer specialized courses in Japanese and Hawaiian linguistics.

LINGUISTICS REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Basic and Area Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(LING 102 in Group 2, Major Requirements, fulfills 3 of the 9 required semester hours)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Core Courses	
a. LING 102 Introduction to Linguistics	3
b. LING 311 Phonology	3
c. LING/ANTH/ENG 321 Morphology and Syntax	3
d. LING 345 Historical and Comparative Linguistics	3
2. An additional 3 semester hours in one Structural/Grammar Course selected from:	3
• LING/ENG 324 Modern English Grammar and Usage	
• LING/JPNS/JPST 452 Structure of Japanese	
• LING/HAW 454 Hawaiian Morphology and Syntax	
3. An additional 3 semester hours in one Comparative/Historical Linguistics Course selected from:	3
• LING/ENG/ANTH 347 Pidgins and Creoles	
• LING/JPNS/JPST 451 Structure of Japanese	
• LING/HAW 455 Hawaiian: A Polynesian Language	
4. An additional 3 semester hours in one Applied/Social Linguistics Course selected from:	3
• LING/ANTH 331 Language in Culture and Society	
• LING/ENG 344 Children and Language	
• LING/IS 351 Methodology of Foreign Language Teaching	
5. Nine additional semester hours in Linguistics, six of which must be at the 300 level or above	9
6. **Two years of study of a language other than English, divided between a non-Indo-European language and an Indo-European language, as approved in consultation with a faculty advisor. Courses in the student's native language are excepted.**	16
Total.....	**46**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**37**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Linguistics	**120**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 45 semester hours must be earned in courses at the 300-400 level.
3. To earn a Bachelor of Arts degree in Anthropology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. **To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.**

The Linguistics Minor

26 Semester Hours

Requirements:

1. A total of **18 semester hours** of linguistics courses including:
   LING 102 (3) Introduction to Linguistics
   LING 311 (3) Phonology **OR**
   LING 321 (3) Morphology and Syntax
   Twelve additional semester hours in Linguistics courses, of which **6** semester hours must be at the 300-level or above.
2. **One year** of college-level foreign language study or the equivalent (**8 semester hours**).

Certificate In Teaching English As A Second Language

18 Semester Hours

The Certificate in Teaching English as a Second Language is intended for students pursuing any major, including, but not limited to, English or Linguistics, who wish to receive basic training in preparation for teaching English as a second language. Courses in linguistics and English may be counted toward majors in those departments as indicated in the requirements for those majors.

Requirements:

LING 102 (3)	Introduction to Linguistics
LING 121 (3)	Introduction to Language **OR**
LING 331 (3)	Language in Culture and Society
ENG/LING 324 (3)	Modern English Grammar and Usage
ENG/LING 350 (3)	Second Language Acquisition Theory
ENG 484 (3)	ESL Materials and Methods
ENG 322 (3)	ESL Teaching Practicum

MARINE SCIENCE

Department Chair:
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Walter C. Dudley, Ph.D.
Karla J. McDermid, Ph.D.
Associate Professors:
Marta J. deMaintenon, Ph.D.
Michael L. Parsons, Ph.D.
Assistant Professors:
Misaki Takabayashi, Ph.D.
Tracy Wiegner, Ph.D.
Instructors:
Michael L. Childers, B.A.
Lisa Parr, M.S.
Educational Specialist:
John P. Coney, B.S.
Laboratory Supervisor:
Randi Schneider, M.S.

Curricula

B.A., Marine Science
Minor, Marine Science
Certificate, Marine Option Program (MOP)
M.S., Tropical Conservation Biology and Environmental Science
(described on the Web at http://tcbes.uhh.hawaii.edu)

Marine Science Program

Marine Science is a well-rounded and multi-disciplinary program which has been carefully designed to take full advantage of the unique variety of marine environments available for study around the island of Hawai'i. Introductory lecture and laboratory courses in general oceanography and marine biology are followed by intermediate-level courses in marine ecology, marine monitoring techniques, and statistical applications in marine science. The most advanced level of the program is composed of specialized courses in geological, chemical, physical, and biological oceanography. The program culminates in a student's choice of one of three capstone sequences: (a) Senior Thesis, a research sequence involving proposal writing, library research, field data collection, laboratory work, computer analysis of data, report writing, and oral presentation; (b) Senior Internship, a sequence providing students the opportunity to apply their knowledge and skills in an agency or organization involved in marine science education or research; or (c) Senior Seminar, a sequence involving discussion, critique, and presentation of marine science-oriented seminars.

Mission Statement

The mission of the undergraduate degree program in marine science is to provide students with a comprehensive understanding of the world's oceans and an appreciation of the importance of marine ecosystems to the global environment and human life. This mission is accomplished through a combination of hands-on laboratory and field experience, inquiry-based instruction, and direct interactive learning and supported by a broad background in the marine sciences, including basic knowledge of the natural science disciplines of biology, chemistry, physics, geology, and mathematics.

Learning Goals for Students in the Major

A. Content Goals

Provide students with a solid background in:

1. The primary sciences and mathematics, including proficiency in chemistry, physics, calculus, computer applications related to the natural sciences, and laboratory techniques;
2. Marine science, including proficiency in marine biology, introductory oceanography, marine ecology, chemical oceanography, and physical oceanography;
3. Advanced multidisciplinary undergraduate training in their choice of a variety of focal areas, including, but not limited to, geography, geology, biology, fisheries, and aquaculture.

B. General Goals

Provide students with knowledge of and experience in:

1. The scientific method and critical thinking, including the ability to design and carry out an inquiry-based research or internship project, analyze primary scientific literature, write a scientific proposal, and write a research paper or compile a portfolio;
2. Scientific speech and discussion, including the ability to formally present a science project and discuss scientific issues.

C. Technical Goals

Provide students with an understanding of and proficiency in:

1. Laboratory safety;
2. Oceanographic and marine biological laboratory methods and field techniques;
3. The use and application of bio-statistical and microcomputer techniques;
4. Experimental design, data analysis, and interpretation of results, particularly in the use and application of marine monitoring techniques.

Prospects for Graduates

A Marine Science degree from UH Hilo opens doors to a wide variety of jobs, careers, graduate schools, and post-graduate opportunities. Employment possibilities include positions as marine research technicians, with marine-oriented government agencies and non-profit organizations, in eco-tourism, as science teachers in public and private schools, and in the practice of environmental law. UH Hilo graduates are well prepared to continue to graduate schools in Hawai'i, on the Mainland, and overseas in pursuit of higher degrees and careers in academia and research. Medical, dental, and veterinary schools also have accepted Marine Science graduates from UH Hilo.

Special Aspects of the Marine Science Program

The Kalākaua Marine Education Center (KMEC) (www.kmec.uhh.hawaii.edu/), in coordination with the Marine Science Department, supervises the activities of diverse marine programs at UH Hilo including the Marine Science Summer Program, the QUEST field training course, and the UH Hilo Marine Option Program. KMEC's programs fully utilize the Island of Hawai'i's variety of marine environments, ranging from deep ocean to coral reef to estuarine, and emphasize a hands-on approach to education. KMEC operates the R/V *Four Winds*, a 53-foot research/education power catamaran. The *Four Winds* is used to support marine science courses and student research and is capable of carrying more than 30 students and deploying a CTD, current meters, drogues, sediment coring apparatuses, and plankton nets. An 18-foot Larson motorboat is used as a nearshore research vessel, and two Zodiac inflatables support scuba diving operations. KMEC maintains an inventory of scuba equipment for research diver training and *in situ* research projects. Underwater video systems and an editing station are available for use by students doing Marine Option Program skill projects or senior thesis research. In addition, an in-house computer graphics facility allows students to prepare state-of-the-art presentations on their research projects. Scanning and research microscopes also are available to students in the Marine Science degree program.

The Marine Option Program (MOP) (http://uhhmop.hawaii.edu/) is a certificate program available to all undergraduate students at the University of Hawai'i, regardless of major. The program has branches on campuses throughout the UH system. The MOP certificate is earned by completing selected course work and completing a hands-on project or internship, combining academic requirements with practical experience in an area of marine interest of the student's choice. Each year MOP sponsors a Student Skill Project Symposium where selected students gain valuable experience by presenting the results of their projects. The site for the symposium rotates among UH campuses. UH Hilo MOP also coordinates QUEST (Quantitative Underwater Ecological Surveying Techniques), the annual UH system-wide scuba research techniques course,

MOP also serves as the UH Hilo center for marine-related activities ranging from scientific research to marine recreation. UH Hilo MOP offers students experience in a variety of recreational skills, including sailing and seamanship, fishing, snorkeling, and kayaking. Each year MOP students participate in tagging Green Sea Turtles in an on-going research program carried out in cooperation with the National Marine Fisheries Service. MOP also sponsors seminars, films, field trips, and short courses on various marine-related subjects. All UH Hilo students are invited to take part in MOP-sponsored activities.

The **Marine Science Summer Program** (www.kmec.uhh.hawaii.edu/summer.htm) has received the Excellence of Program Award from the Western Association of Summer Session Administrators, which represents some 80 colleges and universities in the western United States, Canada, and Mexico. Course offerings vary yearly, but always include introductory level courses in oceanography and marine biology, a Hawai'i marine field experience course, and a course in tropical marine research investigations, through which students can conduct original research projects under the guidance of a faculty member. Other offerings may include courses on marine mammals, marine reptiles, coral reef ecology, small boat handling, advanced oceanography laboratory skills, and marine monitoring techniques. Summer courses in marine science combine classroom instruction with hands-on experience in the field and lab, and a primary goal of the program is to provide students with extensive personal attention.

QUEST (www.kmec.uhh.hawaii.edu/quest.htm) stands for Quantitative Underwater Ecological Surveying Techniques, which is a special summer course taught in May each year. QUEST is designed to train undergraduates in underwater ecological surveying methodologies, including the design, implementation and analysis of a research project, and incorporates instruction in the identification of the common seaweeds, corals, invertebrates, and fishes of Hawaiian reefs. This unique two-week course involves classroom instruction coupled with extensive practical instruction surveying coral reefs off the west coast of Hawai'i using SCUBA.

MARINE SCIENCE REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Requirements in Group 2 fulfill all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(ENG 225 in Major Requirements, Group 2, fulfills 3 out of 9 required semester hours of Humanities)**	6 more
5. Social Sciences	9
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**24**
GROUP 2. Major Requirements	
1. Required Courses from Marine Science	
• MARE 171-171L Marine Biology	4
• MARE 201-201L Oceanography	5
• MARE 250 Statistical Applications in Marine Science	3
• MARE 265 Marine Ecology and Evolution	3
• MARE 350 Coastal Methods and Analyses **OR** MARE 353 Pelagic Methods and Analyses	4
• MARE 425 Chemical Oceanography	3
• MARE 440 Physical Oceanography	3
• And **ONE** sequence from the following:	6
o MARE 470 Senior Thesis and MARE 471 Senior Thesis Report	
o MARE 480 Senior Internship PLUS 3 semester hours of MARE Electives at the 300-400 level	
o MARE 495 Senior Seminar PLUS 3 semester hours of MARE Electives at the 300-400 level	
2. Required Courses from Related Fields	
• BIOL 125 Introduction to Cell and Molecular Biology	3
• CHEM 124-124DandL General Chemistry I	5
• CHEM 125-125DandL General Chemistry II	5
• PHYS 106-170L College Physics I	4
• PHYS 107-171L College Physics II	4
• MATH 205-206 Calculus I-II	8
• CS 102 Microcomputer Applications for the Sciences	3
• ENG 225 Writing for Science and Technology	3
3. **15** Semester Hours of Electives from Marine Science (**9** semester hours must be at the MARE 300-400 level) Select from the following courses:	15
• MARE 264(3) Quantitative Underwater Ecological Survey Techniques (QUEST)	
• MARE 282(3) Global Change	
• MARE 310(3) The Atoll Ecosystem	
• MARE 325 (3) Coral Reef Ecology	
• MARE 350 (4) Coastal Methods and Analyses	
• MARE 353 (4) Pelagic Methods and Analyses	
• MARE 360 (3) Marine Resources	
• MARE 364 (3) Advanced QUEST	
• MARE 366 (3) Tropical Marine Research Investigations	
• MARE 371 (3) Biology of Marine Invertebrates	
• MARE 371L (1) Biology of Marine Invertebrates Lab	

• MARE 372 (3) Biology of Marine Plants • MARE 372L (1) Biology of Marine Plants Lab • MARE 394A-Z (1-3) Special Topics in Marine Science • MARE 400 (4) Aquacultural Engineering • MARE 434 (3) Teaching Marine Science • MARE 435 (3) Marine Field Experience for Teachers • MARE 444 (3) Biological Oceanography • MARE 461 (3) Geological Oceanography • MARE 475 (3) Fish Population Dynamics • MARE 484 (3) Biology of Fishes • MARE 484L (1) Biology of Fishes Lab • MARE 494A-Z (1-3) Special Topics in Marine Science • BIOL 357 (3) Evolution • CHEM 141 (3) Survey of Organic Chemistry and Biochemistry • ECON 380 (3) Natural Resource and Environmental Economics • GEOG 340 (3) Principles of Land Use Planning • GEOG 440 (3) Advanced Environmental Planning • GEOG 470 (3) Remote Sensing and Air Photo Interpretation • GEOG 480 (3) Geographic Information Systems and Computer Mapping • POLS 335 (3) Environmental Politics and Policy **Total**.....	**81**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below) **Total**.....	**15**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Marine Science	**120**

Notes:
1. Students must earn a minimum grade of C in all required courses and prerequisite courses.
2. Upper division credits needed for graduation with a degree in Marine Science are 22.
3. To earn a Bachelor of Arts degree in Marine Science, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Marine Science Minor

24 semester hours in Marine Science

The minor offers a broad exposure to Marine Science with a biological orientation and is desirable for:

- Teaching; for example, in conjunction with the Natural Sciences degree.
- Marine ecotourism or marine recreation careers; for example, in conjunction with a major in Anthropology, Business Administration, Economics, Geography, or Hawaiian Studies.
- Graduate school preparation in a specialized branch of a primary science with an emphasis in Marine Science; for example, in conjunction with a degree in Biology, Chemistry, Geology, or Physics

1. Required Courses from Marine Science (12 semester hours)

- MARE 171 (3) Marine Biology
- MARE 201 (3) Oceanography
- MARE 265 (3) Marine Ecology and Evolution
- MARE 282 (3) Global Change

2. Electives: choose 12 semester hours from the following courses

- MARE 264 (3) Quantitative Underwater Ecological Survey Techniques (QUEST)
- MARE 310 (3) The Atoll Ecosystem
- MARE 325 (3) Coral Reef Ecology
- MARE 360 (3) Marine Resources
- MARE 364 (3) Advanced QUEST
- MARE 366 (3) Tropical Marine Research Investigations
- MARE 371 (3) Biology of Marine Invertebrates
- MARE 371L (1) Biology of Marine Invertebrates Lab
- MARE 372 (3) Biology of Marine Plants
- MARE 372L (1) Biology of Marine Plants Lab
- MARE 394A-Z(1-3)Special Topics in Marine Science
- MARE 434 (3) Teaching Marine Science
- MARE 435 (3) Marine Field Experience for Teachers
- MARE 444 (3) Biological Oceanography
- MARE 461 (3) Geological Oceanography
- MARE 425 (3) Chemical Oceanography
- MARE 440 (3) Physical Oceanography
- MARE 484 (3) Biology of Fishes
- MARE 494A-Z (1-3)Special Topics in Marine Science

The Marine Option Program Certificate

12 semester hours

The goals of MOP are to:

1. Provide an opportunity for undergraduate students in any discipline to acquire a marine orientation during his/her residency at UH Hilo;
2. Add focus and relevance to the academic marine courses by aiding the students in acquiring a practical "marine skill;"
3. Help each MOP student, through counseling, discover and implement his/her individual marine-oriented educational career goals;
4. Provide special seminars and interdisciplinary courses designed to acquaint the undergraduate student with the many facets of marine affairs; and
5. Provide opportunities and guidance to students who wish to contribute their talents by working toward solutions for social and environmental ocean-related problems.

Course Requirements

1. Survey class (3 credits)
   - BIOL/MARE 171 (3) Marine Biology OR
     MARE 201 (3) Oceanography
2. Interdisciplinary class (3 credits) Choose from:
   - BIOL 425 (3) Water Quality and Aquatic Productivity
   - ECON 380 (3) Natural Resource and Environmental Economics
   - GEOG 101 (3) Geography and the Natural Environment
   - GEOG 319 (3) Natural Hazards and Disasters
   - GEOG 326 (3) Natural Resources
   - GEOG 332 (3) Geography of the Hawaiian Islands
   - GEOG 335 (3) Geography of Oceania
   - GEOG 440 (3) Advanced Environmental Planning
   - GEOL 100 (3) Environmental Geology
   - HWST 211 (3) Hawaiian Ethnobotany
   - HWST 213 (3) Hawaiian Ethnozoology
   - MARE 282 (3) Global Change
   - MARE 360 (3) Marine Resources
   - MARE 434 (3) Teaching Marine Science
   - POLS 335 (3) Environmental Politics and Policy
3. Electives (6 credits) Any approved marine-related course.
4. Skills project or internship.

For further information, contact the MOP Coordinator, UH Hilo at (808) 974-7544, (808) 933-3907, or at http://uhhmop.hawaii.edu/

MATHEMATICS

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Nadine Wolff, M.S.

The instructional mission of the Mathematics Department is threefold. First, the major program is designed to prepare its students for successful careers in secondary education and other areas requiring a strong foundation in mathematics, or for success at the graduate level, either in mathematics or a related discipline. The degree is intended to familiarize students with a wide range of areas within the field of mathematics, and to instill in them an appreciation for the rigor and structure of the discipline. Second, the Math Department provides extensive support to those departments requiring mathematics content for their majors, particularly those in the Natural Sciences. Third, the Department services non-science majors by offering a limited selection of courses that are designed to introduce the students to the fundamental concepts that constitute classical and contemporary mathematics.

The Mathematics Curricula

The Mathematics program is designed to give the undergraduate a broad background in modern mathematics and its applications. The upper-division mathematics courses represent a core leading to further work in mathematics or mathematically related areas or careers in mathematics education. Applications may be pursued in such areas as systems theory, graph theory, number theory, statistics, and geometry, which are widely used in computer science, business, and the physical, life, and social sciences. Students majoring in other fields whose interests require a strong background in mathematics can minor in mathematics.

The B.A. in Mathematics is offered through two tracks, the Traditional and the Teaching track. Each track requires two years of calculus and one semester each of discrete math and linear algebra. The traditional track includes one-year sequences in the classical areas of modern algebra and real analysis, and students completing this track are particularly well prepared for graduate study. The teaching track includes a one-year sequence in probability and statistics, consistent with recent National Council of Teachers of Mathematics standards, as well as one semester each in real analysis, geometry, and modern algebra. Students completing this broad curriculum are well prepared to teach all areas of intermediate and secondary math.

Goals for Student Learning in the Major

As a result of having majored in mathematics, students are expected to develop:

1. A general understanding of the different areas of mathematics and how they interrelate, and the importance of mathematics in a scientifically-oriented society;
2. Classical theorem-proving skills, which include the ability to reason mathematically and to apply the rigor necessary to construct proofs;
3. A refined understanding of the problem-solving process;
4. The ability to independently develop and deliver all pre-college math curriculum, if the professional goal is teaching;
5. A working knowledge of technology appropriate to the field;
6. The skills necessary to
   a. Read, write, translate, and articulate mathematically-related material,
   b. Solve problems using a variety of techniques, including algebraic, numerical, and spatial reasoning through visualization (e.g. graphically),
   c. Make inferences and generalizations.

Contributions to the General Education Program

All lower-division mathematics courses satisfy the CAS General Education "quantitative and logical reasoning" requirements. Students who have fulfilled this General Education requirement should have developed an appreciation for the applicability of mathematical concepts and techniques to contemporary society.

Special Aspects of the Mathematics Program

The Math Tutoring Lab is a free walk-in lab, offering all students in introductory math courses through first-year calculus the opportunity to get one-on-one tutoring from qualified peer tutors. The lab not only provides student clientele the opportunity to get help outside their classes from peers at convenient hours, it provides tutors pursuing careers in math education an excellent opportunity to hone their teaching skills with help from professional math faculty, and it offers a convenient and friendly place for math students and others to meet, study together, and socialize.

The Math Department also sponsors the UH Hilo Math Club. The Math Club is a social club that offers Math majors and other students interested in math an opportunity to gather and participate in fun activities such as pizza parties, training for math competitions, or viewing math related videos such as "A Beautiful Mind."

MATHEMATICS REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math Major Requirements in Group 2 fulfill all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Math Major Requirements in Group 2 fulfill 3 of the 10 semester hours of this requirement)**	7 more
Total.....	**34**
GROUP 2. Major Requirements	
A. Track One, Traditional (for students planning graduate work in mathematics or careers in science or technology).	
• MATH 205-206 Calculus I and II	8
• MATH 231-232 Calculus III and IV	6
• MATH 310 Discrete Mathematics	3
• MATH 311 Introduction to Linear Algebra	3
• MATH 431-432 Real Analysis I and II	8
• MATH 454-455 Modern Algebra I and II	6
• Plus 3 more semester hours of 300-400 level mathematics courses, not including MATH 496	3
B. Track Two, Teaching (for students planning to teach mathematics).	
• MATH 205-206 Calculus I and II	8
• MATH 231-232 Calculus III and IV	6
• MATH 310 Discrete Mathematics	3
• MATH 311 Introduction to Linear Algebra	3
• MATH 421 Elementary Probability Theory	3
• MATH 422 Elementary Mathematical Statistics	3
• MATH 431 Real Analysis I	4
• MATH 441 Geometry I	3
• MATH 454 Modern Algebra I	3
• MATH 496 Teaching Assistance and Tutoring in Mathematics	3
Total.....	**37-39**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Notes 1 and 3 below)	
Total.....	**47-49**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Mathematics	**120**

Notes:
1. MATH 317 and PHIL 345 are strongly recommended before enrolling in 400-level classes.
2. Students must earn at least a 2.0 cumulative GPA in courses required for the major.
3. At least 45 semester hours must be earned in courses at the 300-400 level.
4. To earn a Bachelor of Arts degree in Mathematics, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

MATHEMATICS MINOR

26 semester hours

Course Requirements

- MATH 205-206(8) Calculus I and II
- MATH 231-232 (6) Calculus III and IV
- PLUS at least 12 semester hours of 300-400 level mathematics courses

NATURAL SCIENCE

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Karla McDermid, Ph.D., Marine Science
Jené Michaud, Ph.D., Geology

The Natural Science program was designed to prepare students to become science teachers. The curriculum promotes a holistic view of science that is excellent preparation for teaching at the intermediate school level. The program also provides training for students with broad interests who intend to work in interdisciplinary arenas such as environmental science.

Students in the Natural Science program take courses in a wide spectrum of science subjects, plus complete a minor in one of these subjects. The minor gives students an area of specialization. Graduates of the Natural Science program often enroll in the UH Hilo secondary teacher licensure program following graduation. Other graduates pursue non-teaching careers.

Goals for Student Learning in the Major

The primary educational objective of the Natural Science program is the development of a solid foundation in the concepts, goals, and methods of a variety of science disciplines. Students can expect to build a strong knowledge base in the fundamental sciences of chemistry and physics, and to receive a broad introduction to other disciplines, such as astronomy, computer science, geology, oceanography, and the philosophy of science. Students choose among three curricular concentrations: general science that stresses biological science, physical science, or environmental science. Students can expect to deepen their knowledge through hands-on laboratory investigations, to develop observational and experimental skills, and become familiar with safety protocols appropriate to teaching laboratories. Students will develop critical thinking skills and a more detailed understanding of scientific concepts and methods through completion of a minor in a specific science discipline. Students will be able to apply their knowledge to current issues, and give a professional-style oral presentation on a scientific topic.

Special Aspects of the Program

UH Hilo is surrounded by tropical ecosystems, world-class astronomy observatories, active volcanoes, and tropical coral reefs. Some courses in the Natural Science program emphasize field trips that use Hilo's extraordinary location as a "living laboratory." The plants, animals, volcanoes, ocean, and observatories of the Big Island are unique and bring to life the study of biology, geology, oceanography, and astronomy.

NATURAL SCIENCE REQUIREMENTS FOR BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Math 115 in Group 2 fulfills all three semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities **(see Note 9 below)**	9
5. Social Sciences	9
6. Natural Sciences **(Science courses in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**27**
GROUP 2. Major Requirements	
1. Core Requirements	
CHEM 124, 124D General Chemistry I plus Discussion section	4
CHEM 124L General Chemistry I laboratory	1
CHEM 125, 125D General Chemistry II plus Discussion section	4
MATH 115 Applied Calculus **(see Note 6 below)**	3
PHIL 390 History and Philosophy of Science **OR**	3
PHIL 392 Biology and Philosophy	
ASTR/BIOL/CHEM/GEOL/MARE/MATH/PHYS 495A-B Seminar **(see Note 5 below)**	2
2. Breadth Requirements (Select the General **OR** Physical **OR** Environmental Science Concentration)	
A. General Science Concentration	
BIOL 125 Introduction to Cell and Molecular Biology **OR**	3
BIOL 270 Intermediate Cell and Molecular Biology	
BIOL 175-176 Introductory Biology I and II	6
BIOL 175L Introductory Biology I Laboratory **OR**	1
BIOL 176L Introductory Biology II Laboratory	
PHYS 106-107 College Physics I and II **(see Note 7 below)**	6
PHYS 170L General Physics I Laboratory	1
<u>Three</u> courses selected from the following:	9
ASTR 180 Principles of Astronomy I	
ASTR 181 Principles of Astronomy II	
CS 102 Microcomputer Applications for the Sciences	
CS 150 Introduction to Computer Science	
GEOL 111 Physical Geology	
GEOL 112 Historical Geology	
MARE 201 Oceanography	
PHYS/GEOG 120 Weather and Climate of Hawaii	
<u>One</u> additional laboratory course selected from the following:	1
ASTR 110L General Astronomy Lab	
BIOL 175L Introductory Biology I Lab	
BIOL 176L Introductory Biology II Lab	
BIOL 270L Intermediate Cell and Molecular Biology Lab	
CHEM 125L General Chemistry II Lab	
GEOL 111L Physical Geology Lab	
PHYS 171L General Physics II Lab	
B. Physical Science Concentration	
BIOL 101 General Biology **(see Note 8 below)**	3
ASTR 180 Principles of Astronomy I	3

GEOL 111 Physical Geology	3
CHEM 125L General Chemistry II Lab	1
PHYS 106-107 College Physics I and II **(see Note 7 below)**	6
PHYS 170L, 171L General Physics I and II Lab	2
Three courses selected from:	9
ASTR 181 Principles of Astronomy II	
CS 102 Microcomputer Applications for the Sciences	
CS 150 Introduction to Computer Science	
GEOL 112 Historical Geology	
MARE 201 Oceanography	
PHYS/GEOG 120 Weather and Climate of Hawai'i	
C. Environmental Science Concentration	
BIOL 175-175L Introductory Biology I **OR**	4
BIOL 176-176L Introductory Biology II	
BIOL 281 General Ecology	3
MARE 282 Global Change	3
MATH 121 Introduction to Statistics and Probability	3
CHEM 360 Environmental Chemistry	3
Three courses (two must be in a discipline different from the minor) selected from the following:	9
GEOL 111 Understanding the Earth	
BIOL 156 Natural History and Conservation of the Hawaiian Islands	
BIOL 275 Fundamentals of Microbiology	
CS 102 Microcomputer Applications for the Sciences	
PHYS 106 College Physics I	
PHYS/GEOG 120 Weather and Climate of Hawaii	
GEOL 300 Advanced Environmental Earth Science	
GEOL 360 Surface Water	
GEOL 450 Geological Remote Sensing	
GEOG 300 Climatology	
GEOG/BIOL 309 Biogeography	
GEOG 470 Remote Sensing and Air Photo Interpretation	
MARE 201 Oceanography	
SOIL 304 Tropical Soils	
Two additional laboratory courses selected from the following:	2
BIOL 175L Introductory Biology I Lab	
BIOL 176L Introductory Biology II Lab	
BIOL 156L Natural History and Conservation of the Hawaiian Islands Lab	
BIOL 281L General Ecology Lab	
BIOL 275L Fundamentals of Microbiology Lab	
CHEM 125L General Chemistry Lab II	
GEOL 111L Understanding the Earth Lab	
MARE 201L Oceanography Lab	
PHYS 170L General Physics Lab I	
Total.....	**44**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (See Notes 3 and 4 below)	
Total.....	**49**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Natural Science	**120**

Notes:

1. All courses for the major must be completed with a grade of C or better.
2. Minor Requirements: Students in General Science or Physical Science Concentrations must complete a minor in astronomy, biology, chemistry, computer science, earth and space science, geology, marine science, mathematics, or physics. Students in the Environmental Science Concentration must complete a minor in biology, chemistry, geology, or marine science.
3. At least 21 semester hours in the General Science and Physical Science Concentrations must be earned in courses numbered 300-400.
4. At least 30 semester hours in the Environmental Science Concentration must be earned in courses numbered 300-400.
5. Students should take the 495A-495B seminar appropriate to their minor. Computer science minors should sign up for MATH 495A-495B. Earth and space science minors should sign up for GEOL 495A-495B or ASTR 495A-495B.
6. MATH 205 may substitute for MATH 115.
7. PHYS 170-171 may substitute for PHYS 106-107.
8. BIOL 125, 175, or 176 may substitute for BIOL 101.
9. Students are advised to take a philosophy course as part of their general education requirements in order to prepare for PHIL 390 or 392.
10. To earn a Bachelor of Arts degree in Geology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
11. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
12. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

NURSING

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Associate Professors:
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Program Mission and Goals

Mission

The Baccalaureate Nursing Program supports the mission of the University of Hawai'i at Hilo in providing a learning environment that is responsive to the needs of a diverse student population and that stresses rigorous high quality education in a caring, personalized atmosphere. This educational experience encourages student-faculty interactions and offers hands-on learning and leadership opportunities. The Nursing Program places emphasis on learning about the challenges of delivering culturally congruent nursing care in a rural environment. The UH Hilo B.S.N. mission is summarized below:

C Culturally congruent care
A Active learning, critical thinking
R Responsive to needs of diverse students and communities
I Invested in quality and research
N Nursing professionalism
G Global peace

Program Goals

The program is committed to the following:

- Providing quality nursing education with a strong focus on transcultural caring and an emphasis on critical thinking skills
- Maintaining currency with nursing practices and standards in the delivery of therapeutic nursing care to individuals, families and communities
- Developing effective communication skills that are congruent with cultural values and beliefs
- Fostering community engagement through service and research projects which develops skills in collaboration, resource management and program development
- Satisfactorily meeting the needs of students as well as those of clients and employers

The Baccalaureate Nursing Program prepares students for careers in professional nursing. The Nursing Program is accredited by the Hawaii State Board of Nursing and the National League of Nursing Accrediting Commission. The B.S.N. degree will be granted by UH Hilo upon the recommendation of Nursing faculty to those students who have successfully completed the prescribed curriculum.

Goals for Student Learning in the Major

The **baccalaureate nursing graduate** will be able to function at the beginning practice level skills:

- Organizes and prioritizes transcultural nursing care for individuals, families, and communities using the nursing process by demonstrating clinical proficiency in the delivery of care
- Uses critical thinking to provide therapeutic nursing care derived from current research and recognized state and national (professional) standards
- Communicates effectively with healthcare providers and consumers in order to assess, plan, implement and evaluate health care
- Advocates for positive changes in the health care delivery system in partnership with the community
- Provides culturally congruent health education to a diverse population

As a manager of care, **a baccalaureate nursing graduate** will be able to

- manage care of individuals, families, and communities with complex health problems using current, research based nursing practices
- collaborate with other professionals to provide preventive health education and research-based interventions to promote, maintain, and restore health to clients of all age groups and varied cultures
- involve others in meeting the health needs and nursing goals with the leadership and management roles
- foster engagement through community and research activities which develop skills in collaboration, resource management, and program development

As a participant investigator, **a baccalaureate nursing graduate** will be able to

- integrate theory, knowledge, and experiences gained from general education and nursing courses in refining critical thinking skills
- read, interpret, and evaluate nursing research and begin to apply the knowledge and/or findings to nursing practice
- begin to be involved in research activities, especially within the community

As a member of the profession, **a baccalaureate nursing graduate** will be able to

- assume personal responsibility for professional growth, such as membership in nursing organizations, attendance at professional meetings, or reading professional literature

- administer nursing care in an ethical and legal manner in accordance with accepted state and national nursing standards
- incorporate leadership skills to effect change to enhance the health of individuals, families, and communities and improve the health care delivery system

As a promoter of transcultural caring, **a baccalaureate nursing graduate** will be able to

- identify the caring values, beliefs, and practices of health and illness and work with individuals, families, and communities to provide competent culturally congruent health care

Program Options

Students have two program options to earn the Bachelor of Science degree in Nursing. Option 1 is for the basic student. Option 2 is for the returning R.N. who wishes to acquire the bachelor's degree.

Option 1

Students may enter the Basic B.S.N. program, whereby two years are spent fulfilling UH Hilo General Education and pre-nursing or pre-core requirements. Nursing courses are introduced in the third year after formal admission into the Nursing program on a competitive basis (See B.S.N. admissions criteria.)

Option 2

The R.N. to B.S.N. program provides the candidate the opportunity for educational and professional advancement. Students may enter the R.N. to B.S.N. program only if they have a current R.N. license and after being formally admitted into the upper-division nursing program (see B.S.N. admission criteria). Students may elect to complete the program on a part-time or full-time basis. Full-time students are expected to complete the one-year (30 semester hours) course sequence described below. Part-time students are expected to take all non-clinical courses prior to taking courses that include practica. **Regular advisement with faculty is critical for successful completion of requirements for graduation.**

Fall Semester (13 semester hours)

NURS 347 (3)-347L (1)	Health Assessment with Practicum
NURS 350 (3)	Transcultural Care and Health Promotion
NURS 358 (3)	Nursing Research
NURS Elective (3)	

Spring Semester (17 semester hours)

NURS 375 (3)	Applied Human Nutrition
NURS 410 (2)-410L (4)	Community Health Care with Practicum
NURS 457 (3)-457L (2)	Collaborative Health Care, Leadership and Management with Practicum
NURS 469 (3)	BSN Nursing Preview

Note: RN/BSN students must meet the UH Hilo residence requirement of 30 credits from UH Hilo and complete a minimum of 24 credits of UH Hilo nursing courses from the list above, which must include: NURS 350, NURS 410, NURS 410L, NURS 457, NURS 457L, and NURS 469.

R.N. to B.S.N. Distributed Learning (DL) Program

A DL program is being implemented to help R.N. students in distant sites to access the B.S.N. program. Students from Maui, Kaua'i, and West Hawai'i are targeted for the first course offerings. This DL program will be expanded according to student needs and resource support. Contact the Nursing Department for more information.

NLN Mobility Test Requirement for RN's without an Associate Degree

Diploma and foreign nursing degree candidates are required to take the National League of Nursing Achievement Challenge Exam I and II Tests prior to entering the program. Consult with the Nursing advisor for help in arranging for testing with the UH Hilo Testing Center.

Academic Regulations for Nursing

To earn the B.S.N. degree a student must satisfy the prerequisite, co-requisite, and nursing course requirements for the B.S.N. degree as specified in the UH Hilo Catalog and B.S.N. brochure in effect at the time of the student's initial enrollment in the Nursing program. Once admitted into the upper-division Nursing program, students are expected to complete the Nursing program in two years. Students who do not graduate within this period will be subject to review. The student is directly responsible to assure that all requirements are met for graduation.

Admissions Policies

Students qualify for admission into the upper division of the Basic Baccalaureate Nursing program after completing prerequisite courses. Admission is on a competitive, space-available basis.

The criteria for admission to the Nursing program are as follows:

1. Timely submission of UH Hilo Common Application Form for newly entering students or "Change of Program" form for continuing students. (Designate NURH for the major.)
2. Timely submission of nursing application form
3. A 2.7 cumulative college grade point average (GPA)
4. A 2.7 GPA for all courses listed as a Natural Science degree requirement for the BSN program
5. Completion of all college prerequisite courses (Note: Biology and chemistry classes must be passed with a "C" or better grade. Students transferring from outside the UH system must submit course descriptions for all non-nursing courses and course syllabi for nursing courses.)
6. Only 16 credits of nursing prerequisite courses can be outstanding with a maximum of 8 credits in the required natural sciences by the end of the semester prior to application.
7. Basic students will take a pre-entry examination and/or admission interview, with students expected to meet minimum

performance standards set forth by the program. This is not a requirement for RN/BSN students.

Fall admission only: Applications to the Bachelor of Science in Nursing program must be made by January 15 for Fall entry. Contact the Nursing Department for application forms.

Pre-Nursing Status

Prior to formal admission into the upper-division Nursing program, students following the course of study to qualify for admission will be considered Pre-nursing students. Newly entering Pre-nursing students should indicate PRNU as the major on their Common Application Form. Continuing UH Hilo students who have not done so should submit a "Change of Program" form to indicate PRNU as the major. There are no special requirements for the PRNU major. Pre-nursing students should seek regular advisement from the nursing faculty regarding academic planning.

Academic Status and Progression Policies

The nursing faculty of UH Hilo are held responsible to the UH Board of Regents and the Hawai'i State Board of Nursing for the quality of its nursing education. Inherent in this responsibility is the assessment of individual progression based upon academic and professional ethical standards. All UH Hilo policies are in effect and may be found in the academic regulations in the UH Hilo Catalog.

Academic Honors

All nursing students achieving a cumulative GPA of 3.7 or better will be awarded the Director's Certificate of Academic Excellence upon graduation.

Academic Suspension and Dismissal

A student failing to achieve a "C" or 2.0 grade in nursing courses at any point in progression through the program will be dismissed from the program after the review and recommendation of the Nursing Admissions, Progression, and Retention Committee. The student will be ineligible for readmission to the BSN Nursing Program.

A student may be subject to immediate suspension or dismissal from clinical activities, when, in the judgment of the nursing faculty, the welfare of the client, the public, or the University requires such action.

Students have the right to participate in the UH Hilo grievance protocol. Reasonable cause for suspension or dismissal includes but is not limited to the demonstrable behaviors contrary to the Code of Ethics and Standards of Practice of the American Nurses' Association, the International Council of Nurses, and the rules and regulations of the Hawai'i Board of Nursing (Hawai'i Revised Statutes, Chapter 457). Students are responsible to be knowledgeable regarding these aforementioned codes, rules, and regulations.

Policy on Nursing Courses

Nursing courses are listed in blocks and are restricted to students admitted to the upper-division Nursing program, with a major designation of NURS. All courses within a block must be taken concurrently. Students may not proceed to the next block until all course requirements for the preceding block have been met. See Nursing Requirements section. (Students in the R.N. to B.S.N. program take courses within the block as determined by their program of study.) A course with an associated lab must be taken concurrently.

Nursing elective and co-requisite courses do not require admission into the upper-division Nursing program and may be taken with instructor and/or departmental approval, as required.

Grading

All nursing **didactic courses must be taken for a letter grade**. Only full letter grades will be used (no plus or minus grading). All nursing **practicum courses will be "credit/no credit."**

Students must achieve a passing grade of "C" (2.0) for didactic nursing courses and CR (credit) for practicum nursing courses in order to progress in the program.

Special Requirements

Students must meet all health and professional requirements for clinical, including the following:

1. T.B. and immunization clearance;
2. Healthcare Provider's CPR (includes CPR for Adults, Children, and Infants) certification;
3. liability insurance;
4. health insurance.

Compliance with supplemental training required by an agency will be the responsibility of the student.

Notice to Students:

Health care students are required to complete University prescribed academic requirements that involve clinical practice in a University affiliated health care facility setting with no substitution allowable. Failure of a student to complete the prescribed clinical practice shall be deemed as not satisfying academic program requirements. It is the responsibility of the student to satisfactorily complete affiliated health care facility background checks and drug testing requirements in accordance with procedures and timelines as prescribed by the affiliated health care facility.

NURSING REQUIREMENTS FOR BACHELOR OF SCIENCE DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(see Note 2)**	3
3. World Cultures **(ANTH 100 in Group 2 fulfills 3 of the required 6 semester hours of this requirement)**	3 more
4. Humanities **(One COM course in Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
5. Social Sciences **(PSY 100 in Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
6. Natural Sciences **(Science Requirements in Group 2 fulfill all ten semester hours of this requirement)**	-
Total.....	**21**
GROUP 2. Major Requirements	
1. Required Pre-Core Courses	
• ANTH 100 Cultural Anthropology	3
• One course in COM at the 100-200 level	3
• PSY 100 Survey of Psychology	3
• BIOL 243, 243L, 244, 244L Human Anatomy and Physiology plus Labs	8
• BIOL 275, 275L Fundamentals of Microbiology plus Lab	4
• CHEM 141 Survey of Organic Chemistry and Biochemistry	3
• NURS 203 General Pharmacology	3
• Statistics (Choose <u>ONE</u> course from the following list:)	3-4
o MATH 121 Introduction to Statistics and Probability	
o PSY 213 Statistical Techniques	
o SOC 280 Statistical Reasoning in Social Inquiry	
o BIOL 380 Biostatistics	
• PSY 320 Developmental Psychology **(see Note 4)**	3
• NURS 348 Human Pathophysiology	3
• NURS 375 Applied Human Nutrition **(see Note 4)**	3
2. Required Nursing Courses	
<u>Block I</u>	
• NURS 347, 347L Health Assessment with Practicum	4
• NURS 350 Transcultural Care and Health Promotion **(see Note 5)**	3
• NURS 351 Professional Nursing Issues and Trends **(see Note 6)**	3
• NURS 352L Nursing Skills Laboratory	1
• NURS 353, 353L Nursing Concepts and Skills with Practicum	6
<u>Block II</u>	
• NURS 355, 355L Adult Health Care I with Practicum	6
• NURS 356, 356L Parent-Newborn Health Care with Practicum	6
• NURS 357, 357L Mental Health Care with Practicum	6
<u>Block III</u>	
• NURS 358 Nursing Research	3
• NURS 455, 455L Adult Health Care II with Practicum	8
• NURS 456, 456L Parent-Child Health Care with Practicum	6
<u>Block IV</u>	
• NURS 410, 410L Community Health Care with Practicum **(see Note 6)**	6
• NURS 457, 457L Collaborative Health Care Leadership and Management with Practicum **(see Note 6)**	5
• NURS 459, 459L Nursing Review with Practicum **(see Note 7)**	2

3. Required Nursing Elective (Choose 3 Semester Hours from the following courses:) • NURS 370 Introduction to Transcultural Nursing • NURS 371 Computers and Health Care • NURS 372 Spirituality in Health Care • NURS 373 Gerontological Health Care • NURS 374 Skills in Nursing Leadership & Management • NURS 394 Special Topics in Nursing • NURS 399 Directed Studies • NURS 471 Introduction to Rural/Home Health Care • NURS 494 Special Topics in Nursing • NURS 499 Directed Studies	3
Total.....	**107-108**
GROUP 3. Writing Intensive and Hawaiian/Asian/Pacific Courses (see Notes 5 and 6 below) Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These are fulfilled in GROUPS 1 and 2 above.	**Varies**
Total Semester Hours Required For The B.S. in Nursing	**128-129**

Notes:
1. Students must earn at least a 2.0 GPA in courses required for the major.
2. Math 121 Statistics meets the Quantitative Reasoning requirement. The Quantitative Reasoning course must be passed with a "C" grade or better.
3. All Natural Science courses must be passed with a "C" grade or better.
4. PSY 320 Developmental Psychology and NURS 375 Applied Human Nutrition both must be passed with a "C" grade or better.
5. NURS 350 Transcultural Care and Health Promotion satisfies the Hawaiian/Asian/Pacific requirement in Group 3.
6. NURS 351, 410, and 457 meet the Writing Intensive requirement in Group 3.
7. RN to BSN students replace NURS 459 and 459L with NURS 469.
8. Basic students who transfer into the BSN program must complete a minimum of 63 credits of UH Hilo nursing courses.
9. To earn a Bachelor of Science in Nursing, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
10. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
11. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

PACIFIC ISLANDS STUDIES CERTIFICATE

Coordinator: TBA
Office: Social Sciences Division Office, UCB 308
(808) 974-7460

Professors:
James O. Juvik, Ph.D.
Sonia Juvik, Ph.D.
Associate Professors:
Seri Luangphinith, Ph.D.
Peter K. Mills, Ph.D.
Thomas Pinhey, Ph.D.
Junior Specialist:
James P. Mellon, M.A.

The interdisciplinary Pacific Islands Studies Certificate Program is an adjunct to a student's academic major. Students will have an opportunity to deepen their knowledge of Pacific Islands environments, cultures, and economy through a series of discipline-based courses and a capstone seminar. Course work in the certificate program focuses on the Pacific as a complex region of island states and territories with common regional concerns and reviews the problems and prospects of Pacific Islands peoples in the contemporary world.

The Certificate in Pacific Islands Studies

21 semester hours

1. **Required courses:**

ANTH 200b (3)	Cultures of the World: Regional Survey: (b) Oceania
ANTH/GEOG 435 (3)	Senior Seminar in Pacific Studies

Two courses out of the following three options:

ANTH 357 (3)	Change in the Pacific
GEOG 335 (3)	Geography of Oceania
Either HIST 316 or 317 (3)	Pacific History I or II

AND one course from the following three options:

HWST 175 (3)	Introduction to the Music of Polynesia
ENG 430 (3)	Pacific Islands Literature
A course on Pacific art (3)	

2. **Electives:**

Six semester hours of discipline-based Pacific courses or internships with Pacific content, subject to the approval of the Pacific Islands Studies faculty. Students may also take discipline-based directed study from a participating Pacific Islands Studies faculty member. Discipline-based courses relating to Pacific Islands topics and allowing the student to focus research papers on the Pacific may be approved for credit toward the certificate by a vote of participating faculty. Other appropriate courses may be included from time to time. Please see program coordinator for specific changes.

PERFORMING ARTS

Department Chair: Ken Staton, M.A. Associate Professor of Music (kstaton@hawaii.edu)
Performing Arts Department Office:
Portable Building 8, Room 7 (808) 933-0718
Web Page: www.uhh.hawaii.edu/academics/cas/humanities/performingarts.php

Professors:
Jacquelyn Pualani Johnson, M.A. (Drama)
John S. Kusinski, Ph.D. (Music)
Associate Professors:
Richard A. Lee, Ph.D. (Music)
Ken Staton, M.A. (Music)
Instructor:
Celeste Anderson Staton (Dance)
Theatre Manager:
Larry Joseph, A.A.
Theatre Technical Director:
Robert Abe, B.A.

The Performing Arts Department offers a degree program comprised of four specialty concentrations: Dance, Drama Performance, Music, and Technical Theatre. The Dance concentration offers courses in ballet, modern and jazz dance, choreography, and dance in education. The Drama Performance and Technical Theatre concentrations offer courses in acting, directing, costuming, stage makeup, and stage craft. The Music concentration offers courses in the areas of musicology (history and literature), music theory and composition, applied music instruction (vocal and instrumental), and performing ensembles open to all qualified students, regardless of major. All Performing Arts majors complete a culminating senior project.

The UH Hilo Performing Arts Major has a three-fold mission:

1. To serve the University of Hawai'i at Hilo with general education and service courses;
2. To provide an academic major in the Performing Arts, with four individual specialty concentrations in dance, drama performance, technical theatre, and music; and
3. To contribute to the cultural life of the University of Hawai'i at Hilo and Hawai'i Island through artistic performances and offerings in music, drama, and dance, through public lectures, and through related professional activities.

Curricula

The Performing Arts Department offers four specialty concentrations of study leading to the Bachelor of Arts in Performing Arts: Dance, Drama Performance, Music, and Technical Theatre.

Dance Concentration

Dance training requires concentrated and continued effort in the acquisition, maintenance, and refinement of body flexibility and strength. The fundamental core of all dance training is provided by experiences in dance techniques classes. Additional foci include choreography, dance ensemble, dance in deucation, and areas of specialization.

Because this program requires that the student complete 34 semester hours in lower-division courses, Dance Concentration majors are approved for a reduction in upper-division requirements to 26 semester hours. For further information on the upper-division requirement, see Upper-Division Requirement section in the Baccalaureate Degree Requirements chapter of this Catalog.

Drama Performance Concentration

The Drama Performance Concentration focuses on actor training, style study, understanding the tools of technical theatre as they relate to performance, and final training in areas of specialization.

Because this program requires the student to complete 25 semester hours in lower-division courses, Drama Performance Concentration majors are approved for a reduction in upper-division requirements to 35 semester hours. For further information on the upper-division requirement, see Upper-Division Requirement section in the Baccalaureate Degree Requirements chapter of this Catalog.

Music Concentration

The Music curriculum offers courses which reflect traditional methodology as well as current trends in today's musical world. Focused performance capability and strong academic achievement are significant goals for all Music concentration students. Upper-division specializations may include performance, theory, composition, or musicology.

Because this program requires the student to complete 35 semester hours in lower-division courses, Music Concentration majors are approved for a reduction in upper-division requirements to 25 semester hours. For further information on the upper-division requirement, see Upper-Division Requirement section in the Baccalaureate Degree Requirements chapter of this Catalog.

Technical Theatre Concentration

The Technical Theatre emphasis focuses on basic art and design techniques, makeup, costuming, set and lighting design, and final training in areas of specialization.

Because this program requires the student to complete 25 semester hours in lower-division courses, Technical Theatre Concentration majors are approved for a reduction in upper-division requirements to 35 semester hours. For further information on the upper-division requirement, see Upper-Division Requirement section in the Baccalaureate Degree Requirements chapter of this Catalog.

The Department also offers a sequence of courses leading to a **CERTIFICATE IN PERFORMING ARTS.**

The Performing Arts Department offers several courses that fulfill current UH Hilo General Education requirements, providing students in all majors with an exposure to Western musical practices and literature, foundational studies in performance and technical theatre, and an introduction to the art of various modes of dance. Students enrich their understanding of the contributions and significance of these performing arts in their particular field of study.

PERFORMING ARTS, BACHELOR OF ARTS DEGREE: DANCE CONCENTRATION	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities (**3 semester-hour Core Course from Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Required Performing Arts Major Core Courses	
• DNCE 150 Dance Techniques	2
• DNCE 250 Introduction to Dance	3
• DRAM 170 Stage Techniques	2
• DRAM 270 Introduction to Theatre	3
• DRAM 280 Basic Stagecraft	3
• MUS 160 Introduction to Music Literature	3
• MUS 180 Elementary Music Theory	3
2. Required Courses in Dance	
• DNCE 160, 260, 360, and 460 Ballet I, II, III, and IV	12
• DNCE 180 and 280 Jazz Dance I and II	6
• DNCE 190 and 290 Modern Dance I and II	6
• DNCE 371 Choreography	3
OR DNCE 401 Dance Ensemble	
• DNCE 419 Dance in Education	3
OR DNCE 450 History of Dance	
• DNCE 494 Special Topics (Choose TWO courses from the following::)	2
o Alexander Technique	
o Ethnic Dance	
o Folk Dance	
o Conditioning for the Dancer	
o Improvisation	
o Musical Theatre Techniques	
o Notation	
o Tap Dancing, etc.	
• DNCE 499 Directed Studies: Senior Project	3
3. Required Course in Drama (Choose ONE course from the following:)	3
• DRAM 340 Stage Makeup	
• DRAM 350 Stage Costume **(see Note 3 below)**	
4. Required Course in Music (Choose ONE course from the following:)	1-3
• MUS 102 University Chorus (3)	
• MUS 123 Voice Class (1)	
• MUS 125 Piano Class (1)	
• MUS 402 Instrumental Ensemble (3)	
• MUS 404 University Showcase Singers (3)	
• MUS 406 Chamber Ensemble (2)	
Total.....	**58-60**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 1 below)	
Total.....	**23-25**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Performing Arts: Dance Concentration	**120**

PERFORMING ARTS, BACHELOR OF ARTS DEGREE: DRAMA PERFORMANCE CONCENTRATION	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(3 semester-hour Core Course from Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Required Performing Arts Major Core Courses	
• DNCE 150 Dance Techniques	2
• DNCE 250 Introduction to Dance	3
• DRAM 170 Stage Techniques	2
• DRAM 270 Introduction to Theatre	3
• DRAM 280 Basic Stagecraft	3
• MUS 160 Introduction to Music Literature	3
• MUS 180 Elementary Music Theory	3
2. Required Courses in Drama	
• DRAM 221 and 222 Beginning Acting I and II	6
• DRAM 321 Styles of Acting	3
OR DRAM 322 Acting Shakespeare	
• DRAM 340 Stage Makeup	3
OR DRAM 350 Stage Costume **(see Note 3 below)**	
• DRAM 419 Drama in Education	3
OR DRAM 421 Acting Troupe	
• DRAM 430 Directing (3)	3
OR DRAM 490-490L Lyric Theatre with Lab (4)	or 4
• DNCE 499 Directed Studies: Senior Project	3
3. Required Course in Music (Choose ONE course from the following:)	1-3
• MUS 102 University Chorus (3)	
• MUS 123 Voice Class (1)	
• MUS 125 Piano Class (1)	
• MUS 402 Instrumental Ensemble (3)	
• MUS 404 University Showcase Singers (3)	
• MUS 406 Chamber Ensemble (2)	
4. Required Course from a Related Field (Choose ONE course from the following:)	3
• DRAM 390 Survey of Drama Literature	
• ENG/DRAM 318 Playwriting	
• ENG/DRAM 483 Modern Drama	
• ENG 461 or 462 Shakespeare (either semester)	
• PSY 320 Developmental Psychology	
• PSY 321 Psychology of Personality	
• PSY 324 Abnormal Psychology	
Total.....	**44-47**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**36-39**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Performing Arts: Drama Performance Concentration	**120**

PERFORMING ARTS, BACHELOR OF ARTS DEGREE: MUSIC CONCENTRATION	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(3 semester-hour Core Course from Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Required Performing Arts Major Core Courses	
• DNCE 150 Dance Techniques	2
• DNCE 250 Introduction to Dance	3
• DRAM 170 Stage Techniques	2
• DRAM 270 Introduction to Theatre	3
• DRAM 280 Basic Stagecraft	3
• MUS 160 Introduction to Music Literature	3
• MUS 180 Elementary Music Theory	3
2. Required Courses in Music Theory	
• MUS 185-185L Music Theory I with Lab	4
• MUS 186-186L Music Theory II with Lab	4
• MUS 285-285L Music Theory III with Lab	4
• MUS 286L Music Theory IV Lab	1
• MUS 385 20th Century Composition Techniques	3
3. Required Courses in Music History	
• MUS 365-366 History of Western Music (two semesters)	6
4. Required Courses in Applied Music **(see Note 1 below)**	
• MUS 135 First-Level Applied Music	1
• MUS 136 First-Level Applied Music	1
• MUS 235 Second-Level Applied Music	1
• MUS 236 Second-Level Applied Music	1
5. Required Piano Proficiency (Choose ONE combination below for 2 semester hours:)	2
• MUS 125-126 Class Piano I and II	
• MUS 123-124 Elementary Voice Class I and II (for pianists)	
6. Required Performing Ensembles (Choose from courses listed below for 6-12 semester hours:)	6-12
• MUS 102 University Chorus (3)	
• MUS 402 Instrumental Ensemble (3)	
• MUS 404 University Showcase Singers (3)	
• MUS 406 Chamber Ensemble (2)	
7. Required Upper Division MUS Electives (Choose 9 semester hours from the following 3-semester–hour courses:)	9
• MUS 349 Orchestration	
• MUS 390 Choral Conducting	
• MUS 391 Instrumental Conducting	
• MUS 462 Choral Music	
• MUS 485 Form and Analysis	
• MUS 487 Counterpoint	
• MUS 494 Special Topics in Musicology	
8. MUS 499 Directed Studies: Senior Project	3
Total.....	**65-71**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major	
Total.....	**12-18**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Performing Arts: Music Concentration	**120**

PERFORMING ARTS, BACHELOR OF ARTS DEGREE: TECHNICAL THEATRE CONCENTRATION	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities (**3 semester-hour Core Course from Group 2 fulfills 3 of the required 9 semester hours of this requirement)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
1. Required Performing Arts Major Core Courses	
• DNCE 150 Dance Techniques	2
• DNCE 250 Introduction to Dance	3
• DRAM 170 Stage Techniques	2
• DRAM 270 Introduction to Theatre	3
• DRAM 280 Basic Stagecraft	3
• MUS 160 Introduction to Music Literature	3
• MUS 180 Elementary Music Theory	3
2. Required Courses in Art	
• ART 121 Beginning Drawing	3
• Choose ONE course from the following 3-semester-hour ART courses:	3
o ART 122 Beginning Painting	
o ART 124 3-Dimensional Design	
o ART 270 Aspects of Western Art	
o ART 280 Aspects of Asian Art	
3. Required Courses in Drama	
• DRAM 340 Stage Makeup	3
• DRAM 350 Stage Costume **(see Note 3 below)**	3
• DRAM 364 Advanced Theatre Practicum	3
• DRAM 380 Theatre Design	3
• DRAM 480 Stage Management	3
• DRAM 494 Special Topics	
o Lighting	1
o Painting	1
o Props	1
o Sound	1
• DRAM 499 Directed Studies: Senior Project	3
Total.....	**47**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major	
Total.....	**36**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Performing Arts: Technical Theatre Concentration	**120**

Notes:

1. Applied Music fees are in addition to regular tuition. For Applied Music courses and fee structure, contact the Performing Arts department chair and consult the instructor at the time of registration. Students enrolled in MUS 135, 136, 235, 236, 335, 336, 435, 436 are required to participate in student recitals and juries.
2. Students must earn at least a 2.0 GPA in courses required for the major.
3. Students enrolled in DRAM 350 who have no previous sewing experience also MUST enroll concurrently in DRAM 350L: Stage Costume Laboratory (1 semester hour).
4. In order to earn a Bachelor of Arts degree in Performing Arts, students must not only fulfill the requirements for one of the specialty concentrations in the major but also meet all of the University's other baccalaureate degree requirements. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

Certificate In Performing Arts

26-27 Semester Hours

The Certificate in Performing Arts is designed to provide a strong background for students interested in pursuing careers in music, dance and/or drama. Courses taken to satisfy General Education or Music major requirements may **also** be used to meet the requirements of the certificate.

1. **Required Courses in Drama (9 semester hours)**

   DRAM 270 (3) Introduction to Theatre

   AND two of the following courses:

   - DRAM 321 (3) Styles of Acting
   - DRAM 340 (3) Stage Make-Up
   - DRAM 350 (3) Stage Costume
   - DRAM 430 (3) Directing
   - DRAM 490 (3) Lyric Theatre

2. **Required Courses in Dance (9 semester hours)**

   DNCE 250 (3) Introduction to Dance
   DNCE 371 (3) Choreography
   DNCE 401 (3) Dance Ensemble

3. **Required Courses in Music (8-9 semester hours)**

   MUS 160 (3) Introduction to Music Literature

   AND two ensemble courses, selected from:

   - MUS 102 (3) University Chorus
   - MUS 402 (3) Instrumental Ensemble
   - MUS 404 (3) University Showcase Singers
   - MUS 406 (2) Chamber Ensemble

All prerequisites must be completed before students will be allowed to register for upper-division courses. Repeatable courses may be counted only once toward fulfilling the requirements for the certificate.

PHILOSOPHY

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Ronald A. Amundson, Ph.D.
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Barry Curtis, Ph.D.
Lawrence L. Heintz, Ph.D.

Philosophy addresses the fundamental issues of human life, including the nature of reality, the secret of beauty, the criteria for knowledge and truth, and the difference between right and wrong. Philosophy classes generally use the Socratic method, which encourages students to develop and express their own views on philosophical questions and to critically analyze and discuss the views of others. The study of Philosophy builds critical thinking skills, which are useful in any job or profession requiring logical reasoning and responsible decision making. The Department of Philosophy at UH Hilo offers the full range of courses approved by the American Philosophical Association for a bachelor's degree with a major in Philosophy.

Mission

The mission of the undergraduate degree program in Philosophy is to enable the students to understand the role and importance of philosophical inquiry, and to develop skills in its use. The program is designed to provide exposure to the philosophical perspectives of great thinkers, past and present, and to help students increase their abilities to think clearly, logically, and critically both about philosophical issues and about issues in other fields of learning.

Prospects for Philosophy Graduates

The Philosophy major prepares students well for further education toward such careers as teaching, law, and medicine. Moreover, in both government and business, positions for Philosophy majors are often jobs that involve the exercise of careful judgment, fairness, in-depth thinking, and sensitivity to the needs of other persons. These include jobs in administration, human resources, public information, community relations, advertising, manpower planning, manufacturer's representation, technical writing, editing, benefits analysis, immigration, and many others.

Goals for Student Learning in the Major

Students who successfully complete the major in Philosophy are expected to:

1. Be able to think critically about philosophical issues and express philosophical ideas in an articulate and well reasoned manner
2. Be able to recognize valid and invalid inferences expressed in ordinary language, and to recognize a range of formal and informal fallacies of reason
3. Be familiar with the range of philosophical ideas within traditional as well as contemporary Western Philosophy
4. Be familiar with the range of philosophical ideas within traditional as well as contemporary Eastern Philosophy

Training in Philosophy will enable a student to appreciate the points of view of others. Philosophy students gain skills in understanding arguments, including complex arguments, and in expressing their own opinions in clear and accurate ways. Evidence of superior reasoning skills can be seen from the fact that Philosophy majors have among the highest overall scores of any major on entry exams for graduate schools, even for specialty areas such as law school that have no direct relation to the subject matter of Philosophy.

PHILOSOPHY REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities **(PHIL 211 in Major Requirements, Group 2, fulfills 3 of 9 required semester hours)**	6 more
5. Social Sciences	9
6. Natural Sciences	10
Total……	**37**
GROUP 2. Major Requirements	
• PHIL 209 Reasoning **OR** PHIL 345 Symbolic Logic	3
• PHIL 211 History of Ancient Philosophy	3
• PHIL 213 History of Modern Philosophy	3
• PHIL 230 Belief, Knowledge and Truth	3
• PHIL 310 Metaphysics	3
• PHIL 315 Ethical Theory	3
And an additional **FOUR** 300-400 level courses in Philosophy, one of which must be a course in Asian/Comparative Philosophy	12
Total……	**30**
GROUP 3. Electives, including enough 300-400 level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below) **Total……**	**53**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. In Philosophy	**120**

Notes:

1. Students must earn at least a 2.0 GPA in courses required for the major.
2. The B.A. in Philosophy requires a total of 45 semester hours of 300/400-level course work.
3. To earn a Bachelor of Arts degree in Philosophy, students must fulfill the requirements for the major **AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)**
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, students are strongly encouraged to meet with an advisor each semester before registering.

The Philosophy Minor

15 Semester Hours

Requirements:

PHIL 211 (3) History of Ancient Philosophy **OR**
PHIL 213 (3) History of Modern Philosophy
PHIL 209 (3) Reasoning **OR**
PHIL 345 (3) Symbolic Logic

ONE of the following courses (3):

- PHIL 230 Belief, Knowledge and Truth
- PHIL 310 Metaphysics
- PHIL 390 History and Philosophy of Science
- PHIL 392 Biology and Philosophy

ONE of the following courses (3):

- PHIL 220 Social Ethics
- PHIL 315 Ethical Theory
- PHIL 323 Professional Ethics
- PHIL 330 Aesthetics

AND ONE course in Asian/Comparative Philosophy at the 300-400 level (3).

NOTE: Of the courses chosen, at least NINE semester hours must be at the 300 level or above.

PHYSICS

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The Physics and Astronomy Department

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Instructors:
Lawrence Armendarez, Ph. D.
John C. Hamilton, M.S.
Norman G. Purves, M.S.

Technician:
Jay Slivkoff, B.A.

Physics is the basic science, the foundation of other sciences. Physics attempts to describe the fundamental nature of the universe and how it works, striving for the simplest explanations common to its diverse behavior. For example, physics explains why the sky is blue, why rainbows have colors, what keeps a satellite in orbit, and of what atoms and nuclei are made.

The mission of the UH Hilo Physics program is to provide students with working knowledge of the physical laws that govern the universe from the smallest to the largest scales. The program provides broad training for those intending graduate work and/or future technical, industrial or research careers in the physical sciences or related fields. It also provides basic training for majors in other scientific disciplines as well as for future school teachers.

The Physics degree program allows the student a wide degree of latitude in preparation for a chosen career. Candidates for the degree of bachelor of arts in Physics may elect to pursue study in a traditional curriculum, with a variety of courses in classical and modern physics, or may choose a more specialized curriculum suitable for careers in such topics as astronomy, geology/geophysics, mathematics, or computer science. Modern physics and astronomy laboratory equipment is used in all student training; the use of computers is emphasized throughout the advanced curriculum. Advanced students carry out a senior undergraduate thesis or research project under the supervision of one of the physics/astronomy faculty.

The introductory courses offered by the Department span the range from Conceptual Physics (suitable to non-science majors interested in an understanding of our universe without excessive reliance on mathematics) through College Physics (for those who want a more complete treatment but don't plan to go further in physics) all the way to General Physics (which employs calculus to develop the deepest understanding of our physical universe). Students with all interests and preparation are served.

Goals for Student Learning in the Major

The Physics major is designed to develop in students:

1. a basic understanding of physical concepts in mechanics, waves, thermodynamics, electricity, magnetism, optics, atomic and nuclear physics, and quantum mechanics;
2. appropriate skills for the analysis of physical systems. These include the ability to extract data from real systems, and skills for the mathematical study of physical models;
3. scientific reasoning and critical thinking skills and the ability to recognize correct and incorrect argumentation;
4. appropriate oral and written communication skills that enable the student to explain his or her work to people from a wide variety of backgrounds; and
5. the ability to adapt to new situations arising from the changing nature of science and technology.

Prospects for Physics Graduates

In a rapidly changing environment the key to survival is adaptability. There is no other field of study available which offers the student greater flexibility in our high-tech society. Whether a student is contemplating a career as a scientist, an engineer, a teacher, a physician, a lawyer, or a businessperson, one can get no better grounding in fundamental and logical thinking than is possible in a good undergraduate physics program. The intellectual and cultural rewards are there, as are the opportunities for a flexible choice of careers at graduation and beyond.

Special Aspects of the Program

The Department will be housed in a new Science and Technology Building which is in the final stages of design. Construction will begin in early 2007. Modern offices, classrooms, introductory and advanced undergraduate labs, and faculty research facilities will provide students with the most modern facilities possible.

The close relationship between the Physics and the Astronomy programs and other programs at UH Hilo provide an opportunity for majors to experience first-hand the world-class astronomic, oceanographic, and geological research conducted within a short distance from the campus.

Students benefit from the Department's international collaborations. Department faculty and student Interns are extensively involved in the All-sky High Resolution Air shower (*Ashra*) detector program which studies cosmic radiation by observing Nitrogen fluorescence and cherenkov radiation. The Department is a partner, along with UH Manoa Institute for Astronomy, Maui High Performance Computer Center, MIT Lincoln Laboratories, and Science Applications International Corporation in developing the Panoramic Survey Telescope and Rapid Response System (*PanSTARRS*) asteroid detection system. Projects like these provide UH Hilo students with unique opportunities to become involved in major efforts at the boundaries of science.

Under a grant from the National Science Foundation Tribal Colleges and Universities Program the department participates in the development of courses and learning opportunities for students of Hawaiian ethnicity. Opportunities for undergraduates to conduct research with faculty members are provided by the ASHRA (All-Sky Survey High Resolution Air-Shower Detector) program in collaboration with colleagues in Japan, Taiwan, and Oahu, HI.

PHYSICS REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning **(Major Requirements in Group 2 fulfill all 3 semester hours of this requirement)**	-
3. World Cultures	6
4. Humanities	9
5. Social Sciences	9
6. Natural Sciences **(Major Requirements in Group 2 fulfill 9 of the 10 semester hours of this requirement)**	1 more
Total.....	**28**
GROUP 2. Major Requirements	
A. Required Courses in Physics	
• PHYS 172-170L General Physics I: Particles and Waves with Lab	5
• PHYS 173-171L General Physics II: Electricity and Magnetism with Lab	5
• PHYS 270 General Physics III: Introduction to Modern Physics	3
• PHYS 271 General Physics IV: Classical Mechanics	3
• PHYS 330 Electromagnetism	3
• PHYS 331 Optics	3
• PHYS 341 Thermodynamics	3
• PHYS 430 Modern Physics	3
• PHYS 495A-B Seminar (two semesters)	2
• An additional **SIX** semester hours from PHYS 300-499B	6
B. Required Courses in Mathematics	
• MATH 205 Calculus I	4
• MATH 206 Calculus II	4
• MATH 231 Calculus III	3
• MATH 300 Ordinary Differential Equations	3
• And **TWO** additional elective MATH courses approved in writing by the Physics Department and totaling 6 semester hours	6
C. Required Natural Science Electives	
• **TWELVE** semester hours selected from Natural Sciences as approved in writing by the Physics Department. (see Note 3 below)	12
Total.....	**68**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**24**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Physics	**120**

Notes:
1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 33 semester hours must be earned in courses at the 300-400 level.
3. Students are encouraged strongly to meet with their advisors regarding Natural Science elective courses appropriate to their career aspirations.
4. To earn a Bachelor of Arts degree in Physics, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

The Physics Minor

19 semester hours

Courses required for a minor in Physics

PHYS 172-170L (5)	General Physics I-Particles and Waves with Laboratory
PHYS 173-171L (5)	General Physics II-Electricity and Magnetism with Laboratory
PHYS 270 (3)	General Physics III-Introduction to Modern Physics

AND six additional semester hours of physics in courses numbered PHYS 271 or greater.

POLITICAL SCIENCE

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Regina Titunik, Ph.D.
Associate Professors:
Enbao Wang, Ph.D.
Assistant Professor:
Todd Belt, Ph.D.

Political science is the systematic study of politics. Since the term "politics" encompasses such a wide range of institutions and human behavior, political science is a far-reaching discipline. Political activities ranging from the behavior of leaders to the public policy aspects of nuclear energy are covered in this field. Virtually every aspect of our lives is affected by politics, whether it be the voting behavior of our elected officials, war in some distant part of the world, the price of gasoline, or what we watch on television.

The Political Science program is designed to provide students with exposure to a broad range of topics within contemporary political science. All the major subfields of political science-American politics, comparative politics, international relations, political theory, public administration and public law-are offered in the major.

Prospects for Political Science Graduates

Political Science majors are well prepared for entry into the job market in a wide variety of fields and for admission to law or other graduate programs. Political Science majors most often pursue careers in law, government, interest groups and (with supplementary coursework) journalism, teaching and business. Students majoring in other fields where they can anticipate interacting with government officials (for example in business) may benefit from the minor in Political Science.

Goals for Student Learning in the Major

By graduation, Political Science majors will be expected to have a firm understanding of the actors, institutions, and laws that influence how governmental policy is made. Students will be able to understand the relations of these actors and the outcomes of their relations on both a philosophical and practical level, and predict the ramifications of structural reforms to political systems. Students will be expected to analyze current and past political phenomena according to the theory and methods used by political scientists, and be able to present their analyses in coherent essays and research papers.

Contributions to the UH Hilo General Education Program

Political Science course offerings contribute to fulfilling the College's educational purpose of preparing students "to meet the demands of both profession and citizenship."

Special Aspects of the Political Science Program

The Political Science Department sponsors a number of hands-on activities to broaden and deepen the students' knowledge of political science. Among these are a variety of internships in local, state, and federal agencies, as well as a spring internship in the office of a state legislator. Political science students who demonstrate mastery of the subject matter, professional competence, and responsibility are eligible to participate in these internship programs. Through the internship programs students gain a unique experience in politics and government that supplements their coursework and may enhance their post-graduation employment prospects.

The Department, along with our student organization, Hui Na Lahui Huipu (Model United Nations Club), sponsors a team that competes each April in the National Model United Nations in New York City. This competition, which meets in part at UN headquarters, draws 3,000 college students from some 200 universities and colleges from around the world. Team members must take POLS 345 to prepare them for the competition. They learn basic facts about the UN, rules of procedure, speech and caucusing skills, how to write resolutions and position papers, background on the country they will represent, and the foreign policy position of that country on some 30 assigned international issues. The UH Hilo Model United Nations team is the only one that competes in New York City from the state of Hawai'i.

The Political Science Club serves the educational and social interests of students and provides leadership opportunities for club officers. Club members arrange activities and events that promote awareness of political issues.

Certain outstanding Political Science majors will be invited by the Political Science faculty to write a senior thesis, a research effort that will be assigned and guided by an individual faculty member. In addition, exceptional students may be invited to become members of the University of Hawai'i at Hilo's Iota Iota chapter of the National Political Science Honor Society, Pi Sigma Alpha.

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POLITICAL SCIENCE REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities	9
5. Social Sciences **(POLS 101 in Group 2, Major Requirements fulfills 3 of the nine semester hours of this requirement)**	6 more
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
• POLS 101 Introduction to American Politics	3
• POLS 220 Introduction to Legal Systems	3
• POLS 242 Introduction to World Politics	3
• POLS 251 Introduction to Comparative Government	3
• POLS 280 Methods of Research	3
• POLS 301 Liberalism and Its Critics	3
• POLS 470S Seminar in Political Science	3
• An additional **15** semester hours of POLS courses (300-level or above)	15
Total.....	**36**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 2 below)	
Total.....	**47**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Political Science	**120**

Notes:
1. Students must earn at least a 2.0 GPA in courses required for the major.
2. At least 45 semester hours must be earned in courses at the 300-400 level.
3. To earn a Bachelor of Arts degree in Political Science, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
4. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
5. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

The Political Science Minor

21 Semester Hours

1. **Required course:**
   POLS 101 (3) Introduction to American Politics
2. **Any THREE of the following courses :**
   POLS 220 (3) Introduction to Legal Systems
   POLS 242 (3) Introduction to World Politics
   POLS 251 (3) Introduction to Comparative Government
   POLS 301 (3) Modern Political Ideologies
3. **Three POLS courses (300-level and above)**

Certificate in International Studies

49 Semester Hours

The International Studies Certificate integrates a wide variety of existing courses into a cohesive whole focusing on international issues. This program of study is designed to prepare students for career opportunities in the new world system—a world system in which nongovernmental actors are proliferating, global communications networks multiplying, world travel expanding and in which states are becoming increasingly interdependent. The Certificate is particularly useful for students pursuing careers in the foreign service, international institutions, nongovernmental international organizations, international business and tourism. The International Studies Certificate aims both to ready students for careers in the new world system and to foster global understanding.

The International Studies Certificate requires two years of a foreign language with prerequisite preparation in general education courses that emphasize world geography and culture. The core courses, also at the lower-division level, emphasize international political and economic structures and interrelationships. The student then chooses an area for concentrated study. Students can either choose to concentrate in the area of international relations or in the area of tourism (for the latter, see information under the Business Administration section of this catalog within the College of Business and Economics). The concentrations are comprised of upper-division courses, which consider issues in a global context and stress cross-national understanding. The Certificate is notable for having a capstone seminar study or study abroad feature providing hands-on experience for the student.

The **International Relations Concentration Option** is intended to familiarize students with the relations among nations and other actors in the international system. This option will focus on the institutions and agencies through which states and groups of people interact at the global level. Consideration will also be given to the political, social and cultural practices of the different people who comprise the global system. This option is particularly useful for students pursuing careers in international service or in international business or nongovernmental organizations.

Certificate in International Studies Requirements

1. General Education Co-Requisites (Choose FOUR courses [12 semester hours] from the courses listed below:)

- ANTH 100 Cultural Anthropology (3)
- ANTH/LING 121 Introduction to Language (3)
- GEOG 102 Geography of World Regions (3)
- GEOG 103 Geography and Contemporary Society (3)
- HIST 151 World History: Prehistory to 1500 (3)
- HIST 152 World History: from 1500 to the Present (3)

2. Program Requirements (22 semester hours)

- First year language (8)
- Second year language (8)
- POLS 242 Introduction to World Politics (3) **OR**
  POLS 251 Introduction to Comparative Government (3)
- ECON 210 The Global Economy (3)

3. International Relations Concentration Option (Choose FOUR courses [12 semester hours] from the courses listed below:)

- ECON 360 International Trade and Welfare (3)
- GEOG 312 Agricultural Geography (3)
- GEOG 350 Geography of Asia (3)
- POLS 340 U.S. Foreign Policy (3)
- POLS 342 International Law (3)
- POLS 345 Model United Nations (3)
- POLS 351 Politics of China (3)
- POLS 353 Politics of Japan (3)
- POLS 355 International Political Economy (3)
- SOC 345 Human Populations (3)

4. Capstone Experience (3 semester hours)

- POLS 470S Seminar in Political Science (3)

PSYCHOLOGY

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Vladimir Skorikov, Ph.D.
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Bryan S.K. Kim, Ph.D.
Errol B. Yudko, Ph. D.
Assistant Professors:
Nina P. Azari, Ph.D.
Dawna Coutant, Ph.D.
Steve Herman, Ph.D.
Cheryl Mae Ramos, Ph.D.
Instructor:
Becky J. Thurston, M.A.

As the study of behavior and experience, psychology offers many benefits to you, the student. It can satisfy your curiosity about yourself, others, and animals; it offers psychological insights into personal and societal issues; it enables more control over your own life; it promotes critical thinking and an objective attitude; and it fosters respect for human diversity.

The academic major is rigorous in the requirement of core methodological courses, yet flexible in the freedom to choose from among a variety of substantive courses. The program also provides opportunities for practicum experiences in the community agencies or campus programs, and for research experiences in many areas of psychology. The student Psychology Club arranges for educational activities, sponsors social events, and provides mutual support for its members. In short, the student experience in psychology can be intellectually exciting and personally satisfying because, in the final analysis, psychology is about you!

Goals for Student Learning in the Major

1. Upon completion of the major, students will have a basic understanding of the major theoretical orientations in psychology along with the major empirical findings.
2. Psychology majors will be expected to study, review, and reflect on the role of evidence in supporting claims. They will be familiar with quantitative and qualitative research methods in psychology and be able to understand published research.
3. Psychology majors will be expected to develop analytical and critical thinking skills and apply them to the field of psychology.

Contributions to the UH Hilo General Education Program

Survey of Psychology is the only course the Psychology Department offers in the General Education program. If you choose to take this course, you will learn about individual and group behavior, mechanisms of development, and various psychological processes, such as cognition, learning, emotion, motivation, etc. You also will be exposed to various applied areas of psychology, including clinical psychology, counseling psychology, and industrial/organizational psychology.

Prospects for Psychology Graduates

Students choose psychology as an academic major to prepare for graduate school where they are educated to become professional psychologists, researchers, and professors; to train for working in related fields, such as counseling, education, management, or social work; or to gain skills useful for work in many other occupations. In general, psychology is useful for any career that involves working with or relating to people and that means nearly every job in our society.

Special Aspects of the Program

Psychology students have the opportunity to take a practicum course in which they are placed in supervised experience in human service, mental health, or other community agencies. Additionally, psychology has many active research projects that include undergraduate researchers, such as studies in adolescent development, mental health, women's health, and psychology of religion.

PSYCHOLOGY REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities	9
5. Social Sciences **(PSY 100 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences	10
Total.....	**37**
GROUP 2. Major Requirements	
A. Core	
• PSY 100 Survey of Psychology	3
• PSY 213 Statistical Techniques	4
• PSY 214 Research Methodology	4
B. Block 1 (Choose TWO courses from the following list for 6 semester hours:)	6
• PSY 320 Developmental Psychology	
• PSY 321 Psychology of Personality	
• PSY 322 Social Psychology	
• PSY 324 Abnormal Psychology	
C. Block 2 (Choose TWO courses from the following list for 6 semester hours:)	6
• PSY 314 Learning and Motivation	
• PSY 315 Sensation and Perception	
• PSY 350 Cognitive Psychology	
• PSY 352 Introduction to Biopsychology	
D. An additional minimum **18** semester hours of 300-400 level PSY courses (except PSY 499) which must include at least 9 semester hours of 400-level courses and no more than 3 semester hours of PSY 399.	18
Total.....	**41**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 3 below)	
Total.....	**42**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Psychology	**120**

Notes:
1. Students must earn at least a 2.0 GPA in courses required for the major.
2. Students must pass any course applied to the Psychology major with a grade of C- or better.
3. At least 45 semester hours must be earned in courses at the 300-400 level.
4. To earn a Bachelor of Arts degree in Psychology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
5. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
6. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

SOCIOLOGY

Department Chair:
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Social Sciences Division Office:
University Classroom Building 308, (808) 974-7460
Web Page: www.uhh.hawaii.edu/academics/cas/socsci/sociology.php

Professor:
Thomas Pinhey, Ph.D.
Associate Professors:
Thomas Curtis, Ph.D.
Sara R. Millman, Ph.D.
Alton M. Okinaka, Ph.D.
Assistant Professor:
Marilyn M. Brown, Ph.D.

Humans spend their entire lives in social groups of various sizes and types. Sociology is the scientific study of human social behavior. Sociologists study formal organizations and various informal social groupings, such as the structures of racial and ethnic groups, families, religious institutions, and gender. Their focus is on patterns of behavior that result from following the implicit rules of society and culture.

Mission

The mission of the UH Hilo Sociology program is to provide students with the basics of theoretical and applied sociology. These basics include the application of sociological theory and research methods to the understanding of social processes, organizations, groups, and institutions.

Goals for Student Learning

Sociology students develop a critical understanding of social events and processes, resting on an underlying appreciation of social theories and the insights these yield about the structure of societies, the processes imbedded in these structures, the nature of social change, and how all of these affect people in their everyday lives. Sociology majors and minors should also develop basic skills in social research, equipping them to apply what they have learned in real-life settings. In-depth study of specific social groups and organizations such as the institutions of family, religion, education, polity, and the economy should create an understanding of the interconnectedness of social events and processes as well as how social research informs us and helps to develop understanding of causal processes.

The UH Hilo Sociology program provides students with broad preparation in the basics of scientific sociology. Both the major and minor options are organized around a core of basic courses in statistics, research methodology, and theory. In addition, the faculty offer topical courses in a variety of subfields including family, ethnicity, religion, education, social psychology, populations, organizations, and aging. The core and topical offerings are complemented by practicum courses in applied sociology and social research in which students apply their newly acquired knowledge in a hands-on fashion in community agencies and/or actual research settings.

Prospects for Graduates

Graduates of the UH Hilo Sociology program are prepared to contribute to the operation and administration of both public and private social service agencies. They enter into a wide range of work roles, including family planning and counseling, law enforcement and corrections, case work, disability examiner, public relations, and more. The major also provides an excellent foundation for those who wish to continue their academic careers in a variety of fields including elementary and secondary education, social work, law, criminal justice, psychology, public health, and of course sociology.

The major and minor programs are designed to furnish students with skills, knowledge, and a scientific perspective useful in a large number of diverse occupations-especially those pertaining to the human services, social scientific research, planning, law, business, and public administration. The major program also provides excellent preparation for graduate work in sociology, social work, and public health as well as the other social sciences. A comprehensive advising program is available to assist students to match their personal interests and career objectives with the necessary courses and practical experiences.

Contributions to the General Education Program

While Sociology 100 (Principles of Sociology) is the course most often taken by non-majors to satisfy General Education requirements, non-majors are also welcome in 200-level Sociology courses.

Special Aspects of the Sociology Program

The program has two main options for students who want to apply what they are learning in the local community. For those interested in careers in social services or other applied Sociology fields, the internship program provides a supervised field experience working with professionals in the community. Students gain first-hand knowledge of the specific work situation, including its demands and rewards. At the same time they contribute to the work of the agency in which they are placed, making contacts and earning trust which often stand them in good stead when they are ready to seek employment locally. The Department also offers a research practicum in which students participate in a substantial research project. The practical application of research skills creates a better understanding of the strengths and limitations of social research, broadening the contribution the student will be equipped to make in both social service and more traditional academic careers.

The UH Hilo Sociology Club is strong and active. It organizes both social events and community service projects, providing a context both for building social ties among students and developing a fuller understanding of the community. Non-majors are welcome.

SOCIOLOGY REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE	Semester Hours
GROUP 1. General Education Requirements	
1. English Composition	3
2. Quantitative Reasoning	3
3. World Cultures	6
4. Humanities	9
5. Social Sciences **(SOC 100 in Group 2, Major Requirements, fulfills 3 of the 9 semester hours of this requirement)**	6 more
6. Natural Sciences	10
Total……	**37**
GROUP 2. Major Requirements	
• SOC 100 Principles of Sociology	3
• SOC 200 Career Opportunities	1
• SOC 280, 280L Statistical Reasoning in Social Inquiry with Laboratory	4
• SOC 380 Methods of Research	3
• SOC 390 Sociological Theory	3
• An additional minimum **9** semester hours of 400-level Sociology courses	9
• An additional **12** semester hours in Sociology at any level	12
Total……	**35**
GROUP 3. Electives, including enough 300/400-level semester hours to meet university baccalaureate degree requirements for this major (see Note 4 below)	
Total……	**48**
GROUP 4. Writing Intensive and Hawaiian/Asian/Pacific Courses Three Writing Intensive courses (one 300 level or above) and three semester hours of H/A/P courses are required for graduation. These will be fulfilled in GROUPS 1, 2, and 3 above.	**Varies**
Total Semester Hours Required For The B.A. in Sociology	**120**

Notes:

1. Students may substitute SOC 240: Social Psychology for SOC 100 in the major or as the prerequisite for upper-division Sociology courses.
2. One 400-level POLS (Political Science) course may be used to fulfill the 400-level requirement when approved by the major advisor.
3. Students must earn at least a 2.0 GPA in courses required for the major.
4. At least 45 semester hours must be earned in courses at the 300-400 level.
5. To earn a Bachelor of Arts degree in Sociology, students must fulfill the requirements for the major AND meet all of the University's other baccalaureate degree requirements. (Please see the chapter on Baccalaureate Degree Requirements in the Catalog.)
6. Students should always check course prerequisites and the frequency with which courses are offered. This information is found in Course Listings in the back of the Catalog.
7. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

The Sociology Minor

20 semester hours

Required:

- SOC 100 (3) Principles of Sociology
- SOC 200 (1) Career Opportunities in Sociology
- SOC 280, 280L (4) Statistical Reasoning in Social Inquiry with Laboratory
- SOC 380 (3) Methods of Research
- SOC 390 (3) Sociological Theory

AND SIX additional semester hours in Sociology at the 300-400 level

WOMEN'S STUDIES CERTIFICATE

Facilitator: Amy C. Gregg, M.Div. (agregg@hawaii.edu)
Social Sciences Division Office:
UCB 308, (808) 974-7460
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Steering Committee and Faculty:
Catherine Becker, Ph.D., Communications
Kathryn Besio, Ph.D., Geography
Emmeline dePillis, Ph.D., Management
Audrey Furukawa, M.Ed., Chancellor's Office
Amy C. Gregg, M.Div., Women's Studies, Religious Studies
Faith Mishina, M.A., Languages
Lynn Morrison, Ph.D., Anthropology
Yumiko Ohara, Ph.D., Languages
Jennifer Richardson, Ph. D., English
Candace Rosovsky, Ph.D., Director of Women's Center
Lauri Sagle, M.A., English
Regina Titunik, Ph.D., Political Science
Susan Wackerbarth, M.A., English
Lynne Wolforth, Ph. D., Anthropology

The Women's Studies Certificate Program brings together faculty and students from a variety of disciplines to investigate the status and position of women as participants in and creators of culture. This interdisciplinary certificate program is an adjunct to a student's academic major. Students will explore in-depth gender-based issues from an historical, literary, and multi-cultural perspective.

The mission of the Women's Studies Certificate Program is to provide a multidisciplinary consideration of women's lives and to uncover aspects of the human experience that have hitherto been ignored, neglected and overlooked. The program provides both female and male students the opportunity to explore issues related to women and gender across a variety of disciplines and cultures. The program attempts to eliminate gender discrimination in academics by examining cultural assumptions about women, the validity of research on women, and the impacts of various political, economic, and social systems on women.

The structure of the 21-credit program reflects faculty sensitivity to the range of interests that motivate student participation in a Women's Studies curriculum. The required introductory course (WS 151) and the capstone senior seminar in Women's Studies (WS 495) facilitate inquiry into theoretical and applied aspects of questions important to each student.

Goals for Student Learning

Students completing the Women's Studies Certificate Program will have a firm understanding of the role of gender and sexual identity in a variety of areas including history, health, culture, politics, literature, and language. Furthermore, the certificate will enhance preparation for a number of professional areas including government, law, industrial relations, social services, politics, medicine, and education.

Students receiving a Women's Studies Certificate will be expected to:

1. Understand how females and males are affected by cultural definitions of gender roles and interrogate cultural constructions of gender including binary gender assumptions.
2. Study and reflect on the underlying assumptions of historical, literary, rhetorical and/or health models of women and how they have affected women cross-culturally.
3. Identify women's activities and accomplishments across a variety of cultures and historical contexts and recognize contributions that conventionally have been neglected.
4. Understand how discrimination, stereotyping, and prejudice affect people's expectations of themselves and others in families, intimate relationships, careers, and society.
5. Become familiar with feminist literature and current scholarship on gender, sexuality, race, and class.

The Women's Studies Certificate
21 semester hours

1. **Required courses:**

   WS 151 (3)Introduction to Women's Studies
   WS 495 (3)Women's Studies Seminar

2. **Electives:** 15 upper-division credits, with a maximum of nine credits from the same discipline, from courses listed at the back of this Catalog under "Women's Studies." Most are courses in other disciplines that are cross-listed as Women's Studies courses. Other appropriate courses will be reviewed and listed under Women's Studies in the class schedule. Students also may take up to six credits of discipline-based directed study from a participating WS faculty member.

College of Business and Economics

For information, please contact:

Office of the Dean
Kanaka'ole Hall 270
(808) 974-7400
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www.uhh.hawaii.edu/academics/cas/sob/businessadmin.php

OR

UH Hilo Admissions Office
Student Services Building Room 115
(808) 974-7414 or (800) 897-4456
(808) 933-0861 (fax)
Email: uhhadm@hawaii.edu
www.uhh.hawaii.edu/studentaffairs/admissions/

General Information

The College of Business and Economics (COBE) prepares students for leadership in organizations serving Hawai'i and the Asia/Pacific region. The primary emphasis of the COBE business program is small business and entrepreneurship education. The College offers an undergraduate degree in general management, with opportunities for elective coursework in the areas of accounting, marketing, finance, information systems, and tourism. Students receive a strong managerial foundation in the functions and objectives of the business enterprise, supported by a strong foundation in the liberal arts. The primary emphasis of the COBE economics program is general economics education. The undergraduate degree in economics offers opportunities to specialize in Asia and the Pacific.

Mission

The Mission of the College of Business and Economics at the University of Hawai'i at Hilo is to assist individuals in acquiring the knowledge, attitudes and skills needed to be productive and responsible citizens in the global economy. The College serves students and communities primarily from the Island and State of Hawai'i, as well as students from the U.S. mainland and the Asia/Pacific region.

We are committed to:

- Providing a personalized, high-quality baccalaureate business and economics education
- Inspiring the development of ethical values and leadership skills within a context of cultural diversity
- Offering opportunities for hands-on learning
- Having a focus on smaller organizations
- Offering academic programs responsive to community needs
- Supporting faculty excellence in teaching, research and service, with primary emphasis in teaching

Curricula

The College of Business and Economics offers the following programs of study:

- Bachelor of Business Administration (B.B.A.)
- Bachelor of Arts in Economics (B.A. Econ)
- Business Administration Minor
- Economics Minor
- Certificate in Business Administration
  Certificate in E-Commerce
- Certificate in International Studies, Tourism Concentration Option

Instructional Modes

The College employs a variety of instructional methods and provides opportunities for the application of new instructional technologies. Efforts are made to limit the size of lecture classes to allow for maximum student-instructor discourse. Group project work is a feature of selected core and elective classes to provide teamwork experiences in problem solving and/or community service settings. Independent study provides an opportunity for students to pursue knowledge in a particular area of interest under the supervision of an instructor, often related to research of mutual interest. Internships provide an opportunity for students to apply knowledge and techniques from the classroom and to pursue individualized learning goals in an operating business environment. A unique feature of COBE includes its partnership with the Hawai'i Small Business Development Center Network, which provides students with access to special internship opportunities and learning experiences.

Accreditation

Programs in the College of Business and Economics are accredited by AACSB International--The Association to Advance Collegiate Schools of Business (AACSB). Contact information: 777 South Harbor Island Blvd., Suite 750, Tampa, FL 33602-5730; Tele: 1-813-769-6500; FAX: 1-813-769-6559; http://www.aacsb.edu.

Students may transfer credits to other American or foreign universities on the same basis as course credits are transferred by other accredited American universities. Documents relating to the accreditation of the University of Hawai'i at Hilo are available to the public at the Edwin H. Mookini Library and at www.uhh.hawaii.edu/~accred

BUSINESS ADMINISTRATION

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Professors:
Jerry M. Calton, Ph.D.
Emmeline dePillis, Ph.D.
Harry W. Hennessey, Jr., Ph.D., SPHR
Stephen C. Hora, D.B.A. (Interim Vice Chancellor for Academic Affairs)
Terrance J. Jalbert, Ph.D.
Marcia Y. Sakai, Ph.D. (Dean, College of Business and Economics)
Associate Professors:
Kelly Burke, Ph.D.
Barbara Leonard, Ph.D., CMA
Drew Martin, Ph.D.
Assistant Professors:
Kimberly Furumo, Ph.D.
Roberta Jones, Ph.D.

The Department of Business Administration offers students the opportunity to receive a Bachelor of Business Administration (B.B.A.) degree that is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB). The program is divided into three components: General Education, the Pre-Business program, and the Professional Business program. Each of these is described in detail below. Some General Education requirements may be satisfied with courses from the Pre-Business program, but no more than 60 of the degree's total of 121 credit hours may be in business topics. The University also places several graduation requirements on all baccalaureate degree programs, and these must be satisfied by candidates for the B.B.A. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.)

All B.B.A. students are required to complete the Pre-Business Program, which is composed of courses in accounting, economics, business communications, business law, mathematics, and quantitative business analysis. Following satisfactory completion of this program, students are admitted to the upper-division Business program where they complete advanced courses in selected fields of study such as accounting, finance, marketing, management, management information systems, and quantitative methods.

Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered, information that is available for each course in the listing at the back of this Catalog. To ensure progress toward graduation, **students are strongly encouraged to meet with an advisor each semester before registering.**

Goals for Student Learning in the Major

Upon graduating, our students should possess a common core of knowledge that enables them to understand and apply:

- Basic concepts and principles of business operations and leadership, particularly a sense of how to prioritize, delegate and coordinate organizational tasks to fit the organizational mission, business environment, and community context
  - Individual and group decision-making processes for assuring efficient, effective, and ethical outcomes
  - Integrative knowledge of how the decision process relates to the various contexts within which business operates (technological, economic, social, cultural, legal, ethical, and international)
- Specialized business knowledge that they can apply in their subsequent careers
- An understanding of the entrepreneurial process
- An understanding of the critical role of sound, ethical business and personal judgment in creating and maintaining successful business relationships

Upon graduating, our students should have the following attitudes:

- Conviction that they have received a quality education, appropriate to their personal and career goals
- Appreciation of the goal-orientation and self-motivation needed to be a successful business leader
- Confidence that they are prepared to take on the challenges of the global marketplace
- Recognition that an on-going commitment to learning is critical to continued success and satisfaction in their career
- Confidence that they can respond to the diverse values and needs of their co-workers, clients, and other stakeholders, while working with those of different ethnic and cultural backgrounds
- Recognition that community service will be an important component of their future professional responsibilities
- Confidence that they can make effective and ethical decisions, even under conditions of uncertainty, ambiguity, value conflict, and incomplete information

Upon graduating, our students should have the following skills:

- Individual and team-based analytical/critical thinking and integrative problem-solving skills
- Effective, confident written and oral communication skills in one-on-one and group settings, demonstrating professional demeanor
- Facility in computer-related applications and current methods of business analysis and presentation.
- Job search and interview skills

Career Prospects for Students

Students earning the B.B.A. are prepared to become entry-level managers in a wide variety of private and public sector organizations. The B.B.A. program is also a good choice for students interested in starting their own business upon graduation, since a primary focus is on smaller organizations and entrepreneurship in many of the courses at UH Hilo. Students may focus their elective coursework in specific areas such as accounting, finance, marketing, or information technology if they intend to specialize or seek certification in one of those fields upon graduation. The B.B.A. is also an excellent preparation for advanced study in business.

Special Aspects of the Program

Internships with local businesses and organizations are available to qualified students.

The College of Business and Economics sponsors the Lambda Psi chapter of the International Fraternity of Delta Sigma Pi, which is a professional fraternity organized to foster the study of business in universities; to encourage scholarship, social activity, and the association of students for their mutual advancement by research and practice; to promote closer affiliation between the commercial world and students of commerce; and to further a higher standard of commercial ethics and culture and the civic and commercial welfare of the community.

The College also sponsors an active chapter of Beta Gamma Sigma, the premier honorary society for students of business, which inducts outstanding students from each year's graduating class.

CoBE Computer Competency Certification

To earn this certification, students must demonstrate competency in common business applications software (Excel and Access). ***This certification is a prerequisite for admission to upper-division business coursework, and is a prerequisite for certain designated lower-division courses.*** The College of Business and Economics will announce testing windows each semester during which students may earn this certification. Students will be required to purchase a copy of SAM Challenge or SAM 2003 which includes licensing fees for the competency test. Students should consult their advisors on the proficiency levels expected, and the preparation assistance that is available, or visit the CoBE web site for more information.

The Pre-Business Program

During the first two years of the B.B.A. program, students complete courses that fulfill UH Hilo's general baccalaureate degree requirements **as well as** a number of lower-division foundation courses in Business and Economics that are specifically required before progression to upper-division (300- and 400-level) study. These lower-division Business and Economics courses are referred to as the **Pre-Business Core**.

I. Pre-Business Core Requirements (15 semester hours)
Please pay close attention to course prerequisites.

ACC 250 (3) Financial Accounting
(Pre: CoBE Computer Competency Certification)
ACC 251 (3) Managerial Accounting (Pre: ACC 250)
BUS 240 (3) Business Law (Pre: sophomore standing)
ECON 131 (3) Introduction to Macroeconomics
(Pre: ECON 130)
ECON 300 (3) Intermediate Macro-economic Theory
(Pre: ECON 131) **OR**
ECON 340 (3) Money and Banking (Pre: ECON 131)

II. General Education Requirements

A. Communication Skills **(9 semester hours, all with C or better).**
ENG 100, 100T, or ESL 100 (3) Expository Writing. Must be fulfilled before completion of 24 credits.
ENG 209 (3) Writing for Business
COM 251 (3) Public Speaking

B. Quantitative Reasoning **(6 semester hours).**
One MATH course numbered 104F, 115, 205 or higher
QBA 260 (3) Business Statistics (Pre: CoBE Computer Competency certification and one MATH course numbered 104F, 115, 205 or higher)

C. World Cultures **(6 semester hours).** Choose from:
AG 230; ANTH 100, ENG 253, 254, 275; GEOG 102; HIST 151, 152; KIND 240

D. Humanities **(Total of 6 semester hours at 100-200 level)**
Two courses from two of the following: Art, English, Hawaiian Studies and Indigenous Studies; Languages (including Hawaiian and Indigenous); Linguistics; Performing Arts; Philosophy; Religious Studies

E. Social Sciences **(9 semester hours at 100-200 level).**
ECON 130 (3) Introduction to Microeconomics
One course from Anthropology, Psychology, or Sociology
One additional course from Anthropology, Bus Adminis tration (BUS 100 only), Geography, History, Political Science, Psychology, Sociology, Women's Studies.

F. Natural Sciences **(10 semester hours at 100-200 level, including one lab).**
Three courses from three different areas from the following, plus one lab: Agriculture Sciences (Aquaculture, Animal Science, Horticulture, Food Science, Forestry, Plant Pathology, Soil); Astronomy; Biology; Chemistry; Computer Science; Geology; Marine Science; Mathematics; Natural Science; Physics

III. Hawai'i/Asia/Pacific Requirement

All B.B.A. students take MGT 333 as part of their professional Business Program, which satisfies this requirement if taken at UH Hilo. Students transferring a course similar to MGT 333

still may have to meet the Hawaii/Asia/Pacific requirement and should consult their advisor.

IV. Writing Intensive Requirement

B.B.A. students must meet the University's Writing Intensive requirements stated elsewhere in the catalog.

The Professional Business Program

Leading to the B.B.A. degree.
Total Semester Hours Required: 121

Before enrollment in upper-division (300-400 level) Business Administration courses, students majoring in Business Administration must have:

1. Filed a formal declaration of intent to major in Business Administration **at least four weeks in advance of scheduled early-registration**;
2. Completed **50 or more earned semester credit hours** at the 100-level or higher;
3. Attained a cumulative **grade point average of 2.50 or higher** on work completed at UH Hilo (transfer students meeting other requirements may be provisionally admitted to upper-division courses during their first semester at UH Hilo, but will be required to earn at least a 2.5 GPA on their first 12 semester hours of credit at UH Hilo for continued enrollment in upper-division business courses);
4. Earned **certification of computer competency** by the College of Business and Economics, through successful completion of a practical demonstration of those skills (Computer Competency Test); and
5. Successfully completed **all course-specific prerequisites for each upper-division class** attempted.

I. Business Core Requirements (27 semester hours)

MGT 300 (3)	Management, Organizations and Human Behavior (Pre: COM 251and ENG 209)
MGT 333 (3)	International Business Management (Pre: ECON 131 and MGT 300)
MKT 310 (3)	Principles of Marketing (Pre: ECON 130, BUS 240 and ACC 250)
FIN 320 (3)	Principles of Business Finance (Pre: ACC 250 and one MATH course numbered 104F, 115, 205 or higher)
QBA 360 (3)	Management Science (Pre: QBA 260)
QBA 361 (3)	Operations Management (Pre or co-requisite: QBA 360)
QBA 362 (3)	Management Information Systems
MGT 423 (3)	Business and Society (Pre: BUS 240 and MGT 300) **OR**
PHIL 323 (3)	Professional Ethics (Pre: previous work in philosophy)
MGT 490 (3)	Strategic Management (Pre: MGT 300, MKT 310, FIN 320, QBA 361 and senior standing)

Each Business core course must be completed with a grade of "C" or better.

II. Business Electives (18 semester hours)

Students are to select, with the assistance or consent of their advisor, at least 18 semester hours of Business electives at the 300-400 level to be completed during their junior and senior years. Business courses are considered to be any with ACC, BUS, FIN, MGT, MKT, QBA, or TOUR alphas. Three semester hours of Business electives may be 300-400 level ECON courses. Students must achieve a 2.0 cumulative GPA for all courses counted as Business elective courses.

III. General Electives (up to 15 semester hours)

Students may select up to 15 semester hours of non-business general elective courses in consultation with their advisor.

Note: No more than 60 semester hours in business topics may be applied to this degree.

Non-Business Academic Minor: In the case of B.B.A candidates who pursue an academic minor, no more than nine semester hours of courses which satisfy the requirements of the B.B.A. may be counted toward the minor.

Residence Requirement: B.B.A. candidates must complete at least 24 of the credits used to satisfy upper-division Business core and Business elective requirements while in residence at UH Hilo.

Business Administration Minor

21 semester hours

Students pursuing non-Business degrees earn a minor in Business Administration by successfully completing:

ACC 250 (3)	Financial Accounting (Pre: CoBE Computer Competency certification)
ACC 251 (3)	Managerial Accounting (Pre: ACC 250)
ECON 130 (3)	Introduction to Microeconomics
FIN 320* (3)	Principles of Business Finance (Pre: ACC 250 and one MATH course numbered 104F, 115, 205 or higher)
MGT 300* (3)	Management, Organizations and Human Behavior (Pre: COM 251 and ENG 209)
MGT 333* (3)	International Business Management (Pre: ECON 131 and MGT 300)
MKT 310* (3)	Principles of Marketing (Pre: ECON 130 and ACC 250)

*A grade of "C" or better must be earned in these courses.

For initial enrollment in upper-division (300-400 level) Business Administration courses, students pursuing a Business Administration minor must have:

1. Filed a formal declaration of intent to minor in Business Administration at least four weeks in advance of scheduled early-registration;

2. Completed 50 or more earned semester credit hours at the 100-level or higher;
3. Attained a cumulative grade point average of 2.50 or higher on work completed at UH Hilo (transfer students meeting other requirements may be provisionally admitted to upper-division courses during their first semester at UH Hilo, but will be required to earn at least a 2.5 GPA on their first 12 semester hours of credit at UH Hilo for continued enrollment in upper-division business courses);
4. Earned certification of computer competency by the College of Business and Economics, through successful completion of a practical demonstration of those skills (Computer Competency Test); and
5. Successfully completed all course-specific prerequisites for each upper-division class attempted.

Requirements for Students in Related Programs or Special Circumstances

Students pursuing Agribusiness, Recreational Management, or other major, minor, or certificate program that include some Business Administration courses, as well as other non-business students wishing to register for upper-division (300-400 level) Business Administration courses, must have:

1. Completed 50 or more earned semester hours at the 100-level or higher at the time of initial enrollment;
2. Successfully completed all course-specific prerequisites;
3. Secured permission of the Business Administration department chair, who will consult with the course instructor; and
4. Accumulated no more than 30 total credits at any level in courses offered by the Business Administration Department, including any courses for which registration is being requested in the current semester.

Certificate in Business Administration

21 semester hours

The College offers the Certificate in Business Administration to people who have already earned a baccalaureate degree in an area other than business. The coursework nearly duplicates the minor in Business Administration and allows those graduates of other programs who wish to gain a formal credential testifying to their up-to-date business management skills and knowledge an opportunity to do so. It is especially useful to those already working in business or those intending to work in an organizational situation that would like to gain a well-balanced fundamental perspective on business. At least 50% of the course work must be completed at UH Hilo. All courses are currently available and offered regularly in the Bachelor of Business Administration Degree program.

Required courses are:

ACC 250 (3)	Financial Accounting (Pre: CoBE Computer Competency certification)
ACC 251 (3)	Managerial Accounting (Pre: ACC 250)
ECON 130 (3)	Introduction to Microeconomics
FIN 320* (3)	Principles of Business Finance (Pre: ACC 250 and one MATH course numbered 104F, 115, 205 or higher)
MGT 333* (3)	International Business Management (Pre: ECON 131 and MGT 300)
MKT 310* (3)	Principles of Marketing (Pre: ECON 130 and ACC 250)

Any business elective at the 300-400 level

*A grade of C or better musts be earned in these courses.

Certificate in International Studies

49-52 semester hours

The International Studies Certificate integrates a wide variety of existing courses into a cohesive whole focusing on international issues. This program of study is designed to prepare students for career opportunities in the new world system--a world system in which nongovernmental actors are proliferating, global communications networks multiplying, world travel expanding, and in which states are becoming increasingly interdependent. The Certificate is particularly useful for students pursuing careers in the Foreign Service, international institutions, nongovernmental international organizations, international business, and tourism. The International Studies Certificate aims both to ready students for careers in the new world system and to foster global understanding.

The International Studies Certificate requires two years of a foreign language with prerequisite preparation in General Education courses that emphasize world geography and culture. The core courses, also at the lower-division level, emphasize international political and economic structures and interrelationships. The student then chooses an area for concentrated study. Students can either choose to concentrate in the area of Tourism or in the area of International Relations (see listing under Political Science for International Relations Concentration Option). The concentrations are comprised of upper-division courses, which consider issues in a global context and stress cross-national understanding. The Certificate is notable for having a capstone seminar study or study abroad feature providing hands-on experience for the student.

The Tourism Concentration Option is intended to familiarize students with international travel and tourism in terms of the tourists themselves, their service providers, and the government policies that can facilitate or create barriers for travel or for tourism development. An interdisciplinary approach informs consideration of the economic, environmental, social and cultural aspects of international tourism. This option allows students to examine tourism from a broad policy perspective or from an enterprise perspective. It is useful for students pursuing careers in tourism hospitality businesses or other tourism-related enterprises and in governmental tourism-related organizations.

1. **General Education Co-Requisites (12 semester hours): Select four courses from:**

ANTH 100 (3)	Cultural Anthropology
ANTH/LING 121 (3)	Introduction to Language
GEOG 102 (3)	Geography of World Regions
GEOG 103 (3)	Geography and Contemporary Society
HIST 151 (3), 152 (3)	World Civilization

2. **Program Requirements (22 semester hours):**

First year language (8 credits)
Second year language (8 credits)

Core courses (6 credits):

POLS 242 (3)	Introduction to World Politics **OR**
POLS 251 (3)	Introduction to Comparative Government
ECON 210 (3)	The Global Economy

3. **Tourism Concentration Option (12 semester hours):**

TOUR 317 (3)	Marketing and Management of Travel and Tourism (Pre: MKT 310)
TOUR 320 (3)	Tourism Economics (Pre: Econ 130)
TOUR 340 (3)	International Travel and Tourism Policy (Pre: junior standing or consent of instructor)

AND select one course from the following:

ANTH 323 (3)	Cultural and Social Change
ECON 310 (3)	Economic Development (Pre: ECON 130 and 131)
ECON 360 (3)	International Trade and Welfare (Pre: ECON 130 and 131)
ECON 380 (3)	Natural Resource and Environmental

ECONOMICS

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Economics is the study of how people satisfy their desires s through the activities of production, exchange, and consumption.. These economic activities require the use of time, energy, and scarce material and financial resources. Different outcomess may be observed depending on the choice of production technique,preferences in consumption and method of allocation

Mission

The mission of the UH Hilo Economics Department is to assist individuals in acquiring the knowledge and skills necessary for sound decision-making in their personal and professional lives. The Department serves students and communities of the Island and State of Hawaiʻi, as well as students from the North American mainland and the Asia/Pacific region.

Curriculum

Students of economics follow a curriculum that provides a foundation for methodical, analytical, and critical thinking about societies and institutions. Lower-division courses include principles of economics, mathematics, statistics, along with the general education requirements. Upper-division students have the opportunity of taking advanced economics courses in many specialty areas.

Prospects for Economics Graduates

Economic analysis, forecasting and cost-benefit studies have become routine requirements of management information in most medium and large business firms. Because of its rigorous preparation in economic theory and quantitative methods, a bachelor of arts degree in Economics from UH Hilo is in demand both in industry and government. Students may use the degree to apply for the University's Teacher Education Program. The program also provides an excellent background for law and other professional schools, as well as graduate study in economics.

Goals for Student Learning in the Major

Upon graduating, our students should have the following knowledge:

Know the common core of economic knowledge that enables them to understand and apply:

- Basic concepts and principles of economics with an appreciation of the unity, logic and power of economic reasoning
- Economically sound reasoning to situations explaining resource allocation at all levels
- The explanatory power of incentives and trade-offs when analyzing individual, group, and social problems or issues
- Economic theory to practical problems

Upon graduating, our students should have the following attitudes:

- Conviction that they have received a quality education, appropriate to their personal and career goals
- Appreciation of the goal-orientation and self-motivation needed to be a successful
- Confidence that they are prepared to take on the challenges of a career in either the private sector or any level of government
- Recognition that an on-going commitment to learning is critical to continued success and satisfaction in their career
- Recognition that community service will be an important component of their future professional responsibilities
- Confidence that they can identify economic problems, relevant issues, and significant factors involving uncertainty,

ambiguity, incomplete information, and conflicting goals in such a way for effective decision-making

Upon graduating, our students should have the following skills:

- Critical thinking and integrative problem-solving skills
- Effective, confident written and oral communication skills and the demonstration of a professional demeanor
- Facility in Web-based-research, computer-related applications and current methods of analysis and presentation

Contributions to UH Hilo's General Education Program

Students who elect to take an Economics course to meet part of their General Education requirement in the Social Sciences will gain an appreciation of:

- Allocating scarce resources most efficiently
- Analyzing national and international events within a coherent and logical framework
- Decision making when facing uncertainty

Delta Sigma Pi

Economics majors are eligible for nomination to the Lambda Psi chapter of the Delta Sigma Pi national professional business fraternity. The fraternity provides many opportunities for community, professional, and social activities.

The Economics Major

36-37 semester hours

Required:

MATH 121 (3)	Introduction to Statistics and Probability **OR**
QBA 260 (3)	Business Statistics
MATH 115 (3)	Applied Calculus **OR**
MATH 205 (4)	Calculus I
ECON 130 (3)	Introduction to Microeconomics
ECON 131 (3)	Introduction to Macroeconomics
ECON 300 (3)	Intermediate Macroeconomic Theory
ECON 301(3)	Intermediate Microeconomic Theory **OR**
ECON 302 (3)	Managerial Economics

AND EITHER

The Traditional Track:

ECON 305 (3)	The History of Economic Thought
ECON 390 (3)	Econometrics

AND 12 semester hours in upper-division Economics courses.

OR

The International Track:

ECON 210 (3)	The Global Economy
ECON 310 (3)	Economic Development
ECON 360 (3)	International Trade and Welfare
ECON 361 (3)	International Finance

AND 6 semester hours in upper-division Economics courses.

In order to earn a Bachelor of Arts degree in Economics, students must not only fulfill the requirements above for the major but also meet all of the University's other baccalaureate degree requirements. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.) Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered, information that is available in the course listing at the back of this Catalog. To ensure progress toward graduation, **students are strongly encouraged to meet with an advisor each semester before registering.**

The Economics Minor

18 semester hours

Required:

ECON 130 (3)	Introduction to Microeconomics
ECON 131 (3)	Introduction to Macroeconomics

Electives: 12 semester hours of ECON 300-400 level economics courses which should include one from each group:

Group I

ECON 301 (3)	Intermediate Microeconomic Theory
ECON 302 (3)	Managerial Economics
ECON 305 (3)	The History of Economic Thought
ECON 360 (3)	International Trade and Welfare
ECON 370 (3)	Government Finance
ECON 380 (3)	Natural Resource and Environmental Economics
ECON 381 (3)	Labor Economics
ECON 420 (3)	Mathematical Economics

Group II

ECON 300 (3)	Intermediate Macroeconomic Theory
ECON 310 (3)	Economic Development
ECON 340 (3)	Money and Banking
ECON 361 (3)	International Finance

Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language

For information, please contact:
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Vision

'O ka 'ōlelo ke ka'ā o ka mauli—Language is the fiber that binds us to our cultural identity.

Established in 1997, UH Hilo's College of Hawaiian Language, Ka Haka 'Ula O Ke'elikōlani, was named in honor of Ruth Ke'elikōlani Keanolani Kanāhoahoa, the 19th century high chiefess known for her strong advocacy of Hawaiian language and culture.

Building upon the vast repository of traditional knowledge left by our elders before us, Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language faculty, staff, and students seek to realize its vision statement for the benefit of all of Hawai'i's people through the revitalization of Hawaiian language, traditional culture, and education in a Hawaiian medium setting.

Hale Kuamo'o

The Hale Kuamo'o Center for Hawaiian Language and Culture Through the Medium of Hawaiian is the support and research division of Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language. The Center encourages and supports the expan-

sion of the Hawaiian language as a medium of communication in education, business, government, and other contexts of social life in the public and private sectors of Hawaiʻi and beyond. The Center's programs include:

Curriculum Development, Media and Telecommunications Services

- Development, production and distribution of instructional materials for implementation in Hawaiian medium schools
- Hawaiian language research and development
- Media and Telecommunications

Hawaiian Medium Inservice

- Leo Ola (Summer Institute)
- Kākoʻo Kula (School Site Support)
- Kākoʻo Kaiapuni Hawaiʻi (Teacher Inservice)

Hawaiian Medium Laboratory Schools

Legislation establishing Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language provides for laboratory school programs to include Ke Kula ʻO Nāwahīokalaniʻōpuʻu (on Hawaiʻi Island), Ke Kula ʻO Samuel M. Kamakau (on Oʻahu), Ke Kula Niʻihau O Kekaha (on Kauaʻi), and other sites as appropriate. All laboratory programs reflect *Ke Kumu Honua Mauli Ola Hawaiʻi*, the Hawaiian educational philosophy which asserts Hawaiian cultural identity as the basis of education and participation in contemporary life. Hawaiian is the medium of instruction and communication among students, staff, and administration at the laboratory schools, which focus on college preparation, environmental and health studies, sustainable agriculture, and teacher training.

Extension of the laboratory school program to other sites is facilitated by a consortium between the College and the ʻAha Pūnana Leo.

Outreach

Outreach currently includes work with the Hawaiian community both locally and abroad, as well as with other native peoples, especially those of North America and the Pacific. Hale Kuamoʻo is also the Secretariat for the Polynesian Languages Forum which unites the developing indigenous languages of 13 Polynesian governments.

Hawaiian Studies Division

The Hawaiian Studies Program is one of the most innovative baccalaureate programs at the University of Hawaiʻi at Hilo, offering two options for study, each focused on a Hawaiian-based cultural continuum:

1. The continued development of Hawaiian culture within a Hawaiian language context; and
2. The monitoring of the direction of Hawaiian culture.

This program basically serves four groups of students:

1. Those taking courses for their own interest and to fulfill University requirements;
2. Those minoring in Hawaiian Studies;
3. Those pursuing certificates in Hawaiian language or culture; and
4. Those majoring in Hawaiian Studies.

In addition, our program provides a unique educational opportunity for students interested in culture, economics, politics, sociology, linguistics, music, anthropology, biology, geography, history, and dance.

Curricula

The academic division of Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language emphasizes language acquisition, linguistics, traditional culture and education in a Hawaiian medium environment. The Hawaiian Studies Division currently oversees:

- The Undergraduate Program, which offers
  - The B.A. in Hawaiian Studies
  - The Minor in Hawaiian Studies
  - The Certificate in Hawaiian Language
  - The Certificate in Basic Hawaiian Culture
  - The Certificate in Indigenous Language and Culture Revitalization
- The Kahuawaiola Indigenous Teacher Education Program (post-baccalaureate certificate)
- The M.A. in Hawaiian Language and Literature

The Atmosphere

Students in the Hawaiian Studies Program come from several islands and play a key part in its direction. The classroom atmosphere stresses mastery of Hawaiian culture and its active use, particularly the Hawaiian language. All upper-division Hawaiian culture, linguistics and performing arts courses are taught in Hawaiian. The program also emphasizes the importance of contact with the community. Toward this end, the program requires majors to take at least one course taught by a community expert and to complete the exiting seminar class which focuses on community involvement. Permeating Hawaiian Studies in Hilo is a sense of responsibility for Hawaiian culture, a commitment which is shared by faculty and students alike. Those interested and concerned with Hawaiʻi's future will find Hilo to be a stimulating and enjoyable place to live and study.

Academic Advisor – Students are encouraged to make an appointment or to stop by the office of the academic advisor to go over scheduling of classes and discuss any difficulties or successes they are experiencing in their classes and/or with their instructors. Students are also directed to tutoring programs or other counseling programs on campus to assist them in their studies and/or personal issues.

Weekly Email Updates - A weekly email of the College's announcements and news is sent out to all Hawaiian Studies majors and minors.

Hawaiian Language Tutors - Hawaiian language tutors are available for all levels of Hawaiian language study.

Guest Speakers - Presentations by a wide variety of guest speakers on Hawaiian language, culture, social and political topics are held each semester.

Discussions – Student/faculty "talk-story" sessions about current issues within the Native Hawaiian community are also held each semester.

Internships and Volunteer Opportunities – To assist students in career planning and in learning about upcoming work/volunteer opportunities in a Hawaiian Studies field, a program including internships to Hawaiian language places of employment such as the ʻAha Pūnana Leo, Hale Kuamoʻo, Hawaiʻi Department of Education, and Lyman Museum is currently nearing completion.

The Future

Hawaiian Studies is a new field which is already playing an important role in the direction of life in Hawaiʻi. In response to amendments to the Hawaiʻi State Constitution, public schools and government departments are presently developing programs to promote Hawaiian culture, language and history for the general public, in addition to implementing new programs for people of Hawaiian ancestry.

There are jobs in the ministry, law, land surveying, the entertainment industry, education, agriculture, journalism, the media, fish and game management, and social services that require a background in various aspects of Hawaiian Studies. In the private sector, individuals are establishing businesses in food and beverage, fashion, publishing, and telecommunications with a Hawaiian Studies foundation. There are many exciting opportunities now and in the future for those dedicated to the goal of Hawaiian Studies: meeting the rapidly increasing demand for Hawaiian language, knowledge, skills, and expertise in all areas of social, economic, and political life in Hawaiʻi.

Currently, the area of greatest expansion is found in schools taught entirely through Hawaiian. These Hawaiian medium/immersion programs are conducted by the Pūnana Leo and the Hawaiʻi State Department of Education. The ever increasing need for teachers and curriculum for these programs provides fine employment opportunities for those committed to Hawaiian cultural continuity.

The Hale Kuamoʻo Center for Hawaiian Language and Culture Through the Medium of Hawaiian provides special support services for Hawaiian education programs. The creation and expansion of this center, together with the Hawaiian language and culture efforts throughout the UH system, have created a demand for new faculty and staff with Hawaiian Studies credentials.

Clearly, opportunities in the field of Hawaiian Studies are both broad and limitless, because Hawaiian Studies is part of a major change in modern Hawaiian society. Today, people are actively cultivating that which is Hawaiian, not only on the job, but at home and in the community as well. Hawaiian Studies will help you to fit into the Hawaiʻi of the future. And because this change of attitude is not limited to Hawaiʻi, but is found throughout the Pacific and the world, Hawaiian Studies will help you better to relate to others on a global level. Hawaiian Studies is a field with a bright future!

A minimum of 120 semester hours is required for the B.A. degree. Majors must fulfill 43 semester hours and may choose to emphasize either of the two primary options of the program. The minor requires 23 semester hours. Certificates require from 24 to 26 semester hours. All semester hours must be completed with a grade of "C" or better.

The Hawaiian Studies Major

43 semester hours

Option I (Continuing the Culture)

1. Required courses (25 semester hours)

HAW 303-304 (8)	Third-Level Hawaiian
HAW 403-404 (8)	Fourth-Level Hawaiian
HWST 205 (2)	Hawaiian Music in Action
HWST 305 (1)	Hana Noʻeau
HWST 497 (3)	Hawaiian Studies Seminar
HWST 111 (3)	The Hawaiian ʻOhana **OR**
HWST 211 (3)	Hawaiian Ethnobotany **OR**
HWST 213 (3)	**Hawaiian Ethnozoology**

2. Electives (18 semester hours)

12 semester hours selected from either (A) or (B):

(A) Language Emphasis

HAW 453 (3)	Hawaiian Phonetics and Phonology
HAW 454 (3)	Hawaiian Morphology and Syntax
HAW 455 (3)	Hawaiian: A Polynesian Language
HWST 361 (3)	Pana Hawaiʻi
HWST 462 (3)	Haku Mele

(B) Performing Arts Emphasis

HWST 361 (3)	Pana Hawaiʻi
HWST 462 (3)	Haku Mele
HWST 471 (3)	Mele ʻAuana
HWST 472 (3)	Hula ʻAuana
HWST 473 (3)	Oli/Mele Kahiko
HWST 474 (3)	Hula Kahiko

PLUS 6 semester hours taken from any 300- or 400- level HAW or HWST course

Option II (Monitoring the Culture)

1. **Required courses (25 semester hours)**

HAW 303-304 (8)	Third-Level Hawaiian
HAW 403-404 (8)	Fourth-Level Hawaiian
HWST 111 (3)	The Hawaiian ʻOhana
HWST 205 (2)	Hawaiian Music in Action
HWST 305 (1)	Hana Noʻeau
HWST 497 (3)	Hawaiian Studies Seminar

2. Electives (18 semester hours)

12 semester hours selected from either (A) or (B) below, at least 9 of which must be in courses numbered 300 and above:

(A) Social Environment

ANTH 357 (3)	Change in the Pacific
ANTH 385 (3)	Hawaiian and Pacific Prehistory
ANTH 386 (3)	Hawaiian Culture before 1819
ANTH 387 (3)	Modern Hawaiian Culture (1819 to present)
HIST 374 (3)	History of Hawaiʻi
ECON 330 (3)	Hawaiian Economy
POLS 231 (3)	Politics of Hawaiʻi
POLS 494 (1-3)	Special Topics in Political Science

(B) Natural Setting

BIOL 156 (3)	Natural History and Conservation of the Hawaiian Islands
GEOG 120 (3)	Weather and Climate of Hawaiʻi
GEOG 332 (3)	Geography of the Hawaiian Islands
GEOL 205 (3)	Geology of the Hawaiian Islands
HWST 211 (3)	Hawaiian Ethnobotany
HWST 213 (3)	Hawaiian Ethnozoology
HWST 361 (3)	Pana Hawaiʻi

PLUS 6 semester hours taken from any 300- or 400-level HAW or HWST course

In order to earn a Bachelor of Arts degree in Hawaiian Studies, students must not only fulfill the requirements above for the major but also meet all of the University's other baccalaureate degree requirements. (Please see the chapter entitled Baccalaureate Degree Requirements of this Catalog.) Students wishing to make timely progress toward graduation are urged to pay careful attention to all degree requirements. In addition, when planning a schedule of courses, it is imperative to be aware of course prerequisites and the frequency with which courses are offered, information that is available for each course in the listing at the back of this Catalog. To ensure progress toward degree completion, **students are strongly encouraged to meet with an advisor each semester before registering.**

The Hawaiian Studies Minor

23 semester hours

1. **Required Courses (11 semester hours)**

HAW 201-202 (8)	Intermediate Hawaiian **OR**
HAW 207 (8)	Accelerated Intermediate Hawaiian
HWST 111 (3)	The Hawaiian ʻOhana **OR**
HWST 211 (3)	Hawaiian Ethnobotany **OR**
HWST 213 (3)	Hawaiian Ethnozoology

2. Electives (12 semester hours)

12 semester hours selected from any 300- or 400-level requirement or elective of Options I or II above

The Certificate in Hawaiian Language

24 semester hours

1. **Required Courses (8 semester hours)**

HAW 303-304 (8)	Third-Level Hawaiian (requires background in elementary and intermediate Hawaiian)

2. Electives (16 semester hours)

16 semester hours taken from:

HAW 403-404 (8)	Fourth Level Hawaiian (2 semesters)
HAW 453 (3)	Hawaiian Phonetics and Phonology
HAW 454 (3)	Hawaiian Morphology and Syntax
HAW 455 (3)	Hawaiian: A Polynesian Language
HAW 494 (3)	Special Advanced Topics in Hawaiian
HAW 499 (1-3)	Directed Studies
HWST 405 (1)	Hana Noʻeau
HWST 461 (3)	Pana Hawaiʻi
HWST 462 (3)	Haku Mele
HWST 471 (3)	Mele ʻAuana
HWST 472 (3)	Hula ʻAuana
HWST 473 (3)	Oli/Mele Kahiko
HWST 474 (3)	Hula Kahiko
HWST 494 (3)	Special Advanced Topics in Hawaiian Studies
HWST 497 (3)	Hawaiian Studies Seminar
HWST 499 (1-3)	Directed Studies
LING 102 (3)	Introduction to Linguistics
LING 121 (3)	Introduction to Language
LING 351 (3)	Methodology of Foreign Language Teaching

NOTE: All HAW- and HWST-related elective courses are conducted in Hawaiian.

The Certificate in Basic Hawaiian Culture

26 semester hours

1. **Required Courses (8 semester hours)**

HAW 101-102 (8)	Elementary Hawaiian (2 semesters) **OR**
HAW 107 (8)	Accelerated Elementary Hawaiian

2. **Core Electives (9 semester hours)**

9 semester hours taken from:

HWST 111 (3)	The Hawaiian ʻOhana
HWST 176 (3)	The History and Development of Hawaiian Music
HWST 211(3)	Hawaiian Ethnobotany
HWST 213(3)	Hawaiian Ethnozoology

3. Related Electives (9 semester hours)

9 semester hours taken from:

ANTH 385 (3)	Hawaiian and Pacific Prehistory
ANTH 386 (3)	Hawaiian Culture before 1819
ANTH 387 (3)	Modern Hawaiian Culture (1819 to present)
BIOL 156 (3)	Natural History and Conservation of the Hawaiian Islands
ECON 330 (3)	Hawaiian Economy
GEOG 120 (3)	Weather and Climate of Hawaiʻi
GEOG 332 (3)	Geography of the Hawaiian Islands
GEOL 205 (3)	Geology of the Hawaiian Islands
HAW 100 (2)	Hawaiian Language in Action
HAW 201-202 (8)	Intermediate Hawaiian (2 semesters) **OR**
HAW 207 (8)	Accelerated Intermediate Hawaiian
HAW 299 (1-3)	Directed Studies
HWST 205 (2)	Hawaiian Music in Action
HIST 374 (3)	History of Hawaiʻi

OR a fourth course from the core elective list.

CONDITIONS: No more than two courses may be counted in the fulfillment of all three of the following: (1) Hawaiian Studies minor, (2) the Certificate in Hawaiian Language, (3) the Certificate in Basic Hawaiian Culture. No more than three courses may be counted in the fulfillment of two of the above. Students in the B.A. in Hawaiian Studies program are not eligible to pursue the above certificates nor the minor, since these programs are designed for students in other degree programs.

Kahuawaiola Indigenous Teacher Education Program

The Kahuawaiola Indigenous Teacher Education Program is a three-semester post-baccalaureate program delivered primarily through the medium of Hawaiian. The program is specifically designed to prepare "Mauli Ola Hawaiʻi" (Hawaiian identity nurturing) teachers of the highest quality to teach in Hawaiian language medium schools, Hawaiian language and culture programs in English medium schools, and schools serving students with a strong Hawaiian cultural background.

The program places a high value on on-site learning and practicum experience with high performance outcomes. Academics are integrated in a spiraling sequence and holistic indigenous approach utilizing the classrooms and outside environment for a balance of theory and applied learning situations. The four areas of teacher preparation throughout the program include: 1) Hawaiian language, culture, and values; 2) pedagogical skills; 3) knowledge of content; and 4) development of professional qualities.

During the summer foundation phase of teacher training, principles of learning and teaching are integrated with state standards and general educational theory through a philosophy of education - *Ke Kumu Honua Mauli Ola* - based on Hawaiian traditions. Students learn to integrate Hawaiian culture and Hawaiian pedagogy into all phases of the curriculum and content areas including differential learning strategies, lesson planning, assessment, classroom management, and other necessary skills.

Teacher candidates invest two full semesters of student teaching with Hawaiian medium locations throughout the State. Students are encouraged to return to their home communities for this phase and are supported by a cooperating teacher, regular site visits from clinical faculty, student teacher seminars provided via the Hawaiʻi Interactive Television System, and professional development workshops where candidates are given the opportunity to interact with practicing Hawaiian immersion professionals throughout the state.

Evaluation of Hawaiian language proficiency is delivered through a battery of tests that evaluate the level of fluency in six areas utilizing the ACTFL proficiency standards. Passing scores are based on the ACTFL advanced levels of proficiency and address the following areas: (1) reading comprehension; (2) aural comprehension; (3) use of standard orthography in adapting older materials; (4) translation from English; (5) composition; and (6) oral language skills demonstrated in an interview.

Program Goals

Kahuawaiola seeks to develop teachers who have a strong Hawaiian language and culture foundation who can:

- Demonstrate proficiency teaching in the Hawaiian language and culture while nurturing the whole learner within a culturally healthy and responsive learning environment;
- Integrate classroom practices through a cultural understanding of the principles of learning, teaching, and leadership necessary for guiding learners across the curriculum;
- Communicate effectively with the members of the school community–students, parents, administrators, faculty, staff, and community members in a culturally supportive manner;
- Create and maintain a culturally nurturing and positive learning environment that supports the people and the place of learning;
- Exhibit a heartfelt love for teaching and a sincere desire for pursuing high professional standards of excellence and ongoing improvement;
- Maintain and perpetuate Hawaiian educational processes, perspectives and meaningful experiences for the learner and within the learning environment through English and/or Hawaiian for the benefit of all students.

Entrance Requirements

All interested persons with a B.A. or B.S. degree from an accredited college or university with an approved major requiring a minimum of 120 credits, 45 of which are at the 300 level or above, may be accepted if they also meet the Hawaiian language and culture course work requirements of the program.

Applicants will be evaluated on the following criteria:

1. Completion of the application packet
2. Completion of a baccalaureate from an accredited college or university, with a major field of study approved by the Hawaiian Studies Division
3. Minimum GPA of 2.75 in both the major and cumulative record
4. Four years of college level Hawaiian language with a minimum of 2.75 for the third and fourth years; or permission from the Hawaiian Studies Division based on an evaluation of fluency
5. Completion of one of the following: HWST 111, 211, 213; or permission from the Hawaiian Studies Division based on an evaluation of Hawaiian cultural knowledge and skills
6. Completion of one of the following: HWST 205, 471, 472, 473, 474; or permission from the Hawaiian Studies Division based on an evaluation of Hawaiian cultural knowledge and skills
7. 50 hours of (paid or volunteer) teaching experience through the medium of Hawaiian; **OR** 30 hours of (paid or volunteer) teaching experience through the medium of Hawaiian **AND** 30 hours of (paid or volunteer) experience in Hawaiian medium curriculum development
8. Passing scores on the Praxis I exams (reading, writing, and mathematics) AND on Praxis II (Subject Assess,ments) Content Area exercises relevant to secondary level licenses which the applicant will seek from the Hawaii Teacher Standards Board
9. Interview with Kahuawaiola faculty

Graduation Requirements

Graduation from the program will be based on the successful completion of the following requirements:

1. **10 courses totaling 38 credits:**

HAW 490 (1)	Base-Level Fluency for Hawaiian Medium Education
KED 470 (3)	Foundations for Hawaiian Medium Education
KED 471 (3)	Language Arts in Hawaiian Medium Education
KED 472 (2)	Math and Science in Hawaiian Medium Education
KED 473 (2)	Social Studies in Hawaiian Medium Education
KED 474 (3)	Technology, Arts, and Physical Education in Hawaiian Medium Education
KED 451 (9)	Hawaiian Medium Field Experience I
KED 452 (3)	Hawaiian Medium Field Experience I Seminar
KED 453 (9)	Hawaiian Medium Field Experience II
KED 454 (3)	Hawaiian Medium Field Experience II Seminar

2. **Minimum grade of 3.0 in all of the above courses requiring grades**

LEVEL ONE: "CERTIFICATE COMPLETER." Upon completion of all Kahuawaiola course requirements, candidates graduate and receive the Certificate in Indigenous Education from UH Hilo. (Application for Graduation required.)

LEVEL TWO: "PROGRAM COMPLETER." Candidates complete all Kahuawaiola course requirements, graduate, and receive the Certificate in Indigenous Education from UH Hilo and become "Certificate Completers." In addition, candidates also must complete remaining Praxis exams (PLT and Praxis II Secondary Subject Assessment Pedagogy or Elementary Education exams) required for state licenses which they will seek from the Hawaii Teacher Standards Board (HTSB). Only after successful completion of Praxis exams are candidates recommended by Kahuawaiola to the HTSB for licensure. Only "Program Completers" are eligible to apply for teaching licenses from the HTSB.

Academic Status, Progression, and Readmission Policies

Kahuawaiola students are expected to complete the program in three consecutive semesters while also maintaining full-time status. Students are also expected to fully devote their energies and efforts to the course work, field experiences, and other requirements of the program. There are no elective courses.

Unless designated "credit/no credit," Kahuawaiola courses may not be taken on a "credit/no credit" basis. A 3.0 GPA must be maintained in all Kahuawaiola courses. A student may be removed from a field experience if it is determined by Kahuawaiola faculty that the student is not making satisfactory progress toward meeting the requirements of the program. Such removal may result in complete dismissal from the program.

Students and candidates who stop out of the program must reapply and meet all criteria and deadlines.

Accreditation

The Kahuawaiola Indigenous Teacher Education Program is accredited through the State Approval of Teacher Education Programs. Upon successful completion of all program requirements, graduates will qualify for an institutional recommendation to the Hawai'i Teacher Standards Board for licensure..

For more information about Kahuawaiola or to request an application packet, please contact the Kahuawaiola office: PB12-1, Ka Haka ʻUla O Keʻelikōlani College, University of Hawaiʻi at Hilo, 200 W. Kāwili Street, Hilo, HI 96720-4091; (808) 974-7796 (phone); (808) 974-7797 (fax); noi_kahuawaiola@leoki.uhh.hawaii.edu (email); or visit www.kahuawaiola.org.

College of Continuing Education & Community Service

For information, please contact:

Office of the Dean
College Hall 1
200 W. Kāwili Street
Hilo, HI 96720-4091
(808) 974-7664
www.uhh.hawaii.edu/academics/ccecs

Dean: Mike O'Donnell (mto@hawaii.edu)

Summer Session	(808) 974-7664
Senior Programs	(808) 974-7603
Conference Center	(808) 974-7555
English Language Institute	(808) 933- 8855
North Hawai`i Education & Research Center (NHERC)	(808) 775-8890

Mission of CCECS

The College of Continuing Education and Community Service (CCECS) serves as the outreach and extramural arm of the University. CCECS offers both credit and noncredit classes and programs in collaboration with UH Hilo's colleges and schools, including both credit and noncredit English language skills for international students. CCECS also provides continuing education outreach programs and manages a variety of grants and extramural monies to enhance services to the University and the Big Island.

CCECS Programs

Credit programs include the University's Summer Session, English Language Institute, distance education program, teacher education classes, and outreach classes to the North Hawai'i Education and Research Center in Honoka'a. Asynchronous distance education courses include the first two years of the Hawai-

ian language, courses for nursing degree students, and general education and elective courses.

Noncredit programs consist of continuing education, health and wellness, travel study, international students, conference programs, outreach education, professional development, customized courses to meet specific community needs, and a variety of senior programs including computer technology and cultural education.

Extramural funding includes contracts and grants in areas of specialization: services to senior citizens, culture and the arts, dance, partnerships with the Department of Education for K-12 education, and partnerships with community organizations such as the Chamber of Commerce and Kamehameha Schools.

Personal and Professional Development Program

Professional Development/Corporate Training

In-service training programs for various professions, government agencies, and the private sector are available.

Teacher In-service Training

A variety of in-service courses are offered for professional teachers to help keep teachers abreast of current information in particular subject areas. These courses are not applicable toward baccalaureate or graduate degrees.

Personal Development

UH Hilo strives to meet the needs of the community by providing special programs and presentations on timely issues and topics.

CCECS focuses on the cultural diversity and vitality of the Big Island, the most diverse county in the United States. Classes are offered in areas of interest to worldwide audiences. Teachers and students come from all over the world, and courses reflect the unique blending of eastern, western, and European cultures and traditions.

Fitness for Life is not just an exercise program. It provides fitness for the mind, body, and spirit for all ages, youngsters to seniors. Offerings vary from semester to semester. Health and wellness programs include: pilates, yoga, tai chi, total body conditioning, and shape up with weights. Dance programs vary from exotic to traditional: swing, LA Jazz, hip hop, Salsa, Brazilian Samba, Italian Renaissance, and dances from West African Diaspora. A cross-section of cultural programs include Ikebana (the Japanese art of flower arranging), conversational French (with a study tour to Tahiti over spring break), and a full-range of yoga (from Ashtanga to gentle yoga), and Krav Maga (the art of Israeli military combat). Programs for the spirit include underwater photography and nature photography on Hawai'i Island, capturing some of the Earth's most beautiful landscapes.

Waterfront programs in Hilo Bay include canoes and sailboats. Recreational paddling features both beginner and intermediate levels. Small boat sailing includes beginning, intermediate, and racing programs.

Summer Session

Summer Session is a unique multi-cultural experience. A wide range of credit and non-credit course offerings, student activities, and special events are offered. Student groups from abroad and the mainland U.S. reside on campus or in University-approved housing.

An award-winning Marine Science Summer Program, offered during the six-week session, features international faculty. As a "living laboratory" Hawai'i Island is unparalleled. Classes take students from the deep ocean, to coral reefs, to estuaries. The program is designed to stimulate the student's interest, provide experience-oriented learning, and take full advantage of the Island's unique climatic zones. Students participate in underwater research in a marine reserve at Puakō Bay on the west shore of Hawai'i. Faculty and students tag turtles in protected black-sand beaches, learn water and diving safety techniques, and participate in deep water sampling from the University's research vessel.

Land programs feature the extraordinary opportunities of the Big Island. Some students participate in world-famous astronomy atop the 13,000-foot Mauna Kea volcano, home of the largest telescopes and best viewing conditions in the world. Other students choose Geology field research at Mauna Loa, the world's biggest mountain and longest continuously-flowing volcano.

Senior Citizen Programs

In the spirit of life-long learning, UH Hilo actively participates with state, county, and national agencies in providing unique educational opportunities for Hawai'i County senior citizens. No prerequisite or prior formal education is required to attend these programs.

The University of Hawai`i at Hilo is one of 71 institutions nationwide to receive a $100,000 grant from the Bernard Osher Foundation to develop courses and programs for adult learners. Because of the size, diversity, and rural nature of the island, classes are being offered in locations across the island. Additional sites and courses will be added as the OLLI program grows, with the eventual goal of creating island-wide lifelong learning networks.

With the assistance of field coordinators, the OLLI program strives to develop communities of adult learners (with a focus on those 45 and over). Lectures, short courses, educational activities, and events are planned by local community members in collaboration with OLLI coordinators. These non-credit courses and programs are taught by active and retired UH faculty and a wide range of talented members of the island's adult community.

HISI is a unique non-credit academic program developed specifically for adults over 55 years of age who wish to continue to study and learn. Seniors may participate in a lecture series, field trips, writing workshops, and other academic activities.

The Hilo SeniorNet Learning Center offers affordable computer classes for people over 50 taught by seniors for seniors. Classes do not go over a maximum of 10. Hilo SeniorNet is part of SeniorNet, a non-profit educational organization with over 200 learning centers across the United States, Canada and Japan.

With OLLI as the primary foundation for all senior programs such as the Hawai`i Island Senior Institute (HISI) and Hilo SeniorNet, the scope and diversity of classes will continue to expand with time.

Travel Study Programs

For over 20 years a variety of international and mainland United States study groups have experienced Hawai'i Island learning through travel study programs. Study groups come from China, Japan, Taiwan, Korea, and other countries.

Travel study programs have included some or all of the following: ESL/English conversation classes, volcano studies, Hawaiian studies, cultural diversity and social organization, and alternative energy technology. Travel study programs are custom-designed to fit the needs of requesting client groups.

Since 1986 CCECS has offered a college credit summer program in conjunction with Peking University. Students share unique experiences in Chinese life, culture, and worldview. Different activities are offered each summer and feature the ethnic and cultural history of various locales in China. Previous programs tracked the Silk Road and trading routes, the cities of Beijing and Chengdu, and southern and eastern China.

The Conference Center

The UH Hilo Conference Center has a well-established reputation for well-managed and cost-effective state, national, and international conferences. Conferences vary from specially-arranged small groups to large conferences, such as "Cities on Volcanoes," involving international presenters and contributors.

The University, by virtue of its unique location, has become the hub of Pacific Rim conferencing, and Hilo, with its multilingual and multi-cultural population, academic resources, and networking capabilities, presents itself as a prime location for national and international conferences. The Conference Center is meeting the new challenges of international conferences with improved technological and support services, and a highly-trained and responsive professional support staff.

Conference services include program development, fiscal management, curriculum and resource support, logistical coordination, and publicity and promotion. With the demand for the number of conferences increasing, and the organizational structure of the implementation of conferences more complex, conferencing has become an integral part of the development of the expanded services offered by UH Hilo.

English Language Institute

Students come from over 50 countries and territories to take classes at UH Hilo. The campus has the highest percentage of international students of any of the ten campuses in the University system. Preparatory to entering American education, many students opt to take specialized classes to enhance English language skills. Small class sizes provide specialized instruction, language labs, tutoring sessions, excursions, and experiences in the rich cultural and natural environment of Hawai'i Island.

The ELI's primary purpose is to provide English instruction to international and immigrant students whose native language is not English. Improved English language skills help ensure student academic success at the University. Courses are offered at three levels of proficiency in listening/speaking, reading, writing, and grammar.

Students who are admitted to the English Language Institute as an alternative to admission to a degree program are required to enroll in ESL courses as directed by the Institute until they have completed the ESL sequence prescribed for them. Such students may enroll in additional courses only with the consent of both of the instructor and the ELI Director.

ELI courses, while carrying administrative credit, do not count toward graduation from UH Hilo. The courses are geared to providing intensive English instruction in order to prepare international students for the rigors of undergraduate education at UH Hilo. Students exiting the ELI program move into the regular undergraduate and graduate degree programs of the University. Depending on their ability levels, the ELI Director advises students to concurrently register for ELI and University classes.

List of Courses

Special notations used are as follows:

1. 101, 102 = a year's sequence in which 101 is not prerequisite for enrollment in 102.
2. 101-102 = a year's sequence in which 101 is prerequisite for enrollment in 102.
3. (3-3) Yr. = a year's sequence carrying 3 semester hours each semester.
4. (Arr) = the number of semester hours is arranged by the instructor.

Certain number endings are reserved for particular types of courses:

1. "94" courses are Special Topics Courses.
2. "95" courses are Seminars.
3. "96" courses are Internship Courses.
4. "97" and "98" courses are Experimental Courses offered only for one year on that basis ("97" is usually offered in the Fall and "98" in the Spring).
5. "99" courses are Research and Directed Studies Courses.

Course listing codes:

1. (S) Every semester
2. (Y) Yearly
3. (AY) Alternate years
4. (IO) Infrequently offered

ACCOUNTING (ACC)

College of Business and Economics

ACC 250 Financial Accounting (3) (S) Accounting theory and methods used to record and report financial information; methods for valuing the assets, liabilities, and ownership of an organization. Pre: CoBE Computer Competency certification.

ACC 251 Managerial Accounting (3) (S) Methods for evaluating financial performance including cost accounting, budgeting, breakeven analysis, ratio analysis, and sources and uses of funds. Pre: ACC 250.

ACC 350 Intermediate Accounting I (3) (Y) The accounting process and the application of generally accepted accounting principles to assets and liabilities. Emphasis upon accounting theory. Pre: Admission to Professional Business Program, ACC 250 and junior standing.

ACC 351 Intermediate Accounting II (3) (Y) The application of generally accepted accounting principles to accounting for owner's equity, long-term investment and debt, funds flow, consolidations, and financial statement analysis. Pre: Admission to Professional Business Program, ACC 350 and junior standing.

ACC 352 Individual Income Tax (3) (Y) Principles and practices involved in the determination of federal income taxation and tax planning as it applies to individuals including the concept of gross income, exclusions, deductions, credits, property transactions and sole proprietorships. Pre: Admission to Professional Business Program,
ACC 250 and junior standing.

ACC 353 Cost Accounting (3) (AY) Cost accounting system output relevant to managerial decision making, planning and control. Topics include job order and process costing, direct and standard cost systems, with emphasis on application and analysis of cost. Pre: Admission to Professional Business Program,ACC 251 and junior standing.

ACC 354 Business Software (3) (AY) Practical applications of general ledger /bookkeeping for small businesses. Firms of various industries will be used as examples. Focus will be on internal controls, accounting tasks, and comparative product analysis. Comparisons will be made from the standpoint of controls, suitability for task, ease of use, and functionality. Pre: Admission to Professional Business Program, ACC 250, junior standing, co-requisite registration with ACC 350.

ACC 355 Taxation of Business Entities (3) (Y) Principles and practices involved in the determination of federal taxation of business entities including corporations, partnerships, and LLC's. Calculation of business income, business credits, deductions, loss carryforwards and tax planning for business owners will be covered. Pre: Admission to Professional Business Program, ACC 250, ACC 352, and junior standing.

ACC 358 Governmental Accounting (3) (IO) Accounting principles as applied to nonprofit organizations, including government. Emphasis on budgetary control and fund accounting. Pre: Admission to Professional Business Program
ACC 251.

ACC 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, junior standing and consent of instructor.

ACC 450 Advanced Accounting (3) (AY) The application of generally accepted accounting principles to specialized accounting entities: partnerships, branches, affiliated companies, estates and trusts; and to special topics. Pre: Admission to Professional Business Program, ACC 351.

ACCOUNTING (ACC)

College of Business and Economics

ACC 454 Auditing (3) (AY) Auditing concepts including standards, objectives, and ethics for external auditors. Emphasis on reporting standards, internal control, evidence, statistical sampling, and EDP audits. Pre: Admission to Professional Business Program, ACC 350.

ACC 455 IT Audit (3) (AY) Audits of accounting information systems, including enterprise systems. Generally accepted IT audit standards, framework, tools, and methods. Includes the study and use of computer-assisted audit tools and techniques (CAATTS). Pre: Admission to Professional Business Program, ACC 454.

ACC 494 Special Topics in Accounting (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program
varies with topic.

ACC 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

AGRICULTURE (AG)

College of Agriculture, Forestry and Natural Resource Management

AG 100 Agriculture Orientation (3) (Y) Introduction to CAFNRM and agriculture in Hawai'i. Includes field trips and guest speakers to learn different aspects of agriculture.

AG 194 Focus on Agriculture (1) (S) Topics related to diversified agriculture in Hawai'i chosen by the instructor. Course content will vary. May be repeated. Course is televised live, statewide, via the Interactive Television System and local cable community service channel.

AG 195 Special Topics in Agriculture (1-4) (S) Lower division topics chosen by instructor. Course content will vary. May be repeated, provided that a different topic is studied.

AG 199 Directed Reading (1-3) (S) Permission of instructor and statement of planned reading required.

AG 230 Sustainable Agriculture (2 lec., 1 lab) (3) (Y) Evaluation of conventional and alternative farming methods in the U.S. Polynesia, Southeast Asia, Africa and Latin America from a long-term perspective. Analysis of the effects of those practices on environmental quality, agrosystems, and food security. Consideration of conflicting values and resolution.

AG 290 Student-Managed Farm Enterprise Project (1-3) (IO) Selection, planning, and completion of a production/management/marketing project under faculty supervision. Project participation is voluntary and subject to approval. Students must maintain complete production and financial records. (Repeatable)

AG 299 Directed Work Experience Program (3) (S) Agricultural practice in individual and team projects on independent farms or agricultural employment under supervision and direction during summer vacation or on a part-time basis during regular school period. Permission of instructor required. Only for CAFNRM students and offered only on a CR/NC basis. Credits earned not included in maximum allowed.

AG 304 Applied Microbiology (2 lec., 1 lab) (3) (S) An overview of the production aspects of microbiology, including fermentation biology, mushroom cultivation, and biotechnology.

AG 312 Agricultural Geography and World Food Problems (3) (IO) Different types of agriculture, their location, and the cultural and environmental constraints operating to produce the resultant patterns. World food and hunger. Pre: one introductory Geography course. (Same as GEOG 312)

AG 375 Introduction to Genetic Analysis (2 lec., 1 lab) (3) (Y) An introduction to the principles and methods of genetic studies. The principles are first covered, especially with regard to crop improvement. This is followed by an overview of the structure and function of DNA and RNA, and an introduction to the tools and applications of molecular biology.

AG 395 Special Topics in Agriculture (1-4) (S) Advanced topics chosen by instructor. Course content will vary. May be repeated, provided that a different topic is studied. Pre: junior standing or consent of instructor.

AG 399 Directed Research (1-3) (S) Permission of instructor and statement of planned research required.

AG 497 Senior Seminar (1) (Y) Guided research into current problems. Topics may vary according to interest of students and instructor. CR/NC only.

AGRIBUSINESS (AGBU)

College of Agriculture, Forestry and Natural Resource Management

AGBU 110 Introduction to Microcomputing for Agriculture (2 lec., 1 lab) (3) (S) Acquaints students with the microcomputer in agricultural applications by using and customizing commercial software, to understand the operation of the microprocessor and its peripherals, and to provide hands-on experience in utilizing some of the most common word processing, spreadsheet, presentations and database software and access to the Internet.

AGBU 120 Agricultural Business Field Study (1-3) (IO) Agribusiness and agroeconomic functions performed by specialized agricultural agencies with emphasis on physical operating patterns; field trips to production, marketing and finance firms; workshops with agribusiness managers.

AGBU 291 Agribusiness Internship/Work Experience (3) (S) Internship with agribusiness firms in the areas of management, sales, food distribution. National Agri-Marketing Association activities may be used with advisor's approval. Permission of instructor is required.

AGBU 320 Agribusiness Management (3 lec.) (3) (Y) Organization forms and management functions of agribusiness firms, management science principles, inventory control, operation research techniques, decision model, and human resources development as they are related to agribusiness firms.

AGBU 321 Agricultural Cooperatives Management (3 lec.) (3) (IO) The nature and place of agricultural cooperatives in the nation with special emphasis on Hawai'i.

AGBU 340 Agri-Marketing Research (3 lec.) (3) (IO) Primary marketing research including problem definition, hypothesis formulation, research design, data collection, and results analysis. Mechanics of writing technical reports and oral presentations. Pre: AGEC 201 or ECON 130.

AGRICULTURAL ECONOMICS (AGEC)

College of Agriculture, Forestry and Natural Resource Management

AGEC 201 Agricultural Economics (3 lec.) (3) (S) Introduction to agriculture and resource economics and agri-business with application to Hawaiian agriculture (Micro-economics).

AGEC 221 Agricultural Accounting and Records Analysis (2 lec., 1 lab) (3) (Y) Introduces accounting theory and methods used to record and report financial information for both the business and farm firm. Other topics include business organization, inventories, receivables and payables, depreciation, and computer applications.

AGEC 322 Marketing Agricultural Products (3 lec.) (3) (Y) Acquaints the student with the economic organization and operation of the food and fiber sector of the U.S. and Hawaiian economy. In two general parts, one provides a treatment of agricultural price analysis; the second examines the marketing system for agricultural inputs, farm products, and processing and distribution activities with emphasis on cooperative marketing. Field trips to cooperative and other marketing firms. Future trading. Pre: introductory course in economics or agricultural economics.

AGEC 330 Farm Management (2 lec., 1 lab) (3) (Y) Acquaints the student with both theoretical and applied aspects of farm management. Topics include farm planning, managerial control, and acquiring and managing resources. Emphasis on mainland but applied emphasis on Hawaiian farming systems. Stress on cost of production and cash flow budgets, capital investment, and linear programming. Computer applications. Pre: introductory course in economics or agricultural economics, ACC 250.

AGEC 380 Environmental Policy and Management of Hawaiian Natural Resources (3 lec.) (Y) Provides the student with an understanding of economic growth, resource scarcity and policy, environmental degradation, economic policy, property right and income distribution, institutional framework, benefit cost analysis, and application of natural resource management in Hawai'i.

AGRICULTURAL ENGINEERING (AGEN)

College of Agriculture, Forestry and Natural Resource Management

AGEN 231 Introduction to Agricultural Mechanization (2 lec., 1 lab) (3) (S) Identification, proper use and maintenance of tools used in the shop and farm, plan reading, identification, selection and estimation of materials for agricultural projects. Principles of arc and oxy-acetylene welding, basic engineering concepts involved with layout and leveling, areas and heat flow, simple electrical wiring.

AGEN 232 Farm Tractor Operation (1 lab) (1) (IO) Operation of agricultural tractors and allied machinery on the University Farm. Safety, maintenance, and field adjustments of tractors and implements. Limited enrollment. A valid driver's license and permission of instructor are required.

AGEN 301 Farm Power (2 lec., 1 lab) (3) (AY) Management and maintenance of power units used in agriculture. Principles of internal combustion engines. Shop and field practice in adjusting and operating internal combustion engines and associated field equipment. Alternate power options on farm. Pre: College Algebra. A valid driver's license is highly desirable.

AGEN 302 Farm Structures and Utilities (2 lec., 1 lab) (3) (AY) Farmstead planning, materials, design, construction and maintenance, farm utilities, water-sewage systems and labor-saving conveniences. Pre: College Algebra and AGEN 231.

AGEN 305 Agriculture Mechanics Skills (1 lab) (1) (IO) Design, construction, and evaluation of an agricultural project to be constructed in laboratory under faculty supervision. Pre: AGEN 231 or consent of instructor.

AGEN 400 Aquaculture Engineering (3 lec., 1 lab) (4) (Y) Principles of site selection, design and construction of aquaculture systems. Pre: AQUA 262 or consent of instructor. (Same as MARE 400)

AGEN 435 Irrigation Principles and Practices (2 lec., 1 lab) (3) (Y) Comprehensive study of basic irrigation principles and practices. Basic hydraulics, water supply, conveyance, and measurement. Plant-soil-water relationship, evapotranspiration, and scheduling. Planning and design of irrigation systems. Pumps: types, selection and operation. Pre: College Algebra or consent of instructor.

AGRONOMY (AGRN)

College of Agriculture, Forestry and Natural Resource Management

AGRN 310 Agronomic Crop Production in the Tropics (2 lec., 1 lab) (3) (IO) Current agricultural practices in production of food, feed, and fiber crops in the tropics. Pre: HORT 262 or consent of instructor.

AGRN 410 Soil-Plant-Herbivore Interrelations (2 lec., 1 lab) (3) (Y) The principles of plant competition and succession during the establishment and maintenance of herbaceous species and communities are related to soil, biotic, and microclimate factors and their interactions. Ecological and nutritional principles embodying plant and animal factors in the utilization of herbaceous plants by livestock are established. Research methodology in grassland systems also is presented. Pre: ANSC 141, BIOL 175 or HORT 262, or consent of instructor.

ANIMAL SCIENCE (ANSC)

College of Agriculture, Forestry and Natural Resource Management

ANSC 141 Introduction to Animal Science (2 lec., 1 lab) (3) (S) Introduction to livestock, species and industry, breeding, behavior, growth, handling, environment, market classes, nutrition, reproduction, safety, terms, and issues related to livestock production.

ANSC 165 Animal Health (3) (Y) The fundamentals of animal health will be taught from the veterinary medical perspective. Topics addressed will include causes of disease, basic immunology, disease prevention, principles of drug therapy, and examples of animal disease processes. Offered Fall Semester only.

ANSC 175 Animal Behavior (3) (Y) Introduction to the basic principles and processes regarding domestic animal behavior including communication, social structure, sexual behavior, learning, and common behavioral disorders. Offered in Spring Semester only.

ANSC 185 Introduction to Companion Animals (3) (Y) Introduction of common breeds of the dog and the cat, proper physical examination, proper care, and nutrition. Offered Spring Semester only.

ANSC 244 Fundamentals of Animal Nutrition (3 lec.) (3) (Y) Comparative animal digestive systems and metabolism. Essential nutrients, their functions, mechanisms of action and interrelationships. Pre: ANSC 141, CHEM 124 and 125, or consent of instructor. (Equivalent to BIOL 254)

ANSC 321 Feeds and Feeding (2 lec., 1 lab) (3) (Y) Identification of common feedstuffs and their feeding value for animal production. Important concepts on feed processing, nutrient availability, diet formulation, and feeding management. The economics of feeding and purchasing feeds based on nutrient value. Pre: ANSC 141 and ANSC 244.

ANSC 342 Beef Cattle Production (2 lec., 1 lab) (3) (Y) Principles of efficient beef production including comparative breed evaluation, performance testing and selection, breeding, feeding management, health care, and marketing. Pre: ANSC 141 or consent of instructor.

ANSC 350 Anatomy and Physiology of Farm Animals (2 lec., 1 lab) (3) (Y) Structure and function of the animal body, including those of the horse, cow, sheep, and pig. A general study of anatomy, but emphasis placed on understanding the physiology of animal systems. Pre: ANSC 141, CHEM 124 or consent of instructor. (Equivalent to BIOL 323)

ANSC 351 Swine Production (2 lec., 1 lab) (3) (Y) Principles of efficient pork production including: breeds, crossbreeding, feeding, herd health, housing, management, selection and waste management. Pre: ANSC 141 or consent of instructor.

ANSC 353 Horse Production (2 lec., 1 lab) (3) (Y) Origin of species, breeds, feeding, lameness evaluation, reproductive considerations, and health issues of light horses. Limited enrollment. Pre: ANSC 141 or consent of instructor.

ANSC 354 Poultry Production (2 lec., 1 lab) (3) (IO) Principles of efficient poultry production including breeding, feeding, housing, and management of different types of poultry. Problems and practices associated with tropical environment emphasized. Pre: ANSC 141 or consent of instructor.

ANSC 355 Goat and Sheep Production (2 lec., 1 lab) (3) (Y) Principles of efficient goat and sheep production, including: breeds, crossbreeding, feeding, herd health, management, reproduction, and selection. Pre: ANSC 141 or consent of instructor.

ANSC 445 Animal Breeding and Genetics (2 lec, 1 lab) (3) (Y) Principles of Mendelian, population and quantitative genetics. Applications to improvement of livestock through selection methods and mating systems. Pre: ANSC 141. MATH 121 or equivalent course is recommended.

ANSC 450 Reproduction of Farm Animals (2 lec, 1 lab) (3) (Y) Livestock reproductive anatomy and physiology. Pre: ANSC 141. ANSC 350 recommended. (Equivalent to BIOL 450)

ANSC 453 Animal Diseases and Parasites I (3) (Y) Principles and practices used for the prevention, diagnosis, and treatment of diseases and parasites in livestock. ANSC 453 and 454 do not have to be taken in sequential order. Pre: ANSC 141 or consent of instructor.

ANSC 454 Animal Diseases and Parasites II (3) (Y) Principles and practices used for the prevention, diagnosis, and treatment of diseases and parasites in livestock. ANSC 453 and 454 do not have to be taken in sequential order. Pre: ANSC 141 or consent of instructor.

ANSC 490 Animal Science Internship (3) (Y) CR/NC Practical animal experience (employed or voluntary) at farms, ranches, veterinary clinics, zoos and other animal operations. Permission of the instructor is required before enrolling in ANSC 490. Pre: ANSC 141 and two of the following: ANSC 342, 351, 353, 354 and 355.

ANTHROPOLOGY (ANTH)

College of Arts and Sciences

ANTH 100 Cultural Anthropology (3) (S) Humans as cultural and social beings. The major concepts and conclusions of cultural anthropology. Biological, social, and linguistic foundations of culture. Basic research methodology.

ANTH 110 Archaeology (3) (S) Prehistoric archaeology; methods and techniques of excavation and analysis; brief survey of man's cultural growth in prehistoric times.

ANTH 115 Human Evolution (3) (S) The evolution of humans and their position among the primates. Human adaptation to the environment both in the past and present. Human biology with an emphasis on variation and its sources.

ANTH 121 Introduction to Language (3) (S) Linguistically oriented approaches to human behavior, including ethnolinguistics, sociolinguistics, and psycholinguistics. The way language functions in culture, society, and the cognitive processes. (Same as LING 121)

ANTH 200 Cultures of the World: Regional Survey (3) (AY) The traditional cultures of various geographic areas of the world. Specific regions to be announced each semester: (b) Oceania, (c) East Asia, (d) South East Asia, (e) South Asia, (f) North America, (g) Africa, (h) South America, (i) Other. (May be repeated for credit if subletters are different)

ANTH 220 Archaeoastronomy (3) (Y) The use of astronomical observation and mathematics for navigation, agriculture, time keeping and calendar-making and their role in ancient cosmologies, mythology and religion. Astronomical theories of antiquity. Particular attention to astronomical alignments in Egyptian architecture, Mayan codices, classical Greek astronomical theory, historical astronomy and the navigational methods and calendars of Pacific Islanders. "Naked eye" astronomy and basic practical astronomical methods used by ancient astronomers, particularly Polynesians and Hawaiians. (Same as ASTR 220)

ANTH 299 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

ANTH 315 Ecological Anthropology (3) (Y) Relationship of humans to their natural environment, particularly emphasizing the role of culture as a dynamic component in ecological systems. Pre: ANTH 100 or 115, or consent of instructor.

ANTH 320 Cross-Cultural Study of Women (3) (AY) Comparative analysis of women's roles and women's lives in different societies. Topics include women's status, life stages, gender roles, images of women and power. (Same as WS 320).

ANTH 321 Morphology and Syntax (3) (IO) Introduction to grammatical analysis and theory; practical experience in solving problems in morphology and syntax, using data drawn from a wide variety of languages. Pre: LING 102 or consent of instructor. (Same as LING 321, ENG 321)

ANTH 323 Cultural and Social Change (3) (AY) Various approaches to cultural and social change in nonliterate and modern societies; evolution, diffusion, acculturation, adaptation, revolution.

ANTH 324 Culture, Sex and Gender (3) (AY) A cross-cultural examination of the development of gender systems and gender roles. Consideration of sex roles and activities as part of the larger gender system. Pre: ANTH 100 or consent of instructor. (Same as WS 324).

ANTH 331 Language in Culture and Society (3) (Y) An examination of the articulation of language in social and cultural context, including topics relevant to sociolinguistics and ethnolinguistics. Pre: ANTH/LING 121 or LING 102 or consent of instructor. (Same as LING 331)

ANTH 347 Pidgins and Creoles (3) (AY) A study of the world's pidgins and creoles; the origin and nature of pidgins and creoles; the relationship of Hawaiian Creole English to other creoles in the world; the link between the development of a Creole and language acquisition. (Same as ENG 347, LING 347; recommended LING 102 or 121)

ANTH 354 Filipino Culture (3) (AY) Introduction to Peoples and Cultures of the Philippines. Topics include cultural origins, linguistics and cultural diversity, values, social structure, and overseas Filipino adaptations.

ANTH 356 Japan (3) (Y) Culture origins and development with emphasis on contemporary Japanese culture. (Same as JPST 356)

ANTH 357 Change in the Pacific (3) (Y) Peoples of the Pacific Islands with emphasis on contemporary cultures and social and political problems. Pre: consent of instructor.

ANTH 358 Japanese Immigrants (3) (Y) Examination of social and cultural adaptations of Japanese immigrant populations, with foci on Hawai'i and Brazil. Topics include the role of the Japanese government and emigration companies, the factors of generation, kinship, ethnicity, and contemporary Japanese migrants. (Same as JPST 358)

ANTH 372 Culture Through Film (3) (AY) Critical examination of ethnographic films (documentaries that describe a culture). Film construction and film-maker's intentions. Development of approaches to ethnographic film-making. Cultural representation in film. Relationship of film to written ethnography. Pre: ANTH 100.

ANTH 384 Primatology (3) (AY) Evolutionary approach to the nonhuman primates. Biological and behavioral adaptations of primates to their ecological setting. Implications of primate adaptations for understanding human biology and behavior. Pre: ANTH 115, or BIOL 176. (Same as BIOL 384)

ANTH 385 Hawaiian and Pacific Prehistory (3)(Y) Archaeological overview of the cultures of the Pacific before European contact with an emphasis on Polynesia and Hawai'i.

ANTH 386 Hawaiian Culture Before 1819 (3) (Y) Hawaiian culture before the 1819 overthrow of the native Hawaiian religion: fishing and farming, political-economic organization and religion. Emphasis on early Hawaiian writers–Malo, Kamakau and 'I'i. Pre: ANTH 100 or HWST 111 or consent of the instructor.

ANTH 387 Modern Hawaiian Culture (1819 to present) (3) (Y) Change and continuity in Hawaiian culture from 1819 to the present, in the context of interaction with non-Hawaiians. Major cultural transformations of the nineteenth century. Hawaiian culture in the early and later twentieth century. Pre: ANTH 100 or HWST 111.

ANTH 388 Historical Archaeology (3) (Y) Historical archaeology as an integral aspect of anthropological inquiry into culture-contact and culture change. Topics include research designs, field methods, laboratory methods, and generating "anthropological histories". North American historical archaeology is reviewed with an emphasis on the potential applications of historical archaeology in Oceania. Pre: ANTH 110.

ANTH 389 Cultural Resource Management (3) (AY) Covering issues pertaining to the identification, evaluation, and conservation of cultural resources, with an emphasis on archaeological sites. Central topics include the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, Hawai'i State legislation regarding cultural resources, and the implementation of these laws in Hawai'i by government and private organizations.

ANTH 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

ANTH 415 Medical Anthropology (3) (Y) Approaches to health, disease and medicine in both Western and non-Western cultures including ecological, evolutionary and anthropological perspectives of disease. Pre: 9 credits in either anthropology or biology.

ANTH 435 Senior Seminar in Pacific Studies (3) (AY) A reading and research seminar under the supervision of the Pacific Islands Studies faculty aimed at demonstrating competence in research and writing on issues related to Pacific Islands environments, culture, society, and economy. Pre: consent of instructor for students near completion of Pacific Islands Studies Certificate coursework. (Same as GEOG 435)

ANTH 445 Ethnographic Field Techniques (3) (AY) Techniques of anthropological field research; ethnographic literature and work with informants. Pre: ANTH 100 or consent of instructor.

ANTH 450 Physical Anthropology Laboratory (4) (AY) Human biology of living and skeletal populations. Methods and techniques of quantitative and qualitative analysis of human anatomical, physiological and biochemical variation under field conditions. Pre: ANTH 115 and consent of instructor.

ANTH 470 Museology (3) (IO) Museum training, including museum activities, exhibits, administration, custodial problems and interpretation. At least one field trip to Lyman House Museum. Pre: ANTH 100 or 110, or consent of instructor.

ANTH 475 History of Anthropological Theory (3) (Y) Theory and method in anthropology; emphasis on cultural/social anthropology. Pre: ANTH 100 and junior or senior standing, or consent of instructor.

ANTH 481 Archaeometry (3) (AY) Covering a broad range of analytical techniques in archaeological research, emphasizing the relationships of archaeology to the natural sciences. Mini-sections of the course involve hands-on laboratory experience, covering geoarchaeology, zooarchaeology, archaeobotany, identification of raw materials and resources, and dating techniques.

ANTH 482 Archaeological Research Methods (4-6) (AY) Archaeological methods including research design, field methods such as survey, mapping and excavation, and laboratory methods. Normally taught as a summer session course. Credit varies depending on length of field project (4-6 weeks, 8/hrs./day). Pre: ANTH 110 or permission of instructor. May be repeated for credit up to maximum of 12 credit hours.

ANTH 484 Stone Tool Analysis (3) (AY) Analytical techniques related to stone artifacts (lithics) from archaeological sites, with an emphasis on lithic technology, or understanding the processes by which stone tools were manufactured, used, and eventually discarded. Identification of lithic "debitage," geochemical characterization, use-wear, and applications to Hawaiian flaked, pecked, and ground tools.

ANTH 485 Applied Anthropology (3) (AY) Anthropological methods, concepts, and theories as they apply to the solution of contemporary human problems. Exploration of the use of anthropology in various occupational areas. Pre: ANTH 100 and junior or senior standing, or consent of the instructor.

ANTH 490 Internship in Archaeology (3-6) (S) Placement and experience in public, private, and/or government agencies involved in archaeological research plus completion of related research project. Pre: ANTH 110 plus instructor and departmental approval. May be repeated for credit if topics are different up to a maximum of 12 credits.

ANTH 495 Proseminar (3) (AY) Selected problems in current research: (b) archaeology, (c) linguistics, (d) social and cultural anthropology, (e) applied anthropology, (f) psychological anthropology, (g) physical anthropology, or (h) other areas of interest. Limited to anthropology majors or students with at least 9 semester hours of anthropology courses above 100-level. (May be repeated for credit if topics are different)

ANTH 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

AQUACULTURE (AQUA)

College of Agriculture, Forestry and Natural Resource Management

AQUA 262 Introduction to Aquaculture (3 lec.) (3) (S) Discussion of the biological, physicochemical and economic aspects of aquaculture, including a survey of the culture techniques of cultured species of finfish, shellfish, lower invertebrates and algae. Pre: MARE 171 or college level biology class. (Same as MARE 262)

AQUA 425 Water Quality and Aquatic Productivity (3) (Y) Study of water quality and aquatic productivity as it relates to aquaculture and fisheries. Pre: CHEM 124 or consent of instructor. (Same as BIOL 425 or MARE 420)

AQUA 425L Water Quality and Aquatic Productivity Lab (1) (Y) Hands-on education in the monitoring and management of water quality and algal populations in ponds and other aquatic systems. Pre: Previous or concurrent enrollment in AQUA 425.

AQUA 450 Aquaculture Production Techniques (3) (Y) Theory and practice of aquaculture techniques; identification, reproduction, hatchery and nursery operations, grow-out, health management, harvest and marketing. Pre: AQUA 262 or aquatic ecology or consent of instructor. (Same as MARE 450.)

AQUA 450L Aquaculture Production Techniques Laboratory (1) (Y) Hands on experience in hatchery, nursery and grow-out of algae, mollusks, crustaceans and fish. Includes field trips. Pre: AQUA 450 or concurrent enrollment in AQUA 450 or consent of instructor. (Same as MARE 450L.)

AQUA 466 Fisheries Science (3) (Y) General characteristics of fisheries, harvesting methods, principles and techniques to derive data and analyze fished population. Pre: background in fish biology and aquatic ecology or consent of instructor.

ART (ART)

College of Arts and Sciences

ART 101 Introduction to the Visual Arts (3) (S) Slide/lecture course and introduction to the visual arts in their various forms and expressions.

ART 109 Introduction to Drawing and Painting for Non-Majors (3) (Y) Studio experiences for non-majors. Emphasis on formal concepts in drawing and painting. The course incorporates various drawing and painting media into exercises, projects, and lectures to develop personal expression.

ART 121 FP Studio: Beginning Drawing (3) (S) Foundation Program Studio. Basic drawing concepts with studio investigations into line, shape, form, light and value, and space. Explorations of principles of visual organization and basic drawing media of pencil, charcoal, crayon, pen and ink, and brush and ink. Discussion of perceptual relationships of light and space.

ART 122 FP Studio: Beginning Painting (3) (Y) Foundation Program Studio. Introduction to painting; exploration of color theory and its applications; and investigation of perceptual relationships of light, color, and space. Studio exploration of the principles of visual organization through applications of color concepts and fundamental materials and techniques of painting. Pre: ART 121.

ART 123 FP Studio: 2-Dimensional Design (3) (Y) Foundation Program Studio. Investigations of two-dimensional design concepts and the elements and principles of visual organization. Inquiry into perceptual and visual relationships of design principles. Discussion of relationships of visual elements and time and space.

ART 124 FP Studio: 3-Dimensional Design (3) (Y) Foundation Program Studio. Investigation of the principles and elements of design in three-dimensional concepts. Tactile exploration of forms, environments, and expressions. Explorations into perceptual relationships of time, light, and space in three-dimensional visualizations.

ART 199 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required.

ART 215 Printmaking: Intaglio (3) (Y) Basic intaglio techniques of etching, engraving, drypoint, and aqua-tint; perceptual and conceptual exercises in composition and pictorial structure. Pre: ART 121, 123.

ART 216 Printmaking: Lithography (3) (AY) Basic lithographic techniques; development of concepts. Pre: ART 215.

ART 221 Intermediate Drawing (3) (Y) Life drawing and study of the human figure; studio drawing concepts and application of drawing materials. Explorations of anatomy, gesture, contour, form, light, and space in relation to figure studies. Pre: ART 121. Repeatable for a total of 9 semester hours.

ART 222 Intermediate Painting (3) (Y) Intermediate painting studio. Development and explorations of painting materials and concepts and the visual relationships of subject matter, content, and composition. Pre: ART 121, 122.

ART 270 Aspects of Western Art (3) (Y) The development of western art and architecture, with emphasis on the impact of Christian traditions on the arts of classical Greece and imperial Rome; modes of artistic expression after the American and French Revolutions.

ART 280 Aspects of Asian Art (3) (Y) The history of form and content in various Asian cultures, with emphasis on the art and architecture of India and southeast Asia, and the expansion of Buddhist arts to China and Japan.

ART 299 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

ART 300 Intermediate Studio Seminar (3) (IO) Studio explorations in a variety of media including mixed media. Presentations, critiques, and assigned readings for the purpose of comparative study and discussion. Pre: Foundation Program Studios (ART 121, 122, 123, 124) and completion of two semesters of 200-level art studios.

ART 315 Advanced Printmaking: Intaglio (3) (Y) Advanced intaglio techniques involving more complex development of individual projects. Pre: ART 215. Repeatable for a total of 9 semester hours.

ART 316 Advanced Printmaking Seminar (3) (IO) Advanced studio practice in independent projects. Pre: ART 216 or ART 315. Repeatable for a total of 9 semester hours.

ART 321 Advanced Drawing (3) (AY) Studio practice of advanced and individual problems in drawing. Pre: ART 221. Repeatable for a total of 9 semester hours.

ART 322 Advanced Painting (3) (Y) Studio practice of advanced and individual problems in painting. Pre: ART 221, 222. Repeatable for a total of 9 semester hours.

ART 360 Renaissance and Baroque Art (3) (AY) The historical development of European art, beginning with the transition from the late Middle Ages, and concluding with the transition into the NeoClassical period; features the motivating religious, philosophical and aesthetic values. No prerequisites for juniors and seniors; others admitted by special permission.

ART 370 Modern Art (3) (AY) A history of twentieth century European and American art to the present; relationships with earlier traditions. No prerequisites necessary for juniors and seniors; others admitted by special permission.

ART 375 Christianity and the Arts (3) (IO) Relationships of the arts to Christian beliefs and ritual from early Christian era to the present; role of the artist, church, and patron. No pre-requisites for juniors and seniors; others admitted by special permission.

ART 380 Art of China (3) (AY) Chinese art from the Neolithic period to the Qing Dynasty, with emphasis on the Song and later periods. No prerequisites necessary for juniors and seniors; others admitted by special permission.

ART 381 Art of Japan (3) (AY) The history of art in Japan with emphasis on Buddhist art, the relationships between Chinese and Japanese arts. No prerequisites necessary for juniors and seniors; others admitted by special permission. (Same as JPST 381)

ART 385 Religious Arts of East Asia (3) (AY) Interrelationships of the arts and religion in various Asian cultures, with emphasis on Buddhism, Hinduism, Confucianism, Daoism, and Shinto. No prerequisite necessary for juniors and seniors; others admitted by special permission.

ART 390 Seminar in Contemporary Art (3) (AY) Focuses on the issues raised by contemporary art and traces historical/aesthetic developments from the beginning of the Modern period to the present. Assigned readings and lecture/discussion. Pre: ART 270, 280 or consent of the instructor.

ART 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

ART 494 Special Topics in Art (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

ART 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

ASTRONOMY (ASTR)

College of Arts and Sciences

ASTR 110 General Astronomy (3) (S) A survey of modern astronomy intended for non-science majors; the structure and evolution of the solar system, stars, stellar systems, and the Universe. If students desire to take ASTR 110, 180, and 181, they may receive credit for ASTR 110 only if it is taken prior to taking ASTR 180 and ASTR 181.

ASTR 110L General Astronomy Laboratory (1) (1 3-hr. lab) (S) Demonstration of astronomical principles through laboratory observations and analysis of astronomical data. Not required for ASTR 110. Pre: credit or registration in ASTR 110, ASTR 180, or ASTR 181.

ASTR 130 Introduction to Space Science (3) (Y) An introduction to space science and related subjects. Topics discussed are the contents of the solar system and of near-Earth space, history and physical principles of space flight, remote sensing of the Earth from space, space habitats and manned missions to the planets, the sociological impact of space exploration, and the prospects for life elsewhere in the Universe.

ASTR 150 Life in the Universe (WWW) (3) (AY) The possibility that life might exist elsewhere in the universe has fascinated human beings ever since our ancestors first gazed into the starry sky. In this course, the question of extraterrestrial life is considered from astronomical, biological, and sociological perspectives. Topics include planets, stars and galaxies, the Big Bang, the origin and evolution of life on Earth, searches for extraterrestrial life, and more. A non-mathematical course for non-science majors who want to explore astronomy.

ASTR 180 Principles of Astronomy I (3) (Y) 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. The student should have a good operational familiarity with high school algebra. If students desire to take ASTR 110, 180, and 181, they may receive credit for ASTR 110 only if it is taken prior to taking ASTR 180 and ASTR 181.

ASTR 181 Principles of Astronomy II (3) (Y) 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. If students desire to take ASTR 110, 180, and 181, they may receive credit for ASTR 110 only if it is taken prior to taking ASTR 180 and ASTR 181. Pre: ASTR 180.

ASTR 220 Archaeoastronomy (3) (Y) The use of astronomical observation and mathematics for navigation, agriculture, time keeping and calendar-making and their role in ancient cosmologies, mythology and religion. Astronomical theories of antiquity. Particular attention to astronomical alignments in Egyptian architecture, Mayan codices, classical Greek astronomical theory, historical astronomy and the navigational

methods and calendars of Pacific Islanders. "Naked eye" astronomy and basic practical astronomical methods used by ancient astronomers, particularly Polynesians and Hawaiians. (Same as ANTH 220)

ASTR 250 Observational Astronomy (3) (Y) 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. Coursework includes observations with small telescopes, and tours of the observatories on Mauna Kea. Pre: ASTR 180, 181; MATH 104G.

ASTR 250L Observational Astronomy Laboratory (1) (1 3-hr. lab) (Y) Modern observational astronomy, with emphasis on "hands-on" use of instruments to acquire data with research-grade telescopes atop Mauna Kea. On-site observing experience with CCD photometry and spectroscopy through direct acquisition and data analysis using modern laboratory data reduction software. Applications to stellar and, where possible, galactic astrophysics. Pre: the equivalent of ASTR 181; lab course to be taken simultaneously with ASTR 250.

ASTR 260 Computational Physics and Astronomy (3) (Y) Computational techniques in physics and astronomy, with an emphasis on the use of computer engineering and scientific software. Topics covered include approximation techniques, numerical modeling of physical systems, solutions of non-linear and inverse problems, Fourier analysis and filtering, and elementary statistical and numerical concepts. Pre: PHYS 170/171, MATH 205/206 (Same as PHYS 260).

ASTR 299 Directed Studies (1-3) (IO) Permission of the instructor and a statement of planned reading or research is required. Pre: sophomore standing.

ASTR 350 Stellar Astrophysics (3) (AY) Stellar astronomy from a modern, physical viewpoint: principles of stellar structure; stellar energy sources and evolution; radiative transfer and the structure of stellar atmospheres; multiple and variable stars. Pre: ASTR 181, PHYS 271, PHYS/ASTR 260.

ASTR 351 Galactic & Extragalactic Astrophysics (3) (AY) The astronomy of galaxies and the large-scale structure of the Universe from a modern, physical point of view: the structure, contents, dynamics, and evolution of the Milky Way and of other galaxies; clusters of galaxies; the formation of galaxies; the extragalactic distance scale and the large-scale structure of the Universe; observational cosmology. Pre: ASTR 181, PHYS 271, PHYS/ASTR 260.

ASTR 352 Comparative Planetology (3) (IO) Study of the geology and geophysics of Earth-like planets and satellites in the Solar System, with emphasis on understanding terrestrial geology in a border, astronomical context. Study of the atmosphere of Solar System planets and satellites, and also the formation and evolution of the Solar System and extra solar planetary systems. Pre: GEOL 111, ASTR 180 (Same as GEOL 352)

ASTR 399 Directed Studies (1-3) (IO) Permission of the instructor and a statement of planned reading or research is required. Pre: Junior standing.

ASTR 400 Observatory Internship (1-6) (IO) Cooperative education experience with student employed in an astronomical observatory or research facility on the Island of Hawai'i. One credit is granted for each full-time working month, or equivalent thereof, to a limit of 6 credits (such credits may not be counted as upper-division ASTR electives for the purpose of fulfilling that requirement for the B.S. degree or minor in Astronomy). Pre: consent of department.

ASTR 432 Senior Laboratory/Thesis Project (3) (Y) Individual research projects conducted in the college laboratory, library, or observatory; or at an external research facility; under the direct guidance of a member of the physics and astronomy faculty or an affiliated faculty member. Students must propose and complete a research project, and present a final report to the department. May be repeated once for a maximum of 6 credits. Permission of the department is required for registration. (Same as PHYS 432).

ASTR 450 Instruments and Techniques (3) (AY) A course in current astronomy observational instruments and techniques, with emphasis on "hands-on" use of instruments to acquire data with research telescopes on Mauna Kea. Topics covered include optical and infrared photometric instruments, CCD and IRCCD cameras, astronomical spectrographs and interferometers, advanced data analysis. Pre: ASTR 250, PHYS 331, PHYS/ASTR 260.

ASTR 460 Gravitation and Cosmology (3) (IO) An introduction to Einstein's General Theory of Relativity, with emphasis on astronomical applications: the curvature of space-time and the principle of equivalence; gravitational collapse and black holes; the large-scale structure of the Universe; modern cosmology. Pre: PHYS 270, Math 232.

ASTR 470 Astrodynamics (3) (IO) An introduction to the applications of gravitational dynamics: celestial mechanics; the dynamics of stellar systems; orbits and trajectories of spacecraft. Pre: PHYS 271, PHYS/ASTR 260, MATH 300.

ASTR 494 Special Topics in Astrophysics (3) (IO) Detailed study of selected topics in astrophysics, to be chosen by the instructor. Course content will vary, and may be repeated for credit, provided a different topic is studied. Pre: permission of instructor.

ASTR 495A-495B Seminar (1-1) YR. (S) Seminar presentations of topics in the physical sciences by faculty, enrolled students and invited speakers. The first semester (495A) is taken CR/NC; in the second semester (495B), students are required to present a seminar for a letter grade. Pre: senior standing or consent of instructor. (Same as CHEM 495A-495B, GEOL 495A-495B, MATH 495A-495B, and PHYS 495A-495B).

ASTR 499 Directed Studies (1-3) (IO) Permission of the instructor and a statement of planned reading or research is required. Pre: Senior standing.

BIOLOGY (BIOL)

College of Arts and Sciences

BIOL 101 General Biology (3) (S) A one-semester introductory biology course for non-majors.

BIOL 101L General Biology Laboratory (1 3-hr. lab) (1) (S) Laboratory for General Biology. (Optional, but recommended)

BIOL 125 Introduction to Cell and Molecular Biology (3)(Y) Introduction to cell and molecular biology for majors in the natural and health sciences. Cell structure and function, the molecular basis of life, metabolic pathways, classical and molecular genetics, the molecular and biological evolution of the universe. Pre: high school Biology (or BIOL 101), high school chemistry (or CHEM 114).

BIOL 156 Natural History and Conservation of the Hawaiian Islands (3) (Y) The formation of the Hawaiian Islands, establishment of their native terrestrial and marine flora and fauna, and human impacts and conservation. (Same as MARE 156)

BIOL 156L Natural History & Conservation Hawaiian Islands (1) (IO) Field trips for Natural History and Conservation Hawaiian Islands. (Same as MARE 156L)

BIOL 160 Identification of Tropical Plants (3) (AY) General techniques of identifying plants, with special emphasis on plants in Hawai'i important to man: medicinal and poisonous plants, weeds, crop plants.

BIOL 171 Marine Biology (3) (S) Marine organisms: classification, structure, physiology, ecology and adaptations to the marine environment. This course satisfies CAS general education requirements in the Natural Sciences. Pre: Two high school or college science courses, or consent of instructor. (Same as MARE 171)

BIOL 171L Marine Biology Laboratory (1) (S) Provides students with direct exposure to the biota of Hawai'i via laboratory work and field trips to sites around Hilo. The course focuses on the identification, natural history, and ecology of common marine organisms. Pre: current or previous enrollment in BIOL/MARE 171. (Same as MARE 171L)

BIOL 175 Introductory Biology I (3) (S) Principles of cell structure, replication, and metabolism. Classical and molecular genetics and evolution. Biodiversity of prokaryotes, viruses, fungi, and plants. Plant structure and function. Note: Biology 175 and 176 each are taught Fall and Spring semesters. Students may enroll in either course (but not both) during Fall or Spring semester.

BIOL 175L Introductory Biology I Laboratory (One 3-hour lab) (1) (S) Laboratory for Introductory Biology I. Laboratory exercises covering cell structure, replication, and metabolism; classical and molecular genetics; evolution; and biodiversity of prokaryotes, viruses, fungi, and plants. Biology 175L should be take concurrently with Biology 175.

BIOL 176 Introductory Biology II (3) (S) Biodiversity of animal-like protistans, invertebrates, and vertebrates. Animal tissues, sensory reception and integration, endocrine systems, support and movement, circulation and immunity, gas exchange, digestion, kidney function, reproduction and development. Population and community ecology, energy flow and biogeochemical cycles. Biology 175 and 176 are each taught both semesters. Students may enroll in either course (but not both) during either Fall or Spring semester.

BIOL 176L Introductory Biology II Lab (One 3-hour lab) (1) (S) Laboratory for Introductory Biology II. Laboratory exercises covering structure, function, and natural history of animal-like protistans, invertebrates, and vertebrates; structure and function of animal tissues; reproduction an development; and community ecology. Biology 176L should be take concurrently with Biology 176.

BIOL 190 Hawaiian Marine Field Experience (1) (Y)) Provides a unique opportunity for students to experience the marine environment of the Big Island. Course consists of field trips to coastal and underwater sites around the island. Some swimming and snorkeling involved but not required. (Same as MARE 190)

BIOL 194 Special Topics in Biology (1-3) Topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

BIOL 199 Directed Studies (1-3) Permission of instructor and statement of planned reading required.

BIOL 205 General Entomology (2 lec, 1 3-hr. lab) (3) (S) Structure, classification and identification of insects. Pre: BIOL 175 or 176 or consent of instructor. (Same as ENTO 205)

BIOL 243-244 Human Anatomy and Physiology (3-3) Yr. (Y) The anatomy and physiology of the major human organ systems and physiological processes. Pre: BIOL 243 or equivalent or consent of instructor is a prerequisite for BIOL 244.

BIOL 243L-244L Human Anatomy and Physiology Laboratory (1 3-hr. lab) (1-1) Yr. (Y) Laboratory study of human anatomy (including microscopic) and physiology. Pre: concurrent enrollment in BIOL 243-244 or consent of instructor.

BIOL 250 Statistical Applications in Marine Science (3) (S) Hands-on approach to the design of field experiments, collection of ecological data, analysis of data on microcomputers using statistical methods, and presentation of results. Requires completion of an independent project using data collected in the field followed by the preparation of both written and oral reports. Pre: MARE/BIOL 171 or MARE 201; and CS 102 or consent of instructor. (Same as MARE 250)

BIOL 254 Animal Nutrition (3 lec.) (3) (Y) Comparative animal digestive systems and metabolism. Essential nutrients, their functions, mechanisms of action and interrelationships. Pre: ANSC 141, CHEM 124 and 125, or consent of instructor. (Equivalent to ANSC 254)

BIOL 264 Quantitative Underwater Ecological Survey Techniques (QUEST) (3) (Y) The application of commonly utilized near shore underwater ecological surveying techniques using SCUBA. Intensive two-week course combining lecture and field work. Data will be collected in the field, reduced, analyzed and presented in an oral report. (Same as MARE 264)

BIOL 270 Intermediate Cell and Molecular Biology (3) (S) Integrated cell and molecular biology for life science majors. Modern advances in recombinant DNA technology. Pre: BIOL 125 (or BIOL 175 and 176) and CHEM 125 or consent of instructor. CHEM 242 recommended and may be taken concurrently.

BIOL 270L Intermediate Cell and Molecular Biology Laboratory (1 3-hr lab) (1) (S) Laboratory exercises in cell and molecular biology with an emphasis on the use of modern methods of DNA analysis. Pre: BIOL 125 (or BIOL 175-175L and BIOL 176-176L), and CHEM 125L or consent of instructor. CHEM 242L recommended and may be taken concurrently. Concurrent enrollment in or prior completion of BIOL 270 is required.

BIOL 275 Fundamentals of Microbiology (3) (S) A survey of microbiology with emphasis on bacteria, viruses, infectious diseases and their control. Pre: one semester of college chemistry. Recommended: at least one semester of BIOL 101, 175 or 176.

BIOL 275L Fundamentals of Microbiology Laboratory (1 3-hr. lab) (1) (S) Required laboratory for Fundamentals of Microbiology.

BIOL 281 General Ecology (3) (S) General ecological and evolutionary principles. Relationships of plants and animals to their environments. Processes regulating growth and evolution of populations. Community structure, ecosystem function, and global change. Pre: BIOL 175 or 176. High school algebra or equivalent is strongly recommended.

BIOL 281L General Ecology Laboratory (1 3-hr. lab) (1) (S) Laboratory supporting BIOL 281. Reconnaissance field trips to view and sample representative ecosystems, instruction in basic field biology, laboratory demonstrations and use of mathematical and simulation models. Reports written in scientific style. Pre: concurrent registration in BIOL 281.

BIOL 299 Directed Studies (1-3) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

BIOL 309 Biogeography (3) (IO) Basic evolutionary and ecological principles underlying the dynamics of plant and animal populations. Mechanisms of isolation, speciation, dispersal, migration, and competition as they affect past and present world distribution patterns. Island biogeography. Pre: GEOG 101; BIOL 101 or 175 or 176; or consent of instructor. (Same as GEOG 309)

BIOL 323 Mammalian Physiology (3 lec., 3-hr lab) (4) (Y) Structure and function of the animal body, including those of the horse, cow, sheep, and pig. A general study of anatomy, but emphasis placed on understanding the physiology of animal systems. Pre: ANSC 141, CHEM 124 or consent of instructor. (Equivalent to ANSC 350)

BIOL 357 Evolution (3) (Y) Organic evolution as a unifying theory of biology. Topics include the history of ideas of evolution, adaptation of populations, genetic drift, molecular evolution and the neutral theory, quantitative genetics, speciation and phylogeny, biogeography and macro-evolutionary trends, and mass extinctions. Pre: BIOL 125, 175 or 176.

BIOL 357L Evolutionary Genetics Laboratory (1 3-hr. lab) (1) (Y) A laboratory and field course to be taken in conjunction with BIOL 357 lecture. Laboratory exercises will introduce students to the techniques

in evolutionary genetics with special reference to Hawaiian plants and animals. Topics to be covered include: quantitative genetics, natural selection, molecular genetics analysis of populations and species, ecological genetics and adaptation, and conservation genetics. Pre: BIOL 175, BIOL 175L, BIOL 176, BIOL 176L, BIOL 270, BIOL 270L.

BIOL 360 Marine Resources (3) (IO) A survey of human use of the marine environment including physical and biological resources. Topics covered include: fisheries, mariculture, marine mineral and energy resources, chemical resources of sea water, the use of coastal lands and waste disposal in the sea. Pre: MARE 201 or BIOL/MARE 171, or consent of instructor. (Same as MARE 360)

BIOL 364 Advanced QUEST (3) (Y) Students lead a dive team learning underwater ecological surveying techniques; supervise field data collection, data reduction and analysis, and team presentation of written and oral reports; and assist in training students in identification of marine organisms. Pre: Scuba certification, UH diving certification, current CPR/first aid, BIOL/MARE 264, and consent of instructor. Students receive CR/NC for the course. (Same as MARE 364)

BIOL 366 Tropical Marine Research Investigations (3) (Y) Research projects on marine-related problems. Students will do a literature search; develop experimental design; collect, reduce and analyze data; do a written final report; and present findings at a symposium. Projects will be selected from a list of topics or can be original with the consent of the instructor. Pre: consent of instructor. (Same as MARE 366)

BIOL 371 Biology of Marine Invertebrates (3) (AY) A survey of the major groups of invertebrates focusing on those dominant in the marine environment. Students will learn methods used to identify and classify invertebrates and will survey the anatomy, physiology, and natural history of the major groups. Pre: MARE 265 or BIOL 176 or their equivalent, concurrent enrollment in MARE 371L. (Same as MARE 371)

BIOL 371L Biology of Marine Invertebrates Laboratory (1) (AY) Direct exposure to the major groups of invertebrates in the marine environment, focusing on those present in Hawai'i. Students will learn to identify and classify invertebrates and will survey the anatomy and natural history of the major groups. Pre: concurrent or previous enrollment in BIOL/MARE 371. (Same as MARE 371L)

BIOL 375 Biology of Microorganisms (3) (Y) Combines fundamental principles of microbiology with recent developments in and applications to microbial evolution, ecology, molecular genetics, and immunology. Pre: BIOL 270, BIOL 270L. Offered Spring Semester only.

BIOL 375L Biology of Microorganisms Laboratory (1) (Y) Required laboratory for BIOL 375. Pre: BIOL 270, BIOL 270L.
Offered Spring Semester only.

BIOL 380 Biostatistics (3) (S) Statistical analysis as applied to research in the biological sciences. Theory and applications of statistics; experimental design; basic statistical concepts; multi-variate analyses and non-parametric analyses. Group and independent projects, analyzing data using microcomputers.

BIOL 381 Conservation Biology (3) (Y) Principles of conservation biology and their application to the maintenance and enhancement of biodiversity. Philosophical basis for conservation, scientific theories and research methods used by conservation biologists, and case studies of scientific and socio-political interactions in conservation problems. Prerequisites: BIOL 270 and BIOL 281 or consent of the instructor.

BIOL 384 Primatology (3) (AY) Evolutionary approach to the nonhuman primates. Biological and behavioral adaptations of primates to their ecological setting. Implications of primate adaptations for understanding human biology and behavior. Pre: ANTH 115, or BIOL 176. (Same as ANTH 384)

BIOL 392 Biology and Philosophy (3) (AY) Philosophical examination of the implications of modern biology for how we understand ourselves and our relations to the natural world. Evolutionary, genetic, developmental, and ecological topics will be discussed. Pre: previous work in Philosophy or Biology, or consent of the instructor. (Same as PHIL 392)

BIOL 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

BIOL 410 Biochemistry (3) (Y) Basic compositions and functions of biological matter, metabolic interconversions and transformations; the bioenergetics involved and the levels of control over these processes. Pre: BIOL 125 or 270, CHEM 242, PHYS 107 or 171, or consent of instructor. CHEM 330 and 350 or 351 recommended.

BIOL 410L Biochemistry Laboratory (1 6-hr. lab per week) (2) (Y) Electrometric titration and chromatographic analysis of amino acids, advanced quantitative assay of proteins, advanced quantitative assay, purification and kinetic analysis of enzymes. Required laboratory for Biochemistry. Pre: concurrent enrollment in BIOL 410 and completion of BIOL 270L, CHEM 242L and PHYS 171L or consent of the instructor. CHEM 330L and CHEM 350L or 351L recommended.

BIOL 415 Cell Biology (3) (Y) Ultrastructural and molecular aspects of cell membranes, cellular energetics, cell mobility, cellular synthesis and growth, and cell division. Pre: BIOL 410.

BIOL 415L Cell Biology Laboratory (1 4-hr. lab per week) (1) (Y) Light and electron microscopy of selected cells. Optional laboratory for Cell Biology. Pre: concurrent enrollment in BIOL 415 and completion of BIOL 270L or consent of instructor.

BIOL 417 Plant Anatomy (4) (Y) (HORT 437, college of agriculture, may be taken for biology credit as BIOL 417.)

BIOL 425 Water Quality and Aquatic Productivity (2 lec., 1 lab) (3) (Y) (Aquaculture 425, College of Agriculture, may be taken for biology credit as BIOL 425.) (Same as MARE 420) Study of water quality and aquatic productivity as it relates to aquaculture and fisheries. Pre: CHEM 124 or consent of instructor.

BIOL 443 Ecological Animal Physiology (3) (Y) Study of the physiological adaptations of animals to environmental variation including physiological and biochemical mechanisms for food acquisition and digestion, thermal energetics, respiratory gas exchange, activity metabolism, and osmoregulation. Pre: BIOL 270 or consent of instructor and concurrent registration in BIOL 443L.

BIOL 443L Ecological Animal Physiology Laboratory (2) (Y) A laboratory and field course on physiological adaptation to environmental variation. Initial laboratory exercises cover techniques and technology for making physiological measurements. During the remainder of the semester, students use these techniques in group research projects in the laboratory or field and gain experience in experimental design, data analysis, and report writing. Pre: BIOL 270 and concurrent registration in BIOL 443 or consent of instructor.

BIOL 450 Physiology of Reproduction (3) (Y)) Livestock reproductive anatomy and physiology. Pre: ANSC 141. ANSC 350 recommended. (Equivalent to ANSC 450)

BIOL 466 Genetics (3) (Y) Classical, molecular, and population genetics. Pre: BIOL 410.

BIOL 466L Genetics Laboratory (2 3-hr. lab per week) (2) (Y) Classical genetics usually including crosses with flies, worms and yeast. Molecular genetics usually including DNA gel analysis, construction of recombinant DNA molecules and their expression in transgenic organisms, and Polymerase Chain Reaction amplification of DNA. Optional laboratory for genetics. Pre: concurrent enrollment in BIOL 466 and completion of BIOL 270L and BIOL 410L or consent of the instructor.

BIOL 475 Fish Population Dynamics (2 lec., 1 lab) (3) (Y) (AQUA 475, College of Agriculture, may be taken for biology credit as BIOL 475.)

BIOL 481 Theory and Methods of Ecology and Evolution (3) (Y) The major subdisciplines of ecology and evolutionary biology, with emphasis on the models and methodologies of areas of active research. Taught using examples of published research. Pre: BIOL 270-270L, 281-281L, 357-357L, 380, and concurrent registration in BIOL 481L.

BIOL 481L Ecology and Evolution Research Methods (2) (Y) Intensive field-laboratory supporting BIOL 481. Research topics selected from current fields of active research within ecology and evolution. Develop research hypotheses, gather data from field sites, analyze and interpret data and write reports in the style of scientific papers. Concurrent registration in BIOL 481 required.

BIOL 482H Honors Application of Ecology and Evolution (3) (Y) Practical experience in performing research projects in ecology, evolution and conservation biology. Students will submit project proposals for evaluation and approval, do a thorough literature review, develop an experimental design, and collect and analyze data. Students will also prepare a final written report and give a 15-minute seminar presentation on their projects. Pre: BIOL 443L, BIOL 481 and 481L; 3.5 GPA or consent of instructor with departmental approval.

BIOL 484 Biology of Fishes (3) (AY) The biology of marine and freshwater fishes. Topics covered include: general anatomy, locomotion, respiration, osmoregulation, sensory systems, reproduction, electrosensitive and electrogenic fishes, coloration and bioluminescence in fishes, migratory patterns, trophic ecology, territorial behavior, and phylogenetic interrelationships. Pre: BIOL/MARE 171 or BIOL 176 or their equivalent, or consent of instructor. (Same as MARE 484)

BIOL 484L Biology of Fishes Laboratory (1 3-hr. lab) (1) (IO) Anatomy of jawless, cartilaginous and bony fishes. Review of common local reef fishes. Optional laboratory and field trips for Biology of Fishes. (Same as MARE 484L)

BIOL 494 Special Topics in Biology (1-3) Advanced topics chosen by the instructor. The course content will vary and may be repeated for credit, provided that a different topic is studied.

BIOL 495A Seminar (1) (S) Lectures, discussions and research reports of topics in biology presented by faculty, students, and visiting scholars. Students attend seminars and receive CR/NC grade for the course.

BIOL 495B Seminar (1) (S) Lectures, discussions, and research reports of topics in biology presented by faculty, students and visiting scholars. Each student must attend seminars and present a talk to receive a CR/NC grade for the course.

BIOL 496 Teaching Assistance and Tutoring in Biology (1-3) (S) Practice in individual tutoring, and in the preparation and presentation of selected topics in Biology lecture or laboratory courses, under direct instructional supervision. This course may be repeated for a maximum of 6 credits and may not be used to replace any specific course requirements of the Biology major other than elective units. Statements of planned teaching assistance and tutoring activities required. Pre: consent of the supervising instructor and the department chair.

BIOL 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

BUSINESS (BUS)

College of Business and Economics

BUS 100 Introduction to Business (3) (S) A study of business functions, methods of business operation, types of business ownership, and the role of business organizations in contemporary society.

BUS 240 Business Law (3) (S) The law of contracts, agency and employment, and the elements of property and government regulation. Law of business organizations, with emphasis on partnerships and corporations and law of sales and commercial paper. Pre: sophomore standing.

BUS 400 Internship (3) (S) Supervised on-the-job experience in the business community. Comprehensive report by student, meetings with faculty advisor, and performance evaluation from employer required. May be repeated for a total of 6 credits. Pre: MGT 300, MKT 310, FIN 320, QBA 361, QBA 362; minimum cumulative GPA of 3.00; compatibility with career interests; consent of instructor; pre-approved job placement and internship contract.

CHEMISTRY (CHEM)

College of Arts and Sciences

CHEM 111 Chemistry for Non-Science Majors (3) (IO) A basic principles course designed for students in the humanities and social sciences. Current problems and the factors affecting them are presented from a simplified chemical viewpoint.

CHEM 111L Chemistry for Non-Science Majors Laboratory (1 3-hr. lab) (1) (IO) Laboratory principles and techniques presented from the non-science major viewpoint. When possible, experiments will involve everyday phenomena.

CHEM 114 Introductory Chemistry (3) (Y) Introduction to basic chemical principles. Pre: competence in high school algebra as demonstrated by a) the math placement test or b) the first 20 questions of the ACS chemistry placement exam. (Both exams are offered at UH Hilo)

CHEM 114L Introductory Chemistry Laboratory (1 3-hr. lab) (1) (Y) Introduction to basic chemical laboratory principles and techniques. Pre: concurrent registration in CHEM 114.

CHEM 124-125 General Chemistry I, II (3-3) Yr. (S) A mathematically rigorous introduction to chemistry designed for majors in the natural sciences. Pre: high school chemistry (or CHEM 114) and high school algebra (or MATH 104) and placement by exam. Concurrent registration in CHEM 124D-125D and 124L-125L required. (CHEM 124 and 124L satisfy General Education requirements)

CHEM 124D-125D General Chemistry I/II Discussion Section (1-1) Yr. (S) Applied problem solving methods discussion section that will cover topics presented during the lecture. The discussion section is required to be taken concurrently with the corresponding General Chemistry (CHEM 124/125) lecture section.

CHEM 124L-125L General Chemistry Laboratory I, II (1 3-hr. lab) (1-1) Yr. (S) Experiments illustrating the fundamental principles and techniques of chemistry. Pre: concurrent registration in CHEM 124-125.

CHEM 141 Survey of Organic Chemistry and Biochemistry (3) (Y) Brief introduction to organic chemistry, and selected topics in biochemistry of interest to students in health and related fields.

CHEM 141L Organic Chemistry and Biochemistry Laboratory (1 4-hr. lab) (1) (Y) Introduction to Organic Chemistry and Biochemistry laboratory principles and techniques. Pre: concurrent registration in CHEM 141.

CHEM 241-242 Organic Chemistry (3-3) Yr. (Y) The study of carbon compounds. Topics include molecular structure, stereochemistry, molecu-

lar spectroscopy, reactions and methods of preparation of principal classes of organic compounds. Reaction mechanisms. Pre: CHEM 125-125L or consent of instructor.

CHEM 241L-242L Organic Chemistry Laboratory (1 4-hr. lab) (1-1) (Y) Techniques of organic chemistry, including synthesis and qualitative analysis. Applications include spectroscopy and chromatography. Pre: concurrent registration in CHEM 241-242.

CHEM 299 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

CHEM 330 Quantitative Analysis (2) (Y) The principles of modern quantitative analysis. Pre: CHEM 125-125L and concurrent registration in CHEM 330L.

CHEM 333 Quantitative Analysis with Laboratory (5) (Y) Expanding upon general chemistry principles for application in quantitative analysis. Extensive training in laboratory techniques and report writing. Pre: Receive a C or better in CHEM 125 and 125L.

CHEM 331-331L Instrumental Analysis (2 lec., 2 3-hr. lab) (4) (Y) Introductory instrumental analysis for chemistry majors but recommended for other natural science majors. Pre: CHEM 330-330L or consent of instructor.

CHEM 341-341L Qualitative Organic Analysis (2 lec., 2 3-hr. lab) (4) (IO) Identification and characterization of organic compounds and mixtures by chemical and spectroscopic techniques. Pre: CHEM 242-242L or consent of instructor.

CHEM 350 Physical Chemistry for the Life Sciences (3) (AY) Principles and theories of Physical Chemistry as applied to the life sciences. FOR Chemistry majors and other natural science majors. Pre: CHEM 242, MATH 205 or consent of instructor.

CHEM 350L Physical Chemistry for the Life Sciences Laboratory (1 lec., 1 4-hr lab) (2) (AY) Laboratory techniques in Physical Chemistry with emphasis in the life sciences. Pre: CHEM 125L and CHEM 350, which may be taken concurrently.

CHEM 351 Physical Chemistry I (3) (AY) Principles and theories of physical chemistry at the macroscopic level such as thermodynamics, phase equilibria, and kinetics. FOR chemistry majors and other physical science majors. Pre: CHEM 242, MATH 206, which may be taken concurrently, or consent of instructor. PHYS 171 is recommended.

CHEM 351L Physical Chemistry Laboratory (1 4 hr. lab) (1) (AY) Laboratory techniques in physical chemistry at macroscopic level. Pre: CHEM 351, which may be taken concurrently.

CHEM 352 Physical Chemistry II (3) (AY) Principles and theories of physical chemistry at the microscopic level such as quantum mechanics, molecular spectroscopy, and reaction dynamics. FOR chemistry and other physical science majors. Pre: CHEM 351, PHYS 171, MATH 231, which may be taken concurrently , or consent of instructor.

CHEM 352L Physical Chemistry Laboratory (1 4 hr. lab) (1) (AY) Laboratory techniques in physical chemistry at microscopic level. Pre: CHEM 352, which may be taken concurrently.

CHEM 380 Principles of Industrial Hygiene and Toxicology (3) (Y) Essential principles of Industrial hygiene and toxicology with an emphasis on workplace hazards encountered in the Hawai'i, Asia, Pacific region.

CHEM 394 Special Topics in Chemistry (3) (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: junior standing and consent of instructor.

CHEM 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

CHEM 421 Intermediate Inorganic Chemistry (3) (AY) The classification of inorganic compounds, description and fundamental theories. Course includes molecular orbital consideration. Pre: credit or concurrent registration in CHEM 352. MATH 206 is recommended.

CHEM 441 Intermediate Organic Chemistry (3) (IO) The study of more advanced topics in organic chemistry, such as physical organic chemistry, natural products, advanced synthesis, macromolecules, and molecular spectroscopy. Pre: CHEM 242.

CHEM 451 Intermediate Physical Chemistry (3) (IO) Advanced topics in Physical Chemistry such as chemical kinetics, molecular spectroscopy, electrochemistry, thermodynamics and statistical thermodynamics, surface chemistry, and crystallography. Pre: CHEM 352 or consent of instructor.

CHEM 487 Environmental Toxicology (3) (AY) Biochemical basis for toxicity. Chemical distribution and fate in the body; molecular mechanisms and effects of toxic action. Emphasis on environmental toxicants. Pre: upper-division courses in biochemistry and physiology, or consent of instructor.

CHEM 495A-495B Seminar (1-1) Yr. (S) Seminar presentations of topics in the physical sciences by faculty, enrolled students and invited speakers. The first semester (495A) is taken CR/NC; in the second semester (495B), students are required to present a seminar for a letter grade. Pre: senior standing or consent of instructor. (Same as ASTR 495A-495B, PHYS 495A-495B, GEOL 495A-495B and MATH 495A-495B)

CHEM 499 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

CHINESE (CHNS)

College of Arts and Sciences, Languages

CHNS 101-102 Elementary Chinese (4-4) Yr. (Y) Development of listening, speaking, reading and writing Mandarin Chinese. Structural points introduced inductively. Laboratory drill.

CHNS 201-202 Intermediate Chinese (4-4) Yr. (IO) Second-level training in listening, speaking, reading and writing skills. Pre: CHNS 101-102 or consent of the instructor.

COMMUNICATION (COM)

College of Arts and Sciences

COM 100 Human Communication in a Diverse Society (3) (S) The role of human communication in meeting the task and social needs of a multicultural society. Emphasis on communication concepts, principles, and cultural issues in interpersonal, small group, organizational, public, mediated, and global contexts.

COM 199 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required.

COM 200 Fundamentals of Interpersonal Communication (3) (Y) The fundamental concepts of interpersonal communication: verbal and nonverbal communication in face-to-face encounters.

COM 231 Oral Interpretation of Literature (3) (AY) Principles of interpretative reading. Practice in textual analysis. Training in individual and group performance techniques. Development, arrangement, and performance of program. (Same as DRAM 231)

COM 241 Health Culture and Diversity (3) (AY) This course is an overview of the study of health communication. It is aimed to provide exposure to concepts and principles in the field, focusing on advocacy and individual awareness in current events. Topics will include the dynamics shared between health care providers and patients, the role of mass media, promotion of public health campaigns, and culturally diverse approaches to health care. Offered Fall Semester only.

COM 251 Public Speaking (3) (Y) Analysis, preparation and delivery of speeches. Emphasis on content, organization and style.

COM 260 Mass Communication (3) (AY) Historical and contemporary overview of television, radio, film, and the press in American culture.

COM 270 Introduction to Theories of Human Communication (3) (Y) Examination of the theoretical foundations of the human communication discipline. Coverage of traditional and contemporary theories in such areas as interpersonal, small group, organizational, intercultural, public and mass communication.

COM 285 Introduction to News Writing and Reporting (3) (Y) Prepares students to write for newspapers, the Internet, and other journalistic outlets. Includes coverage of news conferences, county council meetings, trials, sports, and writing feature stories. (Same as ENG 285)

COM 299 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

COM 340 Interviewing (3) (AY) This course focuses on the interview process as a collaborative dialogue. Emphasis is placed on framing the interview, listening ethics, cultural diversity, and the development of interviewing skills. Pre: COM 200 or consent of instructor.

COM 350 Introduction to Human Communication Research (3) (AY) An introduction to basic communication research approaches, reviewing the literature, and reporting research.

COM 351 Communication in the Multicultural Workplace (3) (AY) This course provides intercultural insights into organizational communication and addresses leadership and membership, decision-making, and conflict resolution in the multicultural workplace. Offered Spring Semester only.

COM 352 Communication in Small Groups (3) (AY) Discussion processes in small groups. Effects of variables such as group organization, leadership, membership, goals on how a group attempts to achieve its purpose.

COM 354 Communication in Innovation (3) (AY) The role of communications as a change agent in society. Communication strategies in diffusion of information.

COM 359 Intercultural Communication (3) (AY) Linguistics and nonverbal variables that influence the effectiveness of cross-cultural communication.

COM 360 Impact of the Mass Media (3)(AY) Analysis of some of the major effects of the mass media on the individual and society.

COM 361 Media Ethics and Law (3) (Y) Media Ethics and Law is an introduction to the ethical and legal issues related to communication and speech. It also gives students a better understanding of the U.S. Constitution and its role in our legal system. Students are provided tangible guidelines within which to communicate. They will understand how and why speech is protected and when that speech crosses the line into becoming unprotected speech. Offered Fall Semester only.

COM 365 Modern American Cinema (3) (AY) The study of American film since WWII, drawing from such film genres as the detective-hero, the musical, the western, comedy, social realism, and melodrama.

COM 370 Persuasion (3) (AY) Inquiry into the nature of persuasion or attitude change with focus on the message as a major determinant of the effects of persuasion on receivers.

COM 375 Nonverbal Communication (3) (Y) The nonverbal dimensions of human communication.

COM 391 General Semantics (3) (AY) Understanding language, verbal meaning and implication, roles of perception and assumption (inference and judgment) in human relationships.

COM 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

COM 400 Seminar in Human Dialogue (3) (AY) An exploration of the writings of those who contemplate "dialogue", generally considered to be the highest quality form of human communication. Pre: COM 200 and 251 or consent of instructor.

COM 420 Family Communication (3) AY) Foundational concepts and theories are introduced. Communication dynamics within families are explored. Narrative, functional, interpretive, and systems approaches to family communication are included. Cultural influences are examined. Conditions necessary for optimal family functioning are addressed. (same as WS 420)

COM 440 Organizational Communication (3) AY) Organizational communication is an intensive consideration of the role of human communication in organizational effectiveness. The course emphasizes both theory and practice and focuses on historical and contemporary trends affecting organizations. Pre: COM 200 and 251 or consent of instructor.

COM 441 Leadership and Communication (3) (AY) Relationships between communication and leadership including a consideration of relevant theories, concepts, tools, and skills. Leadership and communication are examined in relation to organizational culture, change, diversity, technology and decision making. Pre: COM 200 and 251 or consent of instructor.

COM 442 Communication and Conflict (3) (AY) Relationship between human communication and conflict. The relationship among personal history, culture, gender, power, communication, and conflict is considered. Students gain experience in assessing and intervening in conflict situations in both professional and personal contexts. Western, Eastern, and Hawaiian approaches to conflict management are included. Pre: COM 251 or consent of instructor.

COM 444 Public Relations (3) (AY) An overview of the practice of public relations in business, educational institutions, non profit organizations, and government. Students will learn how to interact with public relations professionals, the media, write press releases, and design and evaluate campaigns. Pre: COM 251 or consent of instructor.

COM 451 Communication and Ethnography (3) (AY) Study of ethnography as a qualitative research method. Opportunities to collect data in the field by participating and observing (writing field notes, videotaping, and/or audio taping), interviewing (videotaping or audio taping), and investigating texts (documents, diaries, photographs, films, etc.) are provided. New ethnographic form such as autoethnography, co-constructed narrative, interactive interviewing, creative non-fiction, poetry, fiction, and performance are introduced. Includes 1-3 field trips during the semester.

COM 455 Communication and Culture of Asian Americans (3) (AY) Examination of communication patterns of the major Asian-American ethnic groups. Particular emphasis will be placed on the influence of

ethnic-cultural identities, cultural variability, immigration patterns, and other relevant issues on the communication behavior of Asian Americans.

COM 456 Asian Perspectives on Communication (3) (AY) This course surveys indigenous concepts and theories of Asian cultures and communication and compares Eastern and Western perspectives on humans communicating. Fall Semester only.

COM 457 Japanese Culture and Communication (3) (AY) This course explores aspects of Japanese communication from cross-cultural perspectives and examines problems in intercultural interactions between Japanese and non-Japanese. Offered Spring Semester only. Same as JPST 457.

COM 460 Mass Media Analysis (3) (AY) Advanced study in mass communication theory, analysis, and criticism, with emphasis upon the electronic mass media. Pre: COM 260 or 360 recommended.

COM 475 Seminar in Listening (3) (Y) The exploration of effective and ineffective listening behaviors in everyday life is the primary course topic. Research and scholarship on the topic of listening will be surveyed. An effort will also be made to refine students' actual listening skills. Pre: COM 200.

COM 494 Special Topics in Speech and Communication (1-3) (IO) Advanced-level topics chosen by the instructor. The course content will vary and the course may be repeated for credit, provided that a different topic is studied. Pre: junior standing or consent of instructor.

COM 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

COMPUTER SCIENCE (CS)

College of Arts and Sciences

CS 100 Principles of Computer Science (3) (S) General survey of the entire field of computer science. Principles of machine architecture, human/machine interface, data organization, and their interrelationship.

CS 101 Digital Tools for the Information World (3) (S) Hands-on computer class with emphasis on producing professional-level documents, spreadsheets, presentations, databases, and web pages for problem solving. Includes concepts, terminology, and a contemporary operating system. Prepares students for the UH Hilo College of Business and Economics mandatory "Computer Competency Certification" test and meets requirements for UH Manoa College of Business, Biology program, and Botany Department.

CS 102 Microcomputer Applications for the Sciences (3) (S) Use of symbols, equations, images in scientific documents. Computations using spreadsheets with sums, averages, and scientific functions. Data analysis: curve fitting, interpolation, statistics. Data presentation: visualization, charts, and graphs. Symbolic computation. Database processing: forms, queries, reports, VBA. Additional topics chosen from: real-time data acquisition, more advanced statistical methods, system simulation. Intended for science majors. (Same as MATH 111) (Satisfies a Quantitative Reasoning General Education requirement as a Mathematics course)

CS 110 Visual Basic Programming (3) (S) An introduction to windows-based programming using Visual Basic. Topics covered include the Visual Basic environment, user-interface design, data types, scope, control structures, data structures, graphics, and software engineering.

CS 130 Beg Graphics, Game Programming (3) (S) Introduction to 2-D graphics and game programming: graphic elements, layers, and simple animation; principles of game design and implementation; emphasis on Flash and Action Script programming; game physics; simple AI techniques. Previous programming experience helpful but not required.

CS 135 Narrative Programming (3) (S) A gentle introduction to programming with user-friendly software (Alice). Students use storyboarding design strategies and create Disney/Pixar-like animations with objects in 3D virtual worlds. These animations promote an understanding of basic programming constructs, including control structures and object-oriented programming. Projects based on Hawaiian and Pacific themes will be emphasized. Open to all students; especially intended for those with no programming experience. Computer science majors may take this course to prepare for CS 150.

CS 141 Discrete Mathematics for Computer Science I (3) (Y) Includes logic, sets, functions, matrices, algorithmic concepts, mathematical reasoning, recursion, counting techniques, probability theory. Not open to student with credit in MATH 310. Pre: MATH 104, or 104F and 104G, or consent of instructor. Offered in Spring semester only.

CS 150 Introduction to Computer Science I (3) (S) Intended for Computer Science majors and all others interested in the first course in programming. An overview of the fundamentals of computer science emphasizing problem solving, algorithm development, implementation, and debugging/testing using an object-oriented programming language. Co-requisite: MATH 104 or MATH 205.

CS 151 Introduction to Computer Science II (3) (S) Reinforces and strengthens problem solving skills using more advanced features of programming languages and algorithms such as recursion, pointers, and memory management. Emphasizes the use of data structures such as arrays, lists, stacks, and queues. Pre: CS 150.

CS 200 Web Technology I (3) (S) Introduction to web technology. Overview of web page design and the World Wide Web. introductory web page authoring and client-side programming. . Elements of graphic design. Scripting and style languages for dynamic web pages.

CS 201 Web Technology II (3) (Y) Issues in intermediate web site design. Topics include: overview of web server programming; intermediate client-side programming (scripting, applets, and transforms); server-side programming such as scripting, databases, servlets. Pre: CS 200 or consent of instructor.

CS 241 Discrete Mathematics for Computer Science II (3) (Y) Includes program correctness, recurrence relations and their solutions, divide and conquer relations, graph theory, trees and their applications, Boolean algebra, introduction to formal languages and automata theory. Pre: CS 141 and MATH 205. Offered in Fall semester only.

CS 266 Computer Organization and Assembly Language (3) (Y) Organization of computers; assembly language; instruction sets; CPU; memory; input/output; interrupts; DMA. Pre: CS 150.

CS 299 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

CS 300 Web Site Management (3) (AY) Advanced topics in web site administration. Issues covered include: site management (operating system, web server and database installation and administration); security (cryptography, authentication, digital certificates); and content (site design, ethical and business considerations). Pre: CS 201 or consent of instructor.

CS 321 Data Structures (3) (Y) Basic concepts of space/time efficiencies. Algorithms and data structures for searching (binary search trees, AVL trees, hash tables) and sorting. Graph algorithms. Data compression using Huffman codes. Pre: CS 151 and 241 or consent of instructor.

CS 340 Graphical User Interfaces (3) (AY) Study of the graphical user interface as applied to computer software. Examination of history, human factors, design, technology and implementation of graphical user interfaces. Co-requisite: CS 321.

CS 350 Systems Programming (3) (AY) Introduction to systems programming in the UNIX environment. Topics include the UNIX command shells and scripting, the C programming language, UNIX programming tools and system calls, processes and process management, file and console I/O, and other selected topics. Designed for students interested in scientific, engineering or systems programming, systems administration or graduate education in computer science. Pre: CS 151

CS 407 Introduction to Numerical Analysis I (3) (AY) Solutions of equations in one variable, direct and iterative methods for systems of linear equations, the algebraic eigenvalue problem, interpolation and polynomial approximation, error analysis and convergence for specific methods. Offered Spring semester. Pre: C in MATH 206 and MATH 311 and programming experience. (Same as MATH 407)

CS 410 Elements of Computer Architecture (2 lec., 1 3 hr. lab) (3) (AY) Basic machine architecture, cache memory, computer arithmetic, RISC, instruction-level parallelism, superscalar processors, microprogrammed control, parallel processing. Performance evaluation. Pre: CS 266, 321

CS 420 File Management (3) (AY) Concepts and methods for managing persistent data. Study of stream, sequential, relative and indexed organizations. Implementation techniques and performance. Introduction to SQL. Embedded SQL as a data access technique. Pre: CS 321.

CS 421 Database Management System Design (3) (AY) Data models: hierarchical, network, relational, object oriented. Relational database management systems. Database design. Client/server systems. Web access to databases. Pre: CS 420.

CS 422 Advanced Database Systems (3) (AY) Further study of database design. Administrative and user capabilities of a modern database management system. Database security. Transaction management. Database programming: client and server. Two- tier and three-tier client server systems. Web services and mobile applications. Data transformation. XML as a data transport,and storage mechanism. Pre: CS 421.

CS 430 Operating Systems (3) (AY) Covers the concepts, issues and design of modern operating systems. Topics include processes and state, concurrency, resource management algorithms for memory, processors and I/O devices, protection and security. Case studies of popular workstation, server and mainframe operating systems. Laboratory projects teach concurrent programming and OS implementation techniques. Pre: CS 266, CS 321.

CS 431 Computer Networks and Data Communications (3) (AY) Thorough survey course covering major networking concepts such as link-level flow, error control, congestion control and QOS. Modern network protocols such as TCP/IP, ATM, frame relay, Ethernet, fiber channel and wireless LANs will be compared and contrasted. Pre: CS 321.

CS 435 Information Assurance (3) (AY) An overview of the field of information assurance and computer security. Covers issues of confidentiality, integrity, and availability that arise in different areas of computer technology, as well as legal, ethical, and managerial aspects of security. Pre: CS 321

CS 440 Artificial Intelligence (3) (IO) Fundamental concepts of artificial intelligence including problem solving, heuristic search and knowledge representation. Discussion of applications such as game playing, theorem proving, and knowledge based expert system. Pre: CS 321.

CS 450 Organization of Programming Languages (3) (AY) Advanced introduction to the concepts and issues in the design of computer programming languages. Topics include classification of languages, types, semantics, special forms, parameter passing, closures, object-orientation, continuations, concurrency, exceptions, interpreters and garbage collection. Laboratory projects highlight design decisions and teach interpreter implementation techniques. Pre: CS 321.

CS 451 Compiler Theory (3) (AY) Study of LL, LR, LALR grammars and compiler techniques suitable for programming languages for use in constructing scanners, parsers, code generators, code optimizers for a compiler. Use of compiler construction tools such as lex and yacc to develop a compiler for a block structured programming language. Pre: CS 321.

CS 460 Software Engineering I (3)(AY) Emphasizes planning, analysis, and design phases of the Software Development Life Cycle with one model of the SDLC covered. Goal is to learn tools and techniques for sound requirement assessment and, working as a team, produce a verified design of a real software product. Pre: CS 321, ENG 209 or ENG 225.

CS 461 Software Engineering II (3)(AY) Emphasizes implementation, installation and maintenance phases of the SDLC covered in CS 460. Goals are to learn specific techniques and tools for product development testing, measurement and documentation. Team will complete product. Pre: C or better in CS 460 the previous semester.

CS 470 Theory of Computing (3) (AY) Study of various models of computation and their relation to formal languages: finite automata, push-down automata, Turing machines, regular, context-free, and recursively enumerable languages. Unsolvability, NP completeness. Pre: CS 321.

CS 482 Computer Graphics (3) (IO) Principles for the design, use, and understanding of graphics systems. Both hardware and software components are examined. Pre: MATH 311 and CS 321.

CS 494 Special Topics in Computer Science (1-3) (S) Special topics chosen by instructor. Course content will vary. May be repeated once for credit provided that a different topic is studied.

CS 495 CS Professional Seminar (1) (AY) Computer Science and Software Engineering are careers demanding technological and ethical application of computer hardware, software and human factors. Course emphasis is on entry into and growth in these careers showing the balancing of needs amongst technology, employee, employer and society. Co-requisite: CS 461.

CS 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

DANCE (DNCE)

College of Arts and Sciences, Performing Arts Department

DNCE 110 Pilates Beginning Matwork (1) (Y) Body conditioning program in Pilates method. Emphasis on fundamentals and beginning mat exercises.

DNCE 150 Dance Techniques (2) (AY) Study of the basic vocabulary of dance and the collaborative contributions of choreographers, dancers and musicians. Experiential work in the development of basic stage movement, including understanding of period demands. May be taken concurrently with music and drama technique courses. Required for all Performing Arts majors.

DNCE 160 Ballet I (3) (Y) Introduction to classical ballet. Movements, techniques and appreciation of ballet. Previous dance experience not required. May be repeated once for credit.

DNCE 180 Jazz Dance I (3) (Y) Introductory course in jazz dance style and techniques. May be repeated once for credit.

DNCE 190 Modern Dance I (3) (Y) Basic techniques of Modern Dance as an art form. May be repeated once for credit.

DNCE 210 Pilates Intermediate Matwork (1) (Y) Continuation of DNCE 110. Emphasis on additional strength and stamina skills. Pre: DNCE 110 or consent of instructor.

DNCE 250 Introduction to Dance (3) (AY) History, scope, and theory of human movement. Study of the correlation of dance, music, and visual expression. Not a performance course.

DNCE 260 Ballet II (3) (Y) Continuation of Ballet I. Movements, techniques, and appreciation of ballet. Emphasis on developing strength, flexibility, and control in classical balletic style. Pre: DNCE 160 or consent of instructor. May be repeated once for credit.

DNCE 280 Jazz Dance II (3) (AY) A continuation of Jazz Dance I. May be repeated once for credit. Pre: DNCE 180 or consent of instructor.

DNCE 290 Modern Dance II (3) (Y) Second level Modern Dance. Designed to develop physical flexibility, body control, and a more acute rhythmic sense. May be repeated once for credit. Pre: DNCE 190 or consent of instructor.

DNCE 360 Ballet III (3) (AY) Intermediate ballet technique for the dancer with previous training. Begins the study of pointe work for qualified females and jumps and turns specifically for males. Pre: DNCE 160, DNCE 260 or consent of instructor. May be repeated once for credit.

DNCE 371 Choreography (3) (Y) An introduction to the basic techniques of creating dance. Public performance required. May be repeated once for credit. Pre: DNCE 180 or 190, consent of instructor.

DNCE 401 Dance Ensemble (3) (Y) Preparation and performance of techniques and repertoire at the advanced level. Public performance required. May be repeated for credit. Pre: audition.

DNCE 419 Dance in Education (3) (AY) Dance activities for young people. Appropriate for teachers, group workers, recreation majors, and others working with children. Supervised field activities. Pre: Performing Arts Core, upper-division standing or consent of instructor.

DNCE 450 History of Dance (3) (AY) Development of Western theatrical dance from Ancient Greece through 19th-century ballet to the present, including modern dance, contemporary ballet, and dance forms of musical theater and film. Pre: Performing Arts Core, upper-division standing or consent of instructor.

DNCE 460 Ballet IV (3) (AY) Intermediate/advanced ballet technique with the continuation of pointe work for qualified females. Introduction to classical partnering work. Pre: DNCE 360 and audition. May be repeated once for credit.

DNCE 494 Special Topics in Dance (1) (AY) Focused study of a specific area of dance. Readings, research and/or field experiences. Topics may include notation, improvisation, Alexander technique, ethnic dance, folk dance, Graham technique, character dance, ballroom dance, musical theatre techniques, tap dance, etc. Pre: Performing Arts Core, DNCE 160, 180, 190 or consent of instructor. Repeatable if topic changes.

DNCE 499 Directed Studies: Senior Project (3) Statement of planned reading, research and/or performance. Can be used for senior project after permission of instructor. Pre: Senior standing.

DRAMA (DRAM)

College of Arts and Sciences, Performing Arts Department

DRAM 170 Stage Techniques (2) (AY) Required for all Performing Arts majors. Study of the basic vocabulary of the stage and the collaborative contributions of directors, actors, technicians, and house personnel. Experiential work in the development of stage presence and etiquette. May be taken concurrently with music and dance technique courses.

DRAM 221 Beginning Acting (3) (AY) Concentration on individual exercises and group activities that emphasize voice, movement, and relaxation through in-class improvisation and performance of monologues and two-person scenes. Beginning play analysis.

DRAM 222 Beginning Acting II (3) (AY) Continuation of DRAM 221, with emphasis on building the ensemble, basic character work, refining vocal production, and expanding movement vocabulary. Performance of group scenes from modern and contemporary plays. Play analysis based on method acting theory. Pre: DRAM 221

DRAM 231 Oral Interpretation of Literature (3) (AY) Principles of interpretive reading. Textual analysis, training in individual and group performance techniques. Development, arrangement and performance of program. (Same as COM 231)

DRAM 270 Introduction to Theater (3) (Y) Required for all Performing Arts majors. Theatre history and play analysis from the standpoint of production. Lab work in three aspects of play production: acting, directing, design.

DRAM 280 Basic Stagecraft (3) (S) Required of all Performing Arts majors. Introduction to beginning concepts of design and construction of scenery for the stage. Overview of the development of scenography from Greek theatre to the modern proscenium stage. Study will include two- and three-dimensional scenery, properties, and finishing techniques. To be taken concurrently with DRAM 280L.

DRAM 280L Basic Stagecraft Laboratory (1) (S) Supervised work in stagecraft, lighting, and sound. To be taken concurrently with DRAM 280.

DRAM 321 Styles of Acting (3) (Y) Advanced study for actors who have completed Beginning Acting. Concentrated scene work, script analysis, character development, and style study. Comparative exercises in acting for the stage and the camera. Performance of workshop material. Pre: DRAM 221, 222, and consent of instructor.

DRAM 322 Acting Shakespeare (3) (Y) In-depth study of Shakespearean texts from the standpoint of production and acting style. Historical study of Renaissance production techniques. Performance of scenes resulting from work on vocal production, period movement, and text analysis.

DRAM 340 Stage Makeup (3) (Y) Studio work in design and application of stage makeup. Study and development of character, corrective, and three-dimensional makeup. Required work on major production. Pre: consent of instructor and DRAM 170 or 221 or previous stage makeup experience.

DRAM 350 Stage Costume (3) (IO) Study of costume design, theory, and practice. Survey of historical and modern costume. Practical experience in design and construction including required work on major production. Pre: DRAM 170 or 221, or consent of instructor. **Note: Students with no previous sewing experience must enroll concurrently in DRAM 350L: Stage Costume Laboratory.**

DRAM 350L Stage Costume Laboratory (1) (IO) Basic instruction in the use of sewing machines, patterns, and hand-sewing techniques for costume building. Includes understanding of fabrics and specific skills related to garment construction. Pre: Concurrent enrollment in DRAM 350 and consent of instructor.

DRAM 364 Advanced Theatre Practicum (1-4) (S) Supervised work and/or performance for the advanced student in one or more of the following areas: acting, stagecraft/construction, lighting, costuming, sound, makeup, publicity, arts administration, box office techniques. May be repeated for a total of 8 semester hours. Pre: DRAM 264 or 340 or 350 and consent of the instructor.

Hrs/wk: Lectures 2 Lab Variable*
*Lab hours reflect variable credit(s):
1 credit=32 lab hrs./semester
2 credits=64 lab hrs./semester
3 credits=96 lab hrs./semester
4 credits=128 lab hrs./semester

DRAM 380 Theatre Design (3) (AY) Study of elements of scenic and lighting design for the stage. Production of renderings, models, elevations, and plots. Work on mainstage and/or studio production. Pre: DRAM 264, and art & physics courses required for Performing Arts degree in Technical Theatre.

DRAM 390 Survey of Drama Literature (3) (AY) Analysis and discussion of plays from the canon of Western dramatic literature, focusing on dramatic action, character relationships, play structure, staging, and thematic considerations.

DRAM 419 Drama in Education (3) (AY) Study of the theory and application of creative dramatics, developmental theatre, and curriculum-centered drama activities in educational settings serving children and youth. Opportunities for field work will be incorporated into class activities. Pre: Performing Arts core or consent of instructor.

DRAM 421 Acting Troupe (3) (AY) Rehearsal and performance of works from Western literature and ethnic non-Western sources, including period drama, avant-garde theatre, and the contemporary drama of Hawai'i and the Pacific, emphasis on ensemble performance. Refinement of individual skill and group interactions acquired in DRAM 321, 322. Public performance required. May be repeated for a total of 6 semester hours. Pre: DRAM 221, 222, 321, 322, audition, or consent of instructor.

DRAM 430 Directing (3) (IO) Basic practical course in how to direct a play. Students direct one-act plays or scenes from full length plays. Pre: DRAM 170, 221, 260, or 264, and 321, and consent of instructor.

DRAM 480 Stage Management (3) (Y) Study of the responsibilities of a production stage manager, from rehearsals through mounting a show, as coordinator of a production team. Development of the prompt book and forms needed to organize the technical elements of a production. Pre: DRAM 170, 264, and 364, and art & physics courses required for Performing Arts Degree in Technical Theatre.

DRAM 483 Modern Drama (3) (AY) A study of works which have established or refined major traditions in modern theater, with some reading in critical theory. Pre: 200-level coursework in literature. (Same as ENG 483)

DRAM 490 Lyric Theatre (3) (IO) Extensive study of history, theory, and techniques that shaped the American Musical Theatre genre, with emphasis on major composers, choreographers, and performers. Lab work in singing, dancing, costuming, makeup, and technical requirements, leading to a final performance project. Pre: DRAM 170, 221, 321 and consent of the instructor.

DRAM 490L Lyric Theatre Lab (1) (AY) Experiential study of notable choreographers, directors, and actors through complete scenes, songs and dances that are representative of the major periods and styles within musical comedy from the 1920s to the present. Emphasizes in-class performance derived from training in voice, dance and acting.

DRAM 494 Special Topics: Lighting, Painting, Props, Sound (1) (AY) Specialized focus on one of the topic areas, to include research, design, execution for mainstage, studio, touring, or found space productions. Pre: DRAM 170, 264, and 364 and art & physics courses required for Performing Arts degree in Technical Theatre. Repeatable up to 4 credits.

DRAM 499 Directed Studies: Senior Project (3) Statement of planned reading, research, performance, and/or technical project. Can be used for senior project after permission of instructor. Pre: Senior standing.

ECONOMICS (ECON)

College of Business and Economics

ECON 100 Introduction to Economics (3) (S) Economic principles for non-majors. Emphasis on the applications of theory to problem solving. (Not more than 3 credits may be granted for completion of both ECON 100 and ECON 150 at Hawai'i Community College.)

ECON 130 Introduction to Microeconomics (3) (S) (Formerly 201) How individual prices are determined. Efficient consumer-producer decision making.

ECON 131 Introduction to Macroeconomics (3) (S) (Formerly 200) The functioning of economic systems with emphasis on the forces determining levels of, and changes in, national income, employment and the price level. Pre: ECON 130 (formerly ECON 201).

ECON 210 The Global Economy (3) (Y) An introductory course for non-majors: fundamentals of supply and demand; international trade and finance; current global economic problems such as poverty, income distribution, and pollution; dynamics of economics and politics; economic cooperation.

ECON 300 Intermediate Macroeconomic Theory (3) (Y) Determination of income, employment, price levels; fiscal and monetary policies. Pre: ECON 131.

ECON 301 Intermediate Microeconomic Theory (3) (Y) Price determination under monopoly, oligopoly, and competition. Analysis of demand and cost. Pre: ECON 130, MATH 115 or MATH 205.

ECON 302 Managerial Economics (3) (AY) Application of economic and statistical concepts for business decisions. Subjects cover projection of demand and production, case analysis, problems of forecasting, multifactors and multiproducts, technological change: capital budgeting, input-output analysis, and programming techniques. Pre: QBA 361 and ECON 130.

ECON 305 The History of Economic Thought (3) (Y) The ideas and theories of major contributors to economic thought since the mid-18th century. The development of economic thought and the interrelationships between the several branches of economic theory. Pre: ECON 130, 131.

ECON 310 Economic Development (3) (Y) Analysis of growth, structural change, development patterns, foreign investment, foreign trade, and development policies and strategies; emphasis on Far East and South Pacific Islands. Pre: ECON 130, 131.

ECON 330 The Hawaiian Economy (3) (AY) Analysis of the local and state economy in terms of structure; problems and issues as they relate to the U.S. mainland and international arena. Pre: ECON 130, 131.

ECON 340 Money and Banking (3) (S) Relation of monetary system to price level, employment and income; nature and functions of money and banking; role of money in international trade and inflation. Pre: ECON 131.

ECON 350 Urban-Regional Economic Analysis (3) (IO) Locational analysis of economic activity. Metropolitan and regional growth and development. Pre: ECON 130, 131.

ECON 360 International Trade and Welfare (3) (Y) Theoretical analysis of international trade, current international economic problems, and trade impact on international welfare. Pre: ECON 130, 131.

ECON 361 International Finance (3) (Y) Balance of payments, foreign exchange rate policies, and their impact on domestic employment, inflation, internal and external balances, and other related topics. Pre: ECON 130, 131.

ECON 370 Government Finance (3) (Y) An explicit introduction to the behavior and objectives of government in the economic system. Analysis focuses on the rationale of nonmarket institutions and on the two groups of agents that operate government, the politicians and the bureaucrats, as these agents allocate expenditures for government activities.

ECON 380 Natural Resource and Environmental Economics (3) (Y) An analytical framework for examining the relationships among environmental quality, natural resource use, and economic and political systems; analysis of circumstances that give rise to environmental problems, resource use conflicts, and possible policy solutions to these problems and conflicts. The course will emphasize issues pertaining to Hawai'i. Pre: ECON 130.

ECON 381 Labor Economics (3) (AY) Labor market analysis; demand for, and supply of labor, determination of wages, trade unions and collective bargaining; Human capital investment, household production theory, mobility and migration. Specific applications to Hawai'i. Pre: ECON 130.

ECON 390 Econometrics (3) (Y) Use of mathematical and statistical techniques to model and test the reality of economic theory, tests of hypotheses and forecasting. Pre: MATH 121 or QBA 260; MATH 115 or MATH 205.

ECON 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

ECON 415 Southeast Asia-China Economic Relations (3) (Y) Analysis of Southeast Asia-China economic relations. China's role in economic development of Southeast Asian nations, the bilateral economic relations between each of the Southeast Asian countries and China, the ASEAN-China multilateral relations, and the importance of the ASEAN-China Free Trade Agreement to the future of the region and the world. Offered Fall semester.

ECON 420 Mathematical Economics (3) (IO) Equilibrium analysis, comparative-static analysis, dynamic economic analysis, unconstrained and constrained optimization, input-output analysis, linear and non-linear programming, game theory, etc. Pre: ECON 130, 131, or MATH 205 or ECON 301.

ECON 494 Special Topics in Economics (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: ECON 130, 131. Senior standing and consent of instructor.

ECON 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

EDUCATION (ED)

College of Arts and Sciences

ED 310 Introduction to Education (3) (S) Introduction to the tasks of teaching, realities and complexities of schooling, basic educational research, and observational and conceptual tools for interpreting what goes on in classrooms. The course is designed to help students think seriously about education as a potential career and to prepare them for admission into the Teacher Education Program. Required for admission into the Teacher Education Program. Must be taken for a grade. Pre: GPA of 2.5 and junior standing or consent of instructor.

ED 314 Educational Media & Technology (3) (S) Introduction to theories, application of principles, acquisition of practical skills of educational media and technology relevant to teaching/learning situations, in classrooms as well as non-school settings. Special emphasis on artistic/aesthetic principles of design. Required for admission into the Teacher Education Program. Must be taken for a grade. Pre: CS 100, GPA of 2.5 and junior standing or consent of the instructor.

ED 341 Teaching Beginning Reading, Grades K-3 (3) (S) Basic knowledge and skills of teaching reading to developing readers including the use of a variety of reading strategies which focus on engagement in reading, oral language, early concepts of reading, word recognition and phonics, and strategic reading comprehension. Emphasis on instructional and assessment reading strategies which may be used in the K-3 classroom.

ED 342 Science for Elementary School Teachers (3) (Y) This course is a hands-on inquiry course designed to help the elementary teacher develop a basic understanding of the process and thinking that relate to scientific inquiry, habits of mind, safety, and science and technology in society. In a supportive classroom environment, using place-based education as a model, teacher candidates will build a scientific foundation through exploration of science concepts and processes related to the five strands in the Hawaii Content and Performance Standards III (HCPS III). Offered Spring semester only. Required for admission into the Teacher Education Program. Must be taken for a grade. Pre: CS 100, GPA of 2.5 and junior standing or consent of the instructor.

ED 343 Math for Elementary School Teachers (3) (S) This course is a hands-on, problem-based course designed to help the elementary teacher develop a basic understanding of the ten National Council for Teachers of Mathematics (NCTM) standards. The course includes content area skills as well as process and thinking that relate to mathematic problem-solving, reasoning, connections, communication, and representation. These areas combine to create the Mathematic Hawaii Content and Performance Standards III (HCPS III). Must be taken for a grade. Pre: CS 100, GPA of 2.5 and junior standing or consent of the instructor.

ED 344 Social Studies for Elementary School Teachers (3) (S) This is an inquiry based course designed to help the elementary teacher develop a basic understanding of the ten social studies themes identified by the National Council of Teachers of Social Studies. This course will include the content area skills related to the five disciplines of history, geography, economics, political science/civics, and cultural anthropology which create the Social Studies Hawaii Content and Performance Standards III (HCPS III). Required for admission into the Teacher Education Program. Must be taken for a grade. Pre: CS 100, GPA of 2.5 and junior standing or consent of the instructor.

ED 346 Teaching Children's Literature (3) (Y) This course focuses on children's literature and its impact on social, emotional, and intellectual development for elementary school children. Aesthetic appreciation and creative development will be explored by examining theory and practice about the use of literature with children. Offered Spring semester only. Must be taken for a grade. Pre: CS 100, GPA of 2.5 and junior standing or consent of the instructor.

ED 350 Developmental Concepts of Learning (3) (S) Theories of development focusing on the integration of physical, social, emotional and cognitive development during the school-aged years, children (grades K-6) and adolescents (grads 7 - 12). Systematic observation and analysis of the behavior of school-aged children at home, in the community and at school. 20 field hours in schools required. Must be taken for a grade. Pre: GPA of 2.5 and junior standing or consent of instructor.

ED 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

ED 469 Principles of Instructional Planning (1) (S) Inquiry, decision-making processes, strategies of integrated planning in learning environment, and evaluating student learning outcomes. Overview of national

and state standards, materials, content and meta-curricular methodologies. Teacher candidates will design unit blueprints collaboratively as outlined in the Field Experience Handbook using content standards and representing one subject area to design the unit blueprint.

ED 470 Diverse Learners in the Regular Classroom (3) (Y) An examination of individual differences related to intelligence, achievement, and school success. Legal, ethical, and professional responsibilities and strategies for meeting the needs of diverse students in regular education classrooms under the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act of 1973. Focus on elementary age children or adolescents. Special emphasis on integrating diverse learners including handicapped students into the regular classroom. Pre: TEP Cohort acceptance.

ED 471 Art of Classroom Management (3) (Y) Theoretical framework and practical strategies of planning and managing elementary or secondary learning environments. Exploration of instructional principles and theories of classroom management. Application of two-and three-dimensional media to represent self exploration and demonstrate professional reflection. Pre: TEP Cohort acceptance.

ED 472 Elementary Integrated Math/Science Methods (4) (Y) Exploration of mathematical and scientific concepts through national/local standards using problem solving and inquiry to develop integrated, multi-disciplinary units. Strategies of teaching math and science in grades K-6, including classroom organization, set up and safety. Pre: TEP Cohort acceptance.

ED 473 Elementary Literacy, Language Arts and Social Studies Methods (4) (Y) Overview of sociopsycholinguistic reading and writing processes. Emphasis on meaning-based strategies, literature-based literacy development and reading-writing connections. Exploration of the social studies strands and language, as a K-6 integrated and inter-disciplinary approach to thematic planning to enhance the study of culture while reinforcing concepts and skills in each discipline. Pre: TEP Cohort acceptance.

ED 474 Secondary Language Arts and Social Studies Methods (4) (Y) Methods of teaching social studies and language arts at the secondary level (grades 7-12). Integrated and inter-disciplinary approaches to enhance the study of culture while reinforcing concepts and skills in each discipline. Pre: TEP Cohort acceptance.

ED 475 Secondary Math/Science Methods (4) (Y) Exploration of mathematical and scientific concepts through national/local standards using problem solving and inquiry to develop integrated, multi-disciplinary units which include technology. Strategies of teaching math, science at the secondary level (grades 7-12) including classroom organization, set up and safety. Pre: TEP Cohort acceptance.

ED 476 Literacy in the Secondary School (2) (Y) Content area literacy, sociocultural theories and strategies to enhance students' text comprehension and study. Writing in the content areas, use of reference material, young adult literature, and non-print media in the teaching of content area concepts within and across content areas in multicultural classrooms. Pre: TEP Cohort acceptance.

ED 477 Art Education Methods (1) (Y) Scope and organization of art in the elementary school curriculum, creative use of art media through lab experiences. The integration of art across content areas through the application of two- and three-dimensional media. Pre: TEP Cohort acceptance.

ED 478 Issues in Assessment & Evaluation in Secondary Schools (2) (Y) Theory and techniques of measurement and evaluation in secondary education, including supervised experience in authentic/performance based assessment, traditional instrument development and analysis, grading and reporting results. Pre: TEP Cohort acceptance.

ED 479 Field Experience I (2) (Y) Practical application of theories and teaching methods and strategies in local schools. Supervised observation and teaching with an emphasis on lesson and unit planning and instruction. Offered on a CR/NC basis. Pre: TEP Cohort acceptance.

ED 483 Seminar in Teaching I (1) (Y) Professional development through discussion of educational issues and applications of theories and teaching methods through field experiences in local schools. Offered on CR/NC basis. Pre: TEP Cohort acceptance.

ED 484 Effective Teaching Portfolio (1) (Y) The integration of art, media, and technology in the preparation of an effective teaching portfolio. Offered on CR/NC basis. Pre: TEP Cohort acceptance.

ED 485 Seminar in Teaching II (3) (Y) Analysis and discussion of common management and instructional concerns of beginning teachers by student teachers and their supervisors. Individual identification and analysis of teaching problems. Offered on CR/NC basis. Pre: TEP Cohort acceptance.

ED 486 Field Experience II (10) (Y) Supervised student teaching and professional development experiences in local schools. Supervised observation and teaching with an emphasis on advanced lesson and unit planning. Offered on CR/NC basis. Pre: TEP Cohort acceptance.

ED 499 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

ENGINEERING (CE and EE)

College of Arts and Sciences, Pre-Engineering Program

CIVIL ENGINEERING (CE)

CE 270 Applied Mechanics I (3) (Y) Equilibrium of particles, rigid bodies, frames and machines; vectors, centroids, friction, and moments of inertia. Pre: PHYS 170, 170L and MATH 206. Offered in Fall semester only.

CE 271 Applied Mechanics II (3) (Y) Dynamics of particles and rigid bodies; force-acceleration; impulse-momentum; work-energy. Pre: CE 270 and MATH 231. Offered in Spring semester only.

ELECTRICAL ENGINEERING (EE)

EE 211 Basic Circuit Analysis (3 lec, 1 lab) (Y) Linear circuits, time-domain analysis, transient and steady-state responses, phasors, impedance and admittance; network or system functions, frequency response and filtering, resonance. Pre: MATH 206. Offered in Spring semester only.

ENGLISH (ENG)

College of Arts and Sciences

ENG 100 Expository Writing (3) (S) Instruction and practice in writing clear, effective university-level essays and research paper. Attention to all stages of the process-generating ideas, drafting, revising, and editing. Entry requirements: ENG 100 recommendation on Writing Placement Examination.

ENG 100T Expository Writing with Tutorial Assistance (3) (S) Instruction and practice in writing clear, effective university-level essays and research paper. Attention to all stages of the process generating ideas, drafting, revising, and editing. Attending regular sessions is required. Equivalent to ENG 100 or ESL 100. Entry requirements: ENG 100T recommendation on Writing Placement Examination.

ESL 100 Expository Writing for Non-Native Speakers (3) (S) Instruction and practice in writing clear, effective university-level essays and research paper. Fulfills the Expository Writing (ENG 100) requirement for non-native speakers of English only. Entry requirements: ESL 100 recommendation on Writing Placement Examination and completion, exit by test, or concurrent enrollment in ESL 083.

ESL 100T Expository Writing for Non-Native Speakers with Tutorial Assistance (3) (S) Instruction and practice in writing clear, effective university-level essays and research paper. Fulfills the Expository Writing (ENG 100) requirement for non-native speakers of English only. Entry requirements: ESL 100T recommendation on Writing Placement Examination and completion, exit by test, or concurrent enrollment in ESL 083.

ENG 199 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 209 Writing for Business (3) (S) Working from logical and rhetorical principles, this course prepares students to write in the informative, analytical, and persuasive modes required for their major field and in their careers. Intended for students majoring in Business and related fields. Includes a formal research project and report. Pre: C or higher in ENG 100T, 100, or ESL 100.

ENG 215 Writing for Humanities and Social Sciences (3) (S) Writing from logical and rhetorical principles, especially modes of definition, narration, assertion, and analysis. Emphasis on academic writing and research skills for students in the humanities and social sciences. Pre: C or higher in ENG 100T, 100, or ESL 100.

ENG 225 Writing for Science and Technology (3) (S) Working from logical and rhetorical principles, this course prepares students to write about science and technology in their academic disciplines and careers. Assignments include synthesis, process analysis, and argumentation. Intended for students majoring in the applied and natural sciences. Includes a formal research project and report. Pre: C or higher in ENG 100T, 100, or ESL 100.

ENG 251, 252 Major Works of British Literature (3-3) Yr. (Y) 251: Middle Ages to 1800; 252: 1800 to the present. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 253, 254 World Literature (3-3) Yr. (AY) Major works in translation. 253: Classical to 17th century; 254: 17th century to the present. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 275 Literature of the Earth (3) (Y) This course studies how people from a variety of eras and cultures have shaped their poetry, fiction, drama, and essays to respond to changes in the natural world. This class will examine issues of globalization and environmental sustainability, with opportunities for research on connections between local and global environmental problems. Pre: English 100.

ENG 285 Introduction to News Writing and Reporting (3) (Y) Prepares students to write for newspapers, the Internet, and other journalistic outlets. Includes coverage of news conferences, county council meetings, trials, sports, and writing feature stories. (Same as COM 285)

ENG 286 Introduction to Creative Writing (3) (Y) An introduction to the theoretical, practical, and artistic concerns of writing vivid and compelling prose fiction, poetry, and creative non-fiction. Students will be exposed to a range of critical and primary creative writing texts as they produce their own works in each genre. Pre: C or higher in ENG 100T, 100, or ESL 100. Offered Fall Semester only.

ENG 287 Introduction to Rhetoric (3) (Y) Survey of rhetorical history, studies and practices from Classical to Contempoary. Discussion of social, political, legal, and ethical aspects of rhetoric and rhetorical theory. Pre: C or higher in ENG 100T, 100, or ESL 100. Offered Fall semester only.

ENG 299 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing; ENG 100/ESL 100 or consent of instructor.

ENG 300 Introduction to Literary Studies (3) (Y) Introduces majors to the methods of research, analysis, close reading and argumentation that are essential to the successful reading of and writing about literature. Included is a comprehensive survey of literary terms, key concepts, literary forms and genres. Pre: ENG 100 and ENG 251or 252 or 253 or 254, or consent of instructor.

ENG 301 The Bible as Literature (3) (IO) Selected books of the Old and the New Testaments, examined with respect to their composition, form, and literary merit. Pre: ENG 100/ESL 100 and 200 level literature course or consent of instructor.

ENG 303 Backgrounds to English Studies (3) (Y) Comparative in focus, extending student's knowledge of literary works that have influenced literature in English. It is intended to educate students in the similarities and differences in literatures of various times and cultures, and to discern the common themes that are present in many literatures.

ENG 315 Advanced Composition (3) (S) Writing of essays with an emphasis on rhetorical and stylistic methods, structure, and voice. Pre: ENG 100/ESL 100 and <u>one</u> of the following: ENG 209, 215, 225, or 287.

ENG 318 Playwriting (3) (IO) Writing one-act plays for the stage and for radio. Examining and applying the requirements and uniqueness of writing for the stage play and for the radio-drama. Pre: ENG/ESL 100.

ENG 320 History of the English Language (3) (AY) The major developments in the English language from the 5th century to the present day. Pre: ENG/ESL 100, LING 102 or LING 121, or consent of instructor. (Same as LING 320)

ENG 321 Morphology and Syntax (3) (IO) Introduction to grammatical analysis and theory; practical experience in solving problems in morphology and syntax, using data drawn from a wide variety of languages. Pre: LING 102 or consent of instructor. (Same as ANTH 321, LING 321)

ENG 323 The Literature of Hawai'i (3) (Y) A critical analysis of the history of literature in the Hawaiian Islands. Study will touch upon the politicization of the Hawaiian language, the insider/outsider debate, the emergence of local literature, and ethnic/racial divides in contemporary discussions of literary craft and study. Class will include oral narratives (chants, hula), expatriate literature (Bingham, London, Michener), and a wide range of local texts. Pre: ENG 100/ESL 100 or consent of instructor. A 200-level English literature class is recommended.

ENG 324 Modern English Grammar and Usage (3) (IO) The fundamentals of English morphology and syntax, conventions of written and spoken English, and sociolinguistic aspects of major English registers and dialects. Pre: ENG/ESL 100, LING 102 or LING 121, or consent of instructor. (Same as LING 324)

ENG 344 Children and Language (3) (AY) Strategies of language acquisition used by children; emphasis on investigative skills and methods, including some field work. Pre: ENG 100/ESL 100 or consent of instruc-

tor. Recommended prerequisite: ANTH/LING 121 or ENG/LING 203. (Same as LING 344)

ENG 345 Children and Literature (3) (AY) Literature in English for and by children, with special emphasis on the ways in which literature promotes social, emotional, and intellectual development. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 347 Pidgins and Creoles (3) (Y) A study of the world's pidgins and creoles with special reference to the Pacific region; the origin and nature of pidgins and creoles; the relationship between Hawai'i Creole English to other creoles in the world. The link between the development of a creole and language acquisition. (Same as ANTH 347, LING 347; recommended LING 102 or 121)

ENG 349 Instruction and Practicum in Tutoring Writing (3) (Y) This course introduces students to various theories about the role of The Writing Center, the tutor, and the ethical and professional responsibilities of tutoring. The practicum provides students an opportunity to tutor in the UH Hilo Writing Center under the supervision of the Center's director. Pre: ENG 100T, or 100 or ESL 100 and one 200-level writing course. Course offered only in Fall semester.

ENG 350 Second Language Acquisition Theory (3) (Y) Current research and theories of learning a second or additional language from social, psychological and linguistic perspectives. Topics include the attainment of communicative competence, the critical period hypothesis, focus on form, individual learning styles, and learner autonomy. The emphasis is on how the knowledge of second language acquisition theory helps improve the quality of classroom language teaching. Pre: LING 102 or consent of instructor. (Same as LING 350)

ENG 351, 352 Survey of American Literature (3-3) Yr. (Y) 351: American literature to the Civil War; 352: from the Civil War to the present. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 355 Women in Modern Literature and Film (3) (AY) Literature and film by and about women from 1900 to the present Feminist literary theory. Pre: ENG 100/ESL 100 and 200-level literature course or college-level Women's Studies course or consent of instructor. (Same as WS 355)

ENG 356 Language and Gender (3) (AY) Students engage in the analysis of gender as it relates to language and society. Provides students with analytic resources for thinking critically about the relationship between language and social practice. Students gather and analyze data based on current theories. Pre: ENG 100/ESL 100 and LING 102 or consent of instructor. (Same as WS 356, LING 356)

ENG 365 Japanese Literature in English (3) (AY) Survey of major works from earliest times to the present. Knowledge of Japanese is not required. (Same as JPST 365)

ENG 371 Topics in Contemporary Literature (3) (AY) The development of contemporary fiction, poetry and drama concentrating upon representative works from 1945 to the present. This course may be taken twice provided that different topics are studied. The letter suffix indicates the topic. Pre: ENG 100/ESL 100 and one college-level literature course or consent of the instructor.

ENG 387 Literature of the Environment (3) (Y) A study of modern nature writing and environmental issues in several genres. Students will explore how humans negotiate their place in a variety of physical environments. Pre: ENG 100 and a 200-level college literature course, or consent of instructor. (Same as GEOG 387)

ENG 394 Special Topics in English (1-3) (Y) Advanced topics chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing; ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 422 ESL Teaching Practicum (3) (Y) A course requiring students to engage in supervised teaching in an authentic classroom setting with actual learners of ESL. Provides the student with opportunities to observe, describe, interpret, and understand the classroom environment and to reflect on the personal and professional attributes required for success in teaching. Students design and implement their own lesson plans and also analyze and reflect on the classroom environment in relation to current research. Pre: LING 102, 121 or 331, ENG/LING 324, 350, ENG 484.

ENG 423 Post-Colonial Literature (3) (AY) A critical analysis of the development of contemporary world literature in the wake of the fall of European empires. Contemporary independence and sovereignty movements have forced many scholars and writers to reconsider what literature represents—power, hierarchy, cultural values, etc. This class is designed to address the importance of writing in an age of changing national identities, shifting alliances, and volatile conflicts. Texts from Africa, Latin America, the Middle East, the Caribbean, and Hawai'i will be featured. Pre: ENG 100/ESL 100 and 200-level English literature class or consent of instructor. ENG 215 is recommended.

ENG 430 Pacific Islands Literature (3) (AY) A study of a representative range of contemporary poems, short stories, novels, and plays written in English by Pacific Islanders from Polynesia, Micronesia, and Melanesia. Pre. ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 431 Fiction Writing (3) (Y) Advanced study and writing seminar in fiction. Students may repeat for credit (maximum 6 credits). Pre: ENG 100/ESL 100 and college-level literature course and ENG 315, or consent of instructor. Offered Spring semester only.

ENG 432 Non-Fiction Writing (3) (Y) Advanced study and writing seminar in non- fiction. Students may repeat for credit (maximum 6 credits). Pre: ENG 100/ESL 100 and college-level literature course and ENG 315, or consent of instructor. Offered Fall semester only.

ENG 433 Poetry Writing (3) (Y) Advanced study and writing seminar in poetry. Students may repeat for credit (maximum 6 credits). Pre: ENG 100/ESL 100 and college-level literature course and ENG 315, or consent of instructor. Offered Spring semester only.

ENG 435 Chaucer (3) (AY) The works of Chaucer. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 437 Renaissance Poetry and Prose (3) (AY) Poetry and prose of the period 1500-1660, exclusive of Milton. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 438 Milton (3) (AY) Selected poetry and prose, including Areopagitica, Paradise Lost, Paradise Regained and Samson Agonistes. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 440 Restoration and Eighteenth Century Literature (3) (AY) Poetry and prose of the Restoration and the 18th century. Pre: ENG 100/ESL 100 or consent of instructor.

ENG 442 Romantic Literature (3) (Y) Poetry and prose from 1780 to 1832. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 445 Victorian Literature (3) (Y) Poetry and prose from 1832 to 1900. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 459 Medieval Literature (3) (AY) Early English poetry and prose, with an emphasis on Anglo-Saxon literature, medieval an dramatic poetry, and the works of Sir Thomas Malory. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 460 Renaissance Drama (3) (AY) The contemporaries and successors of Shakespeare, with particular emphasis on the plays of Jonson, Beaumont & Fletcher, Webster, and Tourneur. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 461 Shakespeare (3) (AY) Selected histories, comedies, and tragedies not studied in ENG 462. Pre: ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 462 Shakespeare II (3) (AY) The study of selected histories, comedies, and tragedies, with emphasis on performance choices as they determine and determined by varying interpretations. Most plays studied in ENG 462 will differ from those studied in ENG 461. When the approach is different in the two courses, a play may be studied in both. Pre: ENG/ESL100 and any college-level literature or drama class or consent of instructor.

ENG 464 Modern Literature (3) (AY) British and American literature from 1900 to WWII with emphasis on the development of Literary Modernism. Pre: ENG 100/ESL 100 and at least one college-level literature course or consent of instructor.

ENG 475 Theoretical and Practical Criticism (3) (AY) Analysis of historical and contemporary literary theories accompanied by study and practical criticism of selected literary works. Pre: ENG 100, ELS 100 and 200-level literature course or consent of instructor.

ENG 480 Women and Rhetoric (3) (AY) Survey of key female figures that have figured (or not figured) into the rhetorical canon. Analysis of women's used of rhetoric in everyday life and at historic moments and consideration of methodological and theoretical issues intersecting women, rhetoric, and historical research. Pre: ENG 100/ESL 100 and ENG 287 or 315 or consent of instructor. (Same as WS 480).

ENG 482 Teaching Composition (3) (AY) Overview of current theory and research informing contemporary English composition instruction at elementary, secondary, and college levels with methods for application to teaching of writing at any level or within any discipline. Pre: ENG 100/ESL 100 and ENG 209 and ENG 315 or consent of instructor.

ENG 483 Modern Drama (3) (AY) A study of works which have established or refined major traditions in modern theater, with some reading in critical theory. Pre: ENG 100/ESL 100 and 200-level coursework in literature. (Same as DRAM 483)

ENG 484 ESL Materials and Methods (3) (IO) Overview of current theory and practice in the teaching of English as a Second Language. In addition to studying and evaluating various theoretical approaches to ESL teaching and second-language learning, students will gain experience developing and using their own teaching materials. Pre: ENG 100/ESL 100 and ENG/LING 350.

ENG 485 World Wide Web Writing: Praxis (3) (AY) Introduction and practice in concepts of writing for the World Wide Web, including document design, web publishing, designing, and evaluating web documents. Hands-on HTML, XHTML, an dhow to build, launch, and maintain a web page for non-computer science students. Pre: Eng100/ESL 100 and a 200- or 300-level writing course, or consent of instructor.

ENG 486 Applied Professional Writing (3) (Y) Preparation and practice in professional writing in real work settings. Includes planning, executing, and analyzing a writing project in the community. Pre: ENG 100/ESL 100 and ENG 209 or consent of instructor.

ENG 487 Technical Writing (3) (IO) Advanced writing for engineering, science, and technology. Topics covered include analysis of and practice in planning, preparing, and critiquing technical reports, proposals, instructions, and correspondence. Pre: ENG. 100/ESL 100 and ENG 209 or consent of instructor.

ENG 488 Single Author (3) (AY) A semester-long consideration of the literary output of a single author selected by the instructor. May be repeated for credit provided that a different topic is studied. Credit may be earned in each different period: (A) Pre-1700; (B) Post-1700. Pre-requisite: ENG 100, 251 or 252 or 253 or 254, ENG 300 or consent of instructor.

ENG 490 World Wide Web Writing: Theory and Rhetoric (3) (AY) Considers composition and rhetoric in relation with technology and the Internet. Discussion of social, political, legal, and ethical aspects of writing for the World Wide Web. Focus on theory and rhetoric. Pre: ENG 315 and a 200- or 300-level writing course, or consent of instructor.

ENG 494 Special Topics in English (1-3) (Y) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: senior standing; ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENG 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing; ENG 100/ESL 100 and 200-level literature course or consent of instructor.

ENGLISH AS A SECOND LANGUAGE (ESL)

English Language Institute (ELI), College of Continuing Education and Community Service

ELI courses, while carrying administrative credit, do not count toward graduation from UH Hilo. For tuition and immigration purposes, the courses count as three semester credit hours each.

ESL 061 Listening and Speaking in English (0) (S) Practice in listening comprehension, conversational skills, discussion skills, and understanding cultural differences. Includes language lab. Entry requirement: ESL 061 placement in English Proficiency Test. **This course does not count towards graduation from UH Hilo.**

ESL 062 Essentials of English Grammar (0) (S) Intensive drill in and contextual practice of the rules of noun and verb forms and usage in English, and in connectives and other function forms. Entry requirement: ESL 062 placement in English Proficiency Test. **This course does not count towards graduation from UH Hilo**.

ESL 063 Basics of Reading in English (0) (S) Preparation for college-level reading with work in vocabulary, understanding complex sentence structures, reading strategies, and relation of writing to reading. Includes self-paced reading lab. Entry requirement: ESL 063 placement in English Proficiency Test. **This course does not count towards graduation from UH Hilo**.

ESL 064 Preparation for English Composition (0) (S) Preparation for college-level writing with work in vocabulary, sentence structure, and the development and reinforcement of paragraph skills. Entry requirement: 064 placement in the English Proficiency Test and Writing Placement Exam. **This course does not count towards graduation from UH Hilo**.

ESL 071 Basic Communication Skills (0) (S) Designed for non-native speakers to improve listening, thinking, and communicating ideas in English. Native-speaker lectures and speech practice accelerate the learning skills needed for college work. Includes language lab. Entry requirement: ESL 071 placement in the English Proficiency Test or successful completion of ESL 061. **This course does not count towards graduation from UH Hilo.**

ESL 072 Basics of English Grammar (0) (S) Introduction and the practice of English grammar. Emphasis on accurate use of basic structures in both speaking and writing. Entry requirement: ESL 072 placement in English Proficiency Test or successful completion of ESL 062. **This course does not count towards graduation from UH Hilo.**

ESL 073 English Reading Skills (0) (S) Designed for non-native English speakers to build and acquire academic reading skills. Focus is on increasing reading speed, building vocabulary, previewing and predicting, skimming and scanning, and finding main ideas and details. The course also includes work in a self-paced reading lab. Entry requirement: ESL 073 placement in the English Proficiency Test or successful completion of ESL 063. **This course does not count towards graduation from UHH.**

ESL 074 Introduction to Composition (0) (S) Introduction and practice in writing coherent, well-organized paragraphs as well as multi-paragraph essays in a variety of rhetorical styles. Entry requirement: ESL 074 placement in English Proficiency Test and Writing Placement Exam or successful completion of ESL 064. **This course does not count towards graduation from UH Hilo.**

ESL 081 Academic Communication Skills (0) (S) Designed for non-native English speakers to practice listening, thinking, and communicating ideas in English requisite for college study. Authentic lectures and formal speech practice expose students to the language used and required in academic coursework. Includes language lab. Entry Requirement: ESL 081 placement in English Proficiency Test or successful completion of ESL 071. **This course does not count towards graduation from UH Hilo.**

ESL 082 Intermediate English Grammar (0) (S) An overview of advanced grammatical structures that are used in college-level speaking and writing. One-third of the class is a writing lab. The lab will focus on identifying grammar problems and developing editing skills for academic writing. Entry requirements: ESL 082 placement in English Proficiency Test or successful completion of ESL 072. **This course does not count towards graduation from UH Hilo.**

ESL 083 Introduction to Academic Reading (0) (S) A course for non-native speakers of English using authentic texts and selected fiction which is designed to develop reading skills necessary for college-level work. Emphasis on vocabulary development, finding main ideas and specific details, and drawing inferences. Training and practice in developing increased reading rates. Includes work in a self-paced reading lab. Entry requirements: ESL 083 placement in English Proficiency Test or successful completion of ESL 073. **This course does not count towards graduation from UH Hilo.**

ESL 084 Intermediate Composition (0) (S) Introduction and practice in writing expository essays. Attention to various stages of the writing process: generating ideas, drafting, peer review, and revision. Special emphasis on identification and editing of grammatical errors. Entry requirement: ESL 084 placement in English Proficiency Test and Writing Placement Exam or successful completion of ESL 074. **This course does not count towards graduation from UH Hilo.**

ENTOMOLOGY (ENTO)

College of Agriculture, Forestry and Natural Resource Management

ENTO 262 Introductory Beekeeping (2 lec., 1 lab) (3) (Y) Biology, behavior, and management of honeybees for honey production. Limited enrollment. Consent of instructor.

ENTO 304 General Entomology (2 lec., 1 lab) (3) (S) Structure, classification and identification of insects. Pre: BIOL 175 or 176 or consent of instructor. (Same as BIOL 205)

ENTO 350 Advanced Beekeeping (2 lec., 1 lab) (3) (Y) Advanced beekeeping practices designed to improve hive quality such as queen rearing, artificial insemination, and requeening as well as the utilization of products from the hive. Limited enrollment. Pre: ENTO 262 or consent of instructor.

ENTO 361 Insect Morphology (2 lec., 1 lab) (3) (IO) Comparative and gross morphology; homologies of structure; anatomy; development in representative groups. Pre: ENTO 304 or consent of instructor.

ENTO 374 Insect Pest Control (2 lec., 1 lab) (3) (Y) Destructive and beneficial insects; principles of cultural, mechanical, legislative, biological, and chemical control. Pre: ENTO 304 or consent of instructor.

ENVIRONMENTAL STUDIES/SCIENCE (ENSC)

College of Arts and Sciences

ENSC 100 Introduction to Environmental Science (3) (Y) An introductory course linking the human and physical/chemical/biological world. Emphasis on current global and local issues related to pollution, biodiversity, ecosystem services, climate change, resource consumption, and sustainability. Focus on critical thinking and the integration of both natural and social science perspectives in understanding and addressing environmental issues. Fall semester only.

ENSC 385 Field Methods in Geography and Environmental Science (3) (Y) Geographic field methods for assessment and monitoring of the physical/biological.anthropogenic environment. Instrumentation, data collection, and analysis; planning and land management applications. Pre: GEOG 201 or consent of instructor. (Same as GEOG 385).

ENSC 441 Environmental Impact Assessment (3) (Y) Introduction to the theory and methods of environmental impact assessment (EIA). Emphasis on the biophysical, cultural, social, economic, and legal foundations of the federal and state EIA process as well as strategies to mitigate the negative environmental impact of development. Students engage in critical evaluation and preparation of an EIA. Pre: Junior or senior standing or consent of instructor. (Same as GEOG 441). Fall semester only.

ENSC 495 Senior Seminar: Environmental Science (3) (Y) Capstone course for Environmental Studies/Science Major integrating previous coursework into a disciplinary framework. Seminar focus is on research in, writing about, and discussion of themes in contemporary environmental problems. Each student will choose an environmental sub-field of interest and prepare two seminar papers: (1) survey of historical development of sub-field including theoretical and cutting-edge issues and (2) identify and investigate an orginal research problem in the chosen subfield. (Same as GEOG 495). Spring semester only.

FINANCE (FIN)

College of Business and Economics

FIN 320 Principles of Business Finance (3) (S) Introduction to concepts and techniques of business finance. Topics include organizational forms, agency relationships, financial analysis and planning, the capital formation process and capital markets, risk and return, time value of money, stock and bond valuation, and capital budgeting. Pre: Admission to Professional Business Program, ACC 250 and MATH course numbered 104F, 115, 205, or higher.

FIN 321 Investment and Security Analysis (3) (Y) Fundamentals of the securities market; development of skills needed to analyze current portfolios and potential investments. Topics include risk reduction, investment analysis, security valuation, portfolio management and option/futures speculation. Pre: Admission to Professional Business Program, FIN 320 and junior standing.

FIN 322 Corporate Finance (3) (Y) Development of tools to help managers analyze and solve financial problems. Topics include capital budgeting, capital structure, dividend policy, lease financing, short and long term asset and liability management, options and futures contracts, merger/take-over analysis and bankruptcy analysis. Pre: Admission to Professional Business Program, FIN 320, ACC 251.

FIN 325 Small Business Finance (3) (Y) Application of financial principles to small business firms; Topics include planning, valuation, investment decision making (fixed and working capital investments) and procurement of funds. Pre: Admission to Professional Business Program, FIN 320 and junior standing.

FIN 370 Principles of Real Estate (3) (AY) Real estate principles including legal, physical, and economic elements, as well as concepts of valuation, market analysis, and finance. Examined are public and private externalities affecting the allocation and utilization of real estate resources. Pre: Admission to Professional Business Program, FIN 320 and junior standing.

FIN 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, junior standing and consent of instructor.

FIN 494 Special Topics in Finance (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program, varies with topic.

FIN 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

FORESTRY (FOR)

College of Agriculture, Forestry and Natural Resource Management

FOR 202 Forestry and Natural Resources (2 lec., 1 lab) (3) (Y) Development of forestry and agroforestry, forest biology, soils, ecology, conservation, management, and products. Field trips to various forestry operations.

FOR 301 Forest Mensuration (2 lec., 1 lab) (3) (Y) Practical techniques in mapping and measuring forest land and the inventory of forest resources. Principles of log, tree, stand, and growth measurements; instrumentation and simulation models.

FOR 340 Remote Sensing and GIS in Forestry (3) (Y) Application of remote sensing and GIS to Forestry. Spatial data structure, map projection, global positioning system. How to create spatial datasets through GPS survey. Utilization of GIS software and performance of basic spatial analyses. Offered Spring semester.

FOR 350 Tropical Silviculture (2 lec., 1 lab) (3) (Y) Sustainable methods and techniques for manipulation of tropical forest ecosystems to meet management objective, artificial and natural regeneration, site preparation and harvest methods, soil and water resources management, silviculture and the gene pool, intermediate stand tending and maintenance of forest health.

FOR 410 Physiological Ecology of Tropical Forests (2 lec., 1 lab) (3) (Y) Chemical, physical, and physiological processes that determine how tropical trees and forests function; emphasis on carbon, nitrogen, and phosphorus budgets; productivity, consequences of forest management, and global climate change.

FRENCH (FR)

College of Arts and Sciences, Languages

Students who have demonstrated competence in French in high school will not be admitted to FR 101 and must take a placement test before enrolling in a course in French.

FR 101-102 Elementary French (4-4) Yr. (Y) Conversation, laboratory drill, grammar, reading, using film strips, interactive software, slides and tapes.

FR 111 Traveling in France and Western Europe (3) (Y) Introduction of basic culture, civilization and language survival skills for travel in France and the neighboring countries of Western Europe to minimize travel difficulties and to learn more about area to be visited.

FR 111L Traveling in France and Western Europe (1) (Y) Studies of oral communication in French using CD-ROM, tapes, videos and classroom conversation to prepare students to benefit from travel in France. Pre: FR 101 or permission of the instructor. (Must be taken with FR 111)

FR 150 Basic Conversational French (3) (Y) Basic conversation vocabulary and structure enabling students to express themselves in French. Emphasis will be on pronunciation, grammar and vocabulary skills in the context of everyday situations. Offered only in the Summer session.

FR 201-202 Intermediate French (4) Yr. (Y) Reading, conversation, laboratory drill, composition, using film strips, interactive software, slides and tapes. Pre: FR 102 or equivalent.

FR 299 Directed Studies (1-3) (S) Permission of the instructor and statement of planned reading or research required.

FR 311-312 Advanced Conversation and Composition (3-3) Yr. (IO) Major emphasis on strengthening oral and written language skills through reading and discussion of current French-language periodicals, writing informal essays, grammar review, and laboratory drills. Video tapes, movies, interactive software, and film strips also will be used. Pre: FR 202 or equivalent.

FR 394 Special Topics in French (3) (IO) Advanced topics chosen by instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: FR 102 or equivalent.

FR 399 Directed Studies (1-3) (S) Permission of the instructor and statement of planned reading or research required. Pre: junior standing.

FR 499 Directed Studies (1-3) (S) Permission of the instructor and statement of planned reading or research required. Pre: senior standing.

GEOGRAPHY (GEOG)

College of Arts and Sciences

GEOG 101 Geography and the Natural Environment (3)* (S) Survey of the earth's physical environment, including distribution and associations between energy, climate, vegetation, and landforms. Human interrelationships with the physical landscape.

GEOG 101L Geography and the Natural Environment Lab (2 Hrs) (1)* (IO) Analysis of the natural environment through the use of maps, airphotos, field and laboratory observation and experimentation. Emphasis on Hawai'i and upon human modification of the environment. Pre: credit or concurrent enrollment in GEOG 101.

GEOG 102 Geography of World Regions (3) (S) Geographic survey of the world's major cultural regions. Processes of spatial integration and differentiation of economic, geo-political, and cultural landscapes. Natural resource distribution and the contrasts and linkages between the developed and under-developed world.

GEOG 103 Geography and Contemporary Society (3) (S) Examines aspects of culture such as population, agriculture, industry, and religion. Focus on the relationships between people and their environment and resulting regional contrasts.

GEOG 105 Geography of the United States (3) (Y) Major features of the United States. Emphasis on what gives character or distinctiveness to various places.

GEOG 120 Weather and Climate of Hawai'i (3)* (IO) For non-science majors and prospective science teachers. Basic meteorology, sun-earth-ocean-atmosphere interrelationships, weather types, seasonal changes, trade winds, clouds, rainfall, with examples drawn from the local weather and climate. (Same as PHYS 120)

GEOG 201 Interpretation of Geographic Data (3) (Y) Introduction to methods of analysis and display of a variety of geographical data. Introduction to geographical research design, common statistical and graphical methods, basic computer programs, concepts of computer cartography, map interpretation and design, and more advanced techniques including GIS, GPS, and remote sensing.

GEOG 300 Climatology (3)* (AY) Elements and controls of climate. Dynamic processes of atmospheric circulation: the distribution patterns of solar radiation, temperature, precipitation, and evaporation. Energy and water balance concepts, climate classification. Pre: GEOG 101 or consent of instructor.

GEOG 309 Biogeography (3)* (AY) Basic evolutionary and ecological principles underlying the dynamics of plant and animal populations. Mechanisms of isolation, speciation, dispersal, migration, and competition as they affect past and present world distribution patterns. Island biogeography. Pre: GEOG 101; BIOL 101 or 175 or 176; or consent of instructor. (Same as BIOL 309)

GEOG 312 Food and Societies (3)* (Y) Different types of food production and consumption systems, and the cultural and environmental constraints operating to produce the resultant patterns. Globalization of agricultural production and consumption. Pre: one introductory Geography course. (Same as AG 312)

GEOG 319 Natural Hazards and Disasters (3)* (AY) Survey of origins, processes, distributions, and effects of hazardous physical forces: hurricanes, tornadoes, drought, floods, earthquakes, volcanism, landslides, erosion, and beach degradation. Hazard perception and adjustment by humans also considered. Pre: GEOG 101 or consent of instructor.

GEOG 320 Earth Surface Processes (3)* (AY) Processes of landform development at large and small scales. Theoretical and applied aspects, including human environment considerations. Field excursions may be required. Pre: GEOG 101 or GEOL 111 or equivalent. (Same as GEOL 342)

GEOG 321 Geography of Economic Activity (3)* (Y) Factors influencing the distribution of economic activities at different spatial scales: world, national, local. Consideration of general theories of decision making for urban and industrial locations. Pre: GEOG 103.

GEOG 326 Natural Resources (3)* (AY) Philosophy and history of the conservation movement in the United States. Ecological considerations in the management of renewable and nonrenewable resources. Current conservation issues in Hawai'i. Pre: GEOG 101 or consent of instructor.

GEOG 328 Cultural Geography (3)* (Y) Key concepts in cultural geography and introduction to qualitative research methods in geography. Topics include: histories of cultural geography; landscapes; nature-society relations; critical cultural geographies. Pre: one introductory Geography course.

GEOG 329 Development Geographies (3) (Y) Major theoretical approaches to economic development will be examined. The environmental and cultural sustainability of these approaches along with emerging alternative development (green) perspectives will be highlighted through specific case studies. Pre: Any introductory course in geography, anthropology, economics, biology, or agriculture. Offered Fall semester only.

GEOG 331 Tourism Geographies (3) (Y) Survey of tourism geographies, addressing a wide range of topics: tourism representations, tourism development strategies, indigenous tourism development, planning for "sustainable" tourism, and tourism's environmental impact. Pre: Junior or Senior standing or consent of instructor. Offered Fall semester only.

GEOG 332 Geography of the Hawaiian Islands (3) (Y) Introduction to the physical and human geography of Hawai'i. Development of island ecosystems. Polynesian pre-history, post-contact resource exploitation and environmental transformation. History of land tenure and management. Spatial aspects of agriculture, urbanization, and tourism. Pre: GEOG 101 or 103, or consent of instructor.

GEOG 335 Geography of Oceania (3) (AY) Physical and human geography of the Pacific Islands region including Australia and New Zealand (excluding Hawai'i). Topics include: regional marine and terrestrial resources; human settlement and landscape transformation; population and political geography; economic development, and resource management and environmental issues.

GEOG 340 Principles of Land Use Planning (3)* (Y) Land use planning and relationship of geographic concepts to urban, regional, and environmental planning. Emphasis on examples from Hawai'i.

GEOG 350 Geography of Asia (3) (AY) Introduction to the lands and peoples of Asia. Emphasis on the physical and cultural features which characterize the geography of Asia.

GEOG 380 Quantitative Methods in Geography (3)* (AY) Application of statistical and mathematical models in a geographic context. The use of multivariate techniques in assessing spatial relationships. Pre: GEOG 201 or consent of instructor.

GEOG 385 Field Methods in Geography and Environmental Science (3)* (Y) Geographic field methods for assessment and monitoring of the physical/biological/anthropogenic environment. Instrumentation, data collection, and analysis; planning and land management applications. Pre: GEOG 201 or consent of instructor. (Same as ENSC 385).

GEOG 387 Literature of the Environment (3) (Y) A study of modern nature writing and environmental issues in several genres. Students will explore how humans negotiate their place in a variety of physical environments. Pre: ENG 100 and one of the following: ENG 200, 251, 252, 253, or 254 or consent of instructor. (Same as ENG 387)

GEOG 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

GEOG 409 Principles of Landscape Ecology (3)* (Y) Introduction to landscape ecology as a framework for landscape research, analysis, and management. Emphasis on spatial patterning—the causes, development, importance of ecological processes, and the spatial interactions of dynamic processes. Focus on concepts, methods, and applications of landscape ecology through reading classic and contemporary literature. Pre: GEOG 101, GEOG 201, GEOG 309, or BIOL 281 or consent of instructor. Some familiarity with geographic information systems (GIS) and statistics desirable. Offered in Spring semester only.

GEOG 410 Plants and People (3) (Y) Plants have had a profound impact on economic, social, and cultural history as sources of food, shelter, clothing, drugs, and raw materials. Contemporary issues related to plants-people also will be emphasized including problems of agriculture, plant industry, medicine, and conservation. Case studies from the Pacific world and Latin America will be highlighted. Pre: Any introductory course in geography, anthropology, biology, or agriculture. Offered in Spring semester only.

GEOG 421 Urban Geography (3) (IO) Cities: their origins, functions, and physical structure. Problems of urban growth, decay, and adaptation; evolution of urban institutions. Pre: GEOG 103 or consent of instructor.

GEOG 430 Gender, Place, and Environment (3) (Y) Surveys of trends in geography of gender related to place, space, and the environment. Addresses spatial interactions of gendered bodies of different ages, class, and ethnicities. Pre: Junior or Senior standing or one college level course in Women's Studies or consent of instructor. (Same as WS 430) Offered in Spring semester only.

GEOG 435 Senior Seminar in Pacific Studies (3) (AY) A reading and research seminar under the supervision of the Pacific Islands Studies faculty aimed at demonstrating competence in research and writing on issues related to Pacific Islands environments, culture, society and economy. Pre: consent of instructor for students near completion of Pacific Islands Studies Certificate coursework. (Same as ANTH 435)

GEOG 440 Advanced Environmental Planning (3)* (Y) Advanced topics in planning with emphasis on local land use plans, policies and ordinances as well as methodology for collection and analysis of data for environmental impact assessment. Pre: GEOG 340.

GEOG 441 Environmental Impact Assessment (3)* (Y) Introduction to the theory and methods of environmental impact assessment (EIA). Emphasis on the physical environmental, cultural, social, and legal foundations of the federal land state EIA process as well as how to minimize negative impacts on economic development. Students engage in critical evaluation and preparation of EIA. Pre: Junior or Senior standing or consent of instructor. Offered Fall semester only. (Same as ENSC 441).

GEOG 470 Remote Sensing and Air Photo Interpretation (3)* (AY) Analysis of film and digital images of the Earth's surface collected from cameras and sensors aboard aircraft and satellites. Applications to resource planning, forestry, hydrology and geology. Pre: GEOG 201 or consent of instructor.

GEOG 480 Geographic Information Systems and Visualization (3)* (Y) Introduction to basic concepts and skills for using Geographic Information Systems (GIS) to analyze and visualize geospatial data. Topics covered include: computer representation of geographic information, construction of GIS databases, geospatial analysis and applications. Additional focus on visualization skills including cartographic principles and techniques. Pre: GEOG 201 or consent of instructor.

GEOG 481 Advanced Geo-Spatial Techniques (3)* (Y) Advanced methods in GIS and spatial technologies for analysis of physical and human systems. Topics include network analysis, cartographic modeling, geospatial analysis, interpolation, as well as GIS project management. The course will include lecture, discussion, lab exercises, and a final GIS project. Pre: GEOG 201, GEOG 480 or GEOG 470 and consent of instructor. Familiarity with basic statistics also essential. Offered Fall semester only.

GEOG 490 Senior Thesis (3) (S) Individual research project in area of interest. Pre: invitation by geography faculty.

GEOG 494 Special Topics in Geography (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

GEOG 495 Senior Seminar, Geography (3) (Y) Capstone course for Geography major, integrating previous coursework into disciplinary framework. Seminar focuses on research, writing, and discussion of themes in contemporary geography. Each student will choose a geographic subfield of interest and prepare two seminar papers: (1) survey of historical development of sub-field including theoretical and cutting edge issues; (2) identify and investigate an original research problem in the chosen sub-field. Pre: Geography major, Senior standing. Offered Spring semester only. (Same as ENSC 495).

GEOG 496 Internship (3) (S) Juniors and seniors majoring in geography may undertake in-service training in government or private agencies. Pre: junior standing and consent of instructor.

*Field trips are sometimes conducted outside of class hours.

GEOLOGY (GEOL)

College of Arts and Sciences

GEOL 100 Environmental Earth Science (3)* (S) Introduction to geology for non-science majors with an emphasis on the interaction between the Earth and its human population. The focus is on the solid Earth, natural hazards, natural resources, and pollution. Note: Geology students with an interest in environmental geology are encouraged to take GEOL 300.

GEOL 100L Environmental Earth Science Laboratory (1 3-hr. lab) (1) (Y) Application of basic geological principles toward the understanding of man's relationship with the environment. Laboratory experiences in hazards mapping and assessment, environmental pollution, global change, and management of our geological resources. Develops skills in interpreting maps and remote sensing images. Pre: GEOL 100 or GEOL 300, which may be taken concurrently.

GEOL 111 Understanding the Earth (3)* (S) The study of the Earth, with emphasis placed on the materials, surface features, structures, various erosional and depositional processes, and the role of plate tectonics. Prepares student for further studies in geology.

GEOL 111L Understanding the Earth Laboratory (1 3-hr. lab) (1) (S) The basic techniques of topographic map/air photo interpretation and rock and mineral identification as applied to principles of physical geology. Pre: GEOL 111, which may be taken concurrently. (Optional)

GEOL 112 History of the Earth and Its Life (3)* (Y) The evolution of the earth from the origin of the solar system to the present. Emphasis on plate tectonics, the history of life, and techniques used to reconstruct past events from geologic evidence. Pre: GEOL 111 or consent of instructor.

GEOL 112L History of the Earth Laboratory (1 3-hr. lab) (1) (Y) Includes topics on fossils and fossilization, measurement of geologic time, stratigraphy, biostratigraphy, geotectonics, paleoecology, sedimentology, and the interpretation of geological maps. Pre: GEOL 112, which may be taken concurrently, and GEOL 111L. (Optional)

GEOL 194 Special Topics in Geology (1-3)* (IO) Topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

GEOL 195 Introductory Field Experience (1) (AY) Pre- or post-semester field trip (1-2 weeks) to exceptional geologic localities. During the semester students will become familiar with the geologic formations, structure, and history of the area to be visited. Pre: Prior course in Geology. CR?NC grade. Repeatable for credit. Offered in Spring Semester only, alternate years.

GEOL 202 Coasts and Beaches (3) (S) Survey of the natural processes and human influences shaping the world's beaches and coasts. Required weekend field trips to sites that illustrate the traditional use of coastal resources by native Hawaiians.

GEOL 205 Geology of the Hawaiian Islands (3)* (S) A survey of the geological phenomena particular to the Hawaiian Islands, including volcanism, rock and mineral occurrences, landform development, and water resources.

GEOL 212 Earth Materials I: Minerals (3 lec., 1 3-hr. lab) (4) (AY) A systematic study of the common minerals involving crystallography, optical properties, crystal chemistry, and occurrence. Laboratory work stresses identification of minerals in hand specimen and using the petrographic microscope. Pre: GEOL 111 and either CHEM 114 or 124 or consent of the instructor.

GEOL 299 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

GEOL 300 Advanced Environmental Earth Science (3) (AY) In-depth study of the interactions between the human population and our planet, focusing on natural resources, pollution, and natural hazards. Exploration of current issues such as the food supply and the energy crisis. Introduction to community concerns such as waste, natural hazards and environmental legislation. Pre: GEOL 111 and upper-division standing or consent of instructor.

GEOL 320 Earth Materials II: Igneous/Metamorphic Rocks (3 lec., 1 3-hr. lab) (4) (AY) An introduction to the study of rocks, including their origin, occurrence, composition and classification. Laboratory work involves the identification of rocks in hand specimen and thin section by means of composition and texture. Emphasis on igneous and metamorphic rocks. Pre: GEOL 212 or consent of instructor.

GEOL 330 Deformation of the Earth (2 lec, 1 3-hr. lab) (3)* (AY) Effects and mechanics of deformation of the earth's crust, involving the description, classification, and origin of geologic structures. Aspects of geotectonics are considered. Pre: GEOL 112 and prerequisites listed for MATH 205, or consent of instructor.

GEOL 340 Sedimentary Processes (2 lec, 1 3-hr. lab) (3) (AY) Emphasis on sedimentary processes, properties of sediments and sedimentary rocks, environmental interpretation, and stratigraphic principles and nomenclature. Required field trips. Pre: GEOL 112.

GEOL 342 Earth Surface Processes (3)* (AY) Processes of landform development at large and small scales. Theoretical and applied aspects, including human environment considerations. Pre: GEOG 101 or GEOL 111 or equivalent. (Same as GEOG 320)

GEOL 352 Comparative Planetology (3) (IO) Study of the geology and geophysics of Earth-like planets and satellites in the Solar System, with emphasis on understanding terrestrial geology in a border, astronomical context. Study of the atmosphere of Solar System planets and satellites, and also the formation and evolution of the Solar System and extra solar planetary systems. Pre: GEOL 111, ASTR 180 (Same as ASTR 352)

GEOL 360 Surface Water (3) * (AY) Introduction to surface hydrology. Topics include streamflow, hydraulics, flooding, soil moisture, evapotranspiration, and stream water quality. Introduction to measurement techniques, quantitative descriptions of hydrologic phenomenon, and practical applications. Pre: GEOL 111and competence in algebra, or consent of instructor.

GEOL 370 Field Methods (1 lec, 2 3-hr. lab) (3) (AY) Familiarization with field instrumentation and techniques. The study of methods used to collect, graphically represent, and interpret geological field data. For the last third of the class, students choose between a post-semester geologic mapping project in California or a geologic mapping project in Hawaii. Pre: GEOL 330 or consent of instructor.

GEOL 394 Special Topics in Geology (1-3)* (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: junior standing and consent of instructor.

GEOL 399 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

GEOL 431 Geology of North America (3) (AY) Survey of the structure, stratigraphy, and tectonic evolution of the North American continent from the Precambrian to Recent. Pre: GEOL 112 or consent of instructor.

GEOL 445 GIS for Geology (2 lec, 1 3-hr. lab) (3) (AY) Representation of geological data using Geographical Information Systems (GIS). Introduction to theory, applications, and data analysis. Pre: GEOL 111, CS 102 or Computer literacy, and upper-division standing.

GEOL 450 Geological Remote Sensing (2 lec, 1-2-hr. lab) (3) (IO) Application of remote sensing to volcanic hazards, global change, and geologic mapping. Exploration of both satellite and airborne sensor imagery with laboratory exercises focused on modern remote sensing visualization tools and interpretation of optical, thermal and thematic data suites. Pre: GEOL 111 and CS 102 or consent of instructor.

GEOL 460 Groundwater (3) (AY) Introduction to groundwater hydrology. Topics include aquifer properties, principles of groundwater flow, quantity and quality of groundwater resources, water chemistry, groundwater contamination and the role of groundwater in geologic processes. Quantitative focus. Pre: GEOL 111, 111L, prior course in chemistry at the high school or college level, and MATH 115 or 205, or consent of instructor.

GEOL 470 Volcanology (2 lec, 1 3-hr lab) (3)* (AY) In-depth study of volcanic processes, products, and phenomena, including the classification of volcanic eruptions, evaluation of volcanic hazards, and an introduction to eruption monitoring. Pre: GEOL 320 or consent of instructor.

GEOL 471 Volcano Monitoring (3) * (Y) Survey of deformation, seismological, geochemical, and field mapping methods of monitoring active volcanoes, and their use in forecasting eruptions. Emphasis on field applications. Pre: Previous college credit in geology, mathematics, and other physical science, or consent of the instructor.

GEOL 472B Seismology of Volcanoes (1) * (IO) Investigation of seismotectonic processes of active volcanoes, including sources of earthquakes, volcanic tremor, seismic tomography, and seismic methods for volcanic monitoring. Field deployment of portable seismographs and operation of telemetered, digital seismic networks. Pre: College credit in geophysics and calculus, or consent of instructor.

GEOL 495A-495B Seminar (1-1) Yr. (S) Seminar presentations of topics in the physical sciences by faculty, enrolled students and invited speakers. The first semester (495A) is taken CR/NC; in the second semester (495B), students are required to present a seminar for a letter grade. Pre: senior standing or consent of instructor. (Same as ASTR 495A-495B, CHEM 495A-495B, PHYS 495A-495B and MATH 495A-495B)

*Field trips are sometimes conducted outside of class hours.

HAWAIIAN LANGUAGE (HAW)

Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language

HAW 100 Hawaiian Language in Action (2) (S) A beginning immersion experience in Hawaiian focusing on the spoken use of the language. A) usage referring to locations and relationships, E) usage referring to processes and actors, I) other. (May be repeated for credit if subletters are different.) Meets two times weekly. No prerequisites.

HAW 101-102 Elementary Hawaiian (4-4) Yr. (Y) Development of listening, speaking, reading and writing skills. Taught within the context of the contemporary culture of the Hawaiian people. Language laboratory required.

HAW 107 Accelerated Elementary Hawaiian (8) (Y) Contents of 101-102 covered in one semester. Meets 2 hours daily, Monday through Friday. Language laboratory required. Pre: consent of instructor.

HAW 194 Special Introductory Topics in Hawaiian (1-4) Topics chosen by the instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

HAW 199V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required.

HAW 201-202 Intermediate Hawaiian (4-4) Yr. (Y) Continuation of 102. Conducted in Hawaiian. Language laboratory required. Pre: HAW 102 or equivalent.

HAW 207 Accelerated Intermediate Hawaiian (8) (Y) Contents of 201-202 covered in one semester. Meets 2 hours daily, Monday through Friday. Language laboratory required. Pre: 102 or 107.

HAW 294 Special Intermediate Topics in Hawaiian (1-4) (AY) Topics chosen by instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: Hawaiian course at the introductory level and consent of instructor.

HAW 299V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

HAW 303-304 Third-Level Hawaiian (4-4) Yr. (Y) Continuation of 202. Advanced structures, expressions and patterns. Conducted in Hawaiian. Language laboratory required. Pre: C or better in HAW 202 or 207, or permission from the instructor.

HAW 399V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: junior standing.

HAW 403-404 Fourth-Level Hawaiian (4-4) Yr. (Y) Continuation of 304. Advanced structures, expressions, and patterns. Conducted in Hawaiian. Language laboratory required. Pre: C or better in 304 or permission from the instructor.

HAW 425 Translation into Hawaiian (3) This course trains students to translate from English into Hawaiian. A wide range of materials is covered, from school texts to news items and legal material. Pre: HAW 404, which, with permission, may be taken concurrently.

HAW 453 Hawaiian Phonetics and Phonology (3) (AY) Sound system of the Hawaiian language. Stylistic and regional variation. Interaction of the Hawaiian sound system with the sound systems of other languages, especially that of English. Conducted in Hawaiian. Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently, or equivalent. LING 102, LING 211, LING 311 recommended. (Same as LING 453)

HAW 454 Hawaiian Morphology and Syntax (3) (AY) Grammatical system of the Hawaiian language. Conducted in Hawaiian. Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently, or equivalent; LING 102 recommended. (Same as LING 454)

HAW 455 Hawaiian: A Polynesian Language (3) (AY) The similarities and differences among Polynesian languages and the reconstruction of their common ancestor language. The development of Hawaiian from that common ancestor. Conducted in Hawaiian. Pre: HAW 303, which may be taken concurrently, and HAW 453. HAW 454, LING 102, LING 371 recommended. (Same as LING 455)

HAW 490 Base-Level Fluency for Hawaiian Medium Education (1) A review and strengthening of Hawaiian language fluency skills with focus on their applicability to Hawaiian medium education. Must be taken credit/no credit. Conducted in Hawaiian. Pre: Six semester hours of college fourth-level Hawaiian and permission from the Division.

HAW 494 Special Advanced Topics in Hawaiian (3) (AY) Topics chosen by instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Conducted in Hawaiian. Pre: Hawaiian language course at the intermediate level and consent of instructor.

HAW 499V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: senior standing.

HAWAIIAN STUDIES (HWST)

Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language

HWST 111 The Hawaiian ʻOhana (3) (S) The culture of the Hawaiian people as expressed in the home and family. The position of the family as the basis of the larger Hawaiian society and culture. Both ancient and modern aspects covered; extensive use of Hawaiian terminology.

HWST 175 Introduction to the Music of Polynesia (3) (AY) A general survey of the indigenous and acculturated music of eight major Polynesian island groups: Tonga, Samoa, New Zealand, Cook Islands, Society Islands, Marquesas Islands, Easter Island and Hawaiʻi. Music is viewed as both an organization of sound and as a product of culture and people. (Same as MUS 175)

HWST 176 The History and Development of Hawaiian Music (3) (AY) A general survey of the interrelationships of indigenous and acculturated Hawaiian music. Vocal music genres to be discussed include: chant; Christian hymn singing; secular choral singing; male and female falsetto singing; Chalangalang; Hapa Haole; and contemporary. Instrumental music genres include: pre-European instrumental styles; slack key guitar; ʻukulele; and steel guitar. (Same as MUS 176)

HWST 194 Special Topics in Hawaiian Studies (1-3) Topics chosen by instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

HWST 199V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required.

HWST 205 Hawaiian Music in Action (2) (S) Learning Hawaiian songs as a means of strengthening knowledge of language, poetry and culture. A) mele ʻāina, E) mele pili kanaka, I) other. (May be repeated for credit if subletters are different.) Conducted in Hawaiian. Pre: HAW 101 or 107.

HWST 211 Hawaiian Ethnobotany (3) (S) Hawaiian herbs and plants: their identification, their place in the heritage of the Hawaiian people, their medicinal properties, and other practical uses; extensive use of Hawaiian terminology.

HWST 213 Hawaiian Ethnozoology (3) (S) Hawaiian fishes, birds, and other creatures: their identification, their place in the heritage of the Hawaiian people, methods of capture, their practical uses; extensive use of Hawaiian terminology.

HWST 294 Special Topics in Hawaiian Studies (1-3) Topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Hawaiian Studies course at the introductory level and consent of instructor.

HWST 299V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

HWST 394 Special Topics in Hawaiian Studies (1-3) Topics chosen by the instructor. The course content will vary. It may be repeated for credit provided a different topic is studied. Pre: Hawaiian Studies course at the intermediate level and consent of instructor.

HWST 399V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: junior standing.

HWST 405 Hana Noʻeau (1) (S) Traditional Hawaiian arts taught in Hawaiian. (A) lau hala, (E) ʻupena/kōkō (types of nets), (I) hulu manu (feather work), (O) other. (May be repeated for credit if topics are different.) Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently, or equivalent.

HWST 431 Living Hawaiian Language Communities (3) An examination of the Hawaiian-speaking community of Hawaiʻi today and the interface between language, culture, and other languages and cultures in Hawaiʻi. Pre: HAW 403 or equivalent, which, with permission, may be taken concurrently.

HWST 461 Pana Hawaiʻi (3) (Y) Traditions and literature of pana (named sites of cultural importance). Emphasis on islands of (A) Hawaiʻi, (E) Maui, (I) Molokaʻi and Lānaʻi, (O) Oʻahu, (U) Kauaʻi and Niʻihau. Conducted in Hawaiian. (May be repeated for credit if subletters are different.) Pre: HWST 111; HAW 202 or equivalent, which, with permission, may be taken concurrently, or equivalent.

HWST 462 Haku Mele (3) (AY) Hawaiian poetry as literature. Survey and analysis of traditional and modern forms, methods of composition, poetic language, imagery, and kaona (hidden meaning). Interpreting and composing poetry in Hawaiian. Pre: HAW 303, which may be taken concurrently, or consent of the instructor; HWST 361 recommended. Conducted in Hawaiian.

HWST 463 Introduction to Hawaiian Narrative Literature (3) Introduction to Hawaiian narrative literature, both oral and written. Short traditional tales, excerpts from longer forms, comparison of narrative literature with poetry and conversational event recordings. Pre: HAW 304, which, with permission may be taken concurrently.

HWST 464 Hawaiian Composition (3) Essays and articles in Hawaiian focusing on traditional Hawaiian aesthetics and well-formed presentation. Attention to cultural differences in presentation of material. Pre: HAW 404, which, with permission, may be taken concurrently. Recommended: ENG 315, HAW 453.

HWST 471 Mele ʻAuana (3) (AY) Hawaiian musical traditions initiated since 1778 (e.g., falsetto singing, slack key, hīmeni, etc.). Traditions concerning their sources and history. Some attention given to performance. Conducted in Hawaiian. Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently; HWST 361, HWST 462.

HWST 472 Hula ʻAuana (3) (AY) Hawaiian dance forms initiated since 1778. Traditions concerning their sources and history. Some attention given to performance. Conducted in Hawaiian. Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently; HWST 361, 462, 471 recommended.

HWST 473 Oli/Mele Kahiko (3) (AY) Hawaiian musical forms initiated prior to 1778 (e.g. chanted lamentations, chanted greetings, dance chants, etc.). Traditions concerning their sources and history. Some attention given to performance. Conducted in Hawaiian. Pre: HAW 202 or equivalent, which, with permission, may be taken concurrently; HWST 361, 462, 471 recommended.

HWST 474 Hula Kahiko (3) (AY) Hawaiian dance forms initiated prior to 1778. Traditions concerning their sources and history. Some attention given to performance. Conducted in Hawaiian. Pre: HAW 304 or equivalent, which, with permission, may be taken concurrently; HWST 361, 462, 471, 473 recommended.

HWST 494 Special Advanced Topics in Hawaiian Studies (3) (AY) Topics chosen by the instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: Hawaiian Studies or Hawaiian language course at the intermediate level and consent of instructor.

HWST 497 Hawaiian Studies Seminar (3) (Y) Readings, research and field work on the traditional and contemporary Hawaiian community. Conducted in Hawaiian. Pre: HAW 303 and senior standing, or consent of instructor.

HWST 499V Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: senior standing.

HEALTH AND PHYSICAL EDUCATION (HPE)

College of Arts and Sciences

HPE 101 Physical Fitness (1) (S) Conditioning exercises and activities to develop and maintain physical efficiency. Motor fitness tests administered to measure status and progress.

HPE 103 Swimming: Beginning (1) (Y) Adjusting to water, immersing in water, floating, sculling, correct arm stroke, leg kick, breathing techniques and their coordination.

HPE 104 Swimming: Intermediate (1) (Y) Perfecting and integrating basic strokes with added emphasis on swimming for distance and speed.

HPE 105 Open Water Scuba Certification (1) (IO) The science and physiology of SCUBA diving. Explores the theory and practice of underwater diving. Commonly used equipment and safety considerations covered. Includes in-class instruction, underwater pool diving experience

and open water ocean diving. Students who successfully complete the course will receive PADI Open Water Diver certification. Pre: No less than a 3.0 average in all UH Hilo courses, a certification from a physician and permission of the instructor. May be taken only once. Additional charges for equipment rental and underwater diving may be incurred.

HPE 107 Tennis: Beginning (1) (S) Rules, etiquette, grip, forehand and backhand strokes, serving, volleying, singles and doubles play.

HPE 108 Tennis: Advanced (1) (S) Improving the serve, forehand and backhand strokes, volleying, chop strokes, competitive strategy, problems in rules.

HPE 110 Golf: Beginning (1) (S) Rules, etiquette, and skill (grip, stance, stroke) in using the irons, woods, and putter. Driving range and play on golf course require additional fees.

HPE 117 Mountain Biking (1) (S) Basic knowledge and skills of mountain biking. Emphasis will be placed on the safe operation and maintenance of the bike for recreational purposes. Uses such as commuting and racing will be discussed.

HPE 120 Badminton (1) (Y) Rules, etiquette, grip, forehand and backhand strokes, serving, smash, drive, netplay, offensive and defensive strategy in singles and doubles play.

HPE 134 Volleyball: Beginning (1) (Y) Rules, fundamental skills of passing, setting, hitting, blocking, digging, and team strategies.

HPE 136 Team Sports (1) (Y) Skills, knowledge, attitudes and appreciation. Combination of soccer and softball.

HPE 138 Basketball: Beginning (1) (Y) Rules, etiquette, skills in footwork, body balance, passing, shooting, dribbling, rebounding, individual and team strategies, and plays.

HPE 152 Weight Training (1) (S) Fundamental techniques of weight training which includes safety and precautions, diet and nutrition, basic weight training principles and individualized exercise programs for total physical fitness.

HPE 194 Special Topics in Health (1-3) (IO) Activity and Physical Education topics chosen by instructors. Course content will vary. May be repeated for credit, provided that a different topic is studied.

HPE 199 Directed Studies (1-3) Statement of planned reading or research and consent of instructor required.

HPE 201 School Health Problems (2) (Y) Responsibilities of the elementary school teacher in recognizing and meeting pupil's needs, teacher's role in health instruction, health services, healthful school living, school health policies.

HPE 204 Introduction to Coaching Athletics (2) (Y) Nature, responsibilities, personal and professional requirements of a coach. Scientific principles applicable to coaching methodology and athletic competition.

HPE 206 Basic Human Movement (3) (Y) Developing skills to understand the nature and function of human movement in every day life, sport, dance, physical education, and adapted movement activities.

HPE 207 Basic Human Nutrition (3) (Y) Fundamental principles of normal nutrition and the importance of nutrition in promoting growth and health.

HPE 208 Elementary Tests and Measurements (3) (Y) Basic understanding and appreciation of the why and how of testing in health, physical education, and athletics. The development and evaluation of neuromuscular and organic abilities and the handling of test data by elementary statistical methods will be covered.

HPE 232 Safety Procedures and Accident prevention (2) (Y) Understanding the fundamental principles and techniques of safety and accident prevention in school, home, work, motor vehicle, and recreational situations.

HPE 233 Physical Education: Elementary (3) (S) Content and methods for physical education in elementary school. Selection, planning, teaching, evaluation of movement skills, and activities. Pre: Junior standing.

HPE 234 Care and Prevention of Athletic Injuries (3) (Y) Fundamentals in athletic training and sports medicine designed to introduce principles and concepts in prevention and treatment of sports-related injuries. Additional fees required.

HPE 263 Intramural Athletics (2) (Y) The organization, administration, and supervision of intramural sports programs in schools with emphasis on leadership, program content, facilities, scheduling, rules and regulations, promotion, financing, and evaluation.

HPE 294 Special Topics in Health and Physical Education (1-3) (IO) Topics chosen by instructors. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

HPE 299 Directed Studies (1-3) Statement of planned reading or research and consent of instructor required.

HPE 300 Psycho-social Aspects of Sport (3) (Y) The functions and dysfunctions of the sporting system will be examined from sociological perspectives. In addition, specific psychological constructs are presented in order to examine the relationship between environmental sources of influence and the individual's capacity for self-management in the sporting world.

HPE 306 Advanced Human Movement (3) (Y) The advanced skills necessary to understand the nature and function of human movement in every day life, sport, dance, physical education and adapted movement activities. Pre: HPE 206.

HPE 308 The Science Behind the Training of Athletes (3) (AY) Basic understanding of training theory and the physiological and biomechanical factors that determine muscle strength and conditioning progression, including timing in training, factors in exercise selection, and injury prevention.

HPE 310 Basic Motor Learning (3) (AY) Basic understanding of the principles of motor learning and performance in a variety of contexts including teaching, coaching, design of performer-friendly equipment and work environments, and everyday motor skill learning.

HPE 320 Drug Awareness (3) (S) For students interested in the prevention and treatment of victims of legal and illegal use, misuses, and abuse of drugs and related substances. Examines the problems and consequences of people who have to deal with this dilemma.

HPE 330 Applied Motor Learning (3) (AY) Applying the principles of motor learning in different contexts such as teaching, coaching, design of performer-friendly equipment and work environments, rehabilitation, and everyday motor skill learning. Developing of motor learning programs. Pre: HPE 310.

HPE 334 Advance Care and Prevention of Athletic Injuries (3) (Y) An in-depth understanding and appreciation of the prevention, management, and care of athletic injuries. Application of tape and braces for prevention and management of injuries and first aid and CPR certification will also be covered. Pre: HPE 234, BIOL 243-244 and BIOL 243-244L.

HPE 343 Musculoskeletal Anatomy (3) (Y) Basic understanding of human anatomy from the perspective of movement, with emphasis on the skeletal and muscular systems. Pre: BIOL 243-244 and BIOL 243L-244L.

HPE 344 Musculoskeletal Physiology (3) (S) Basic understanding of human musculoskeletal physiology from the perspective of internal function, with emphasis on aerobic and anaerobic metabolism during muscular function. Pre: HPE 343

HPE 348 Exercise Physiology (3) (Y) Basic understanding of human physiology and its response to exercise and adaptations to various types of training. Physiological systems are reviewed as they respond to acute bouts of exercise and long-term exposure to exercise. Pre: BIOL 125.

HPE 370 Sport Psychology (3) (Y) Survey of methods and findings in the application of psychological principles in sport. Topics include arousal and anxiety, cognitive processes, team performance, coaching behavior and techniques to maximize sports performance. (Same as PSY 370)

HPE 380 Applied Sport Psychology (3) (AY) Based on the principles of sport and exercise psychology. The course will focus on methods and programs applying sport psychology in the field of health and physical education to enhance performance, adhere people to physical exercise programs, and support the overall well-being. Pre: HPE/PSY 370.

HPE 394 Special Topics in Health and Physical Education (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: HPE 206.

HPE 399 Directed Studies (1-3) Statement of planned reading or research and consent of instructor required.

HPE 443 Adapted Physical Education (3) (Y) Understanding the basics of various disabilities, how to assess the physical and motor skills of the disabled and how to develop individualized activity programs for children and youth with disabilities. How to effectively relate and deal with public and private agencies will also be covered. Pre: HPE 206, 306, 343, 344.

HPE 494 Special Topics in Health and Physical Education (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: HPE 206 and junior standing.

HPE 499 Directed Studies (1-3) Statement of planned reading or research and consent of instructor required.

HISTORY (HIST)

College of Arts and Sciences

HIST 151, 152 World History (3/3) Yr. (Y/Y) History of the world from prehistoric origins to the present. HIST 151: prehistory to 1500; HIST 152: from 1500 to the present. Satisfies General Education World Cultures Requirement.

HIST 274 History of Hawaii (3) (Y) A survey course in the history of the Hawaiian Islands from Polynesian origins to contemporary multi-cultural society. Traces the impact of major events and historical figures upon Hawaiian society, and also considers the Hawaiian response to these changes.

HIST 300 Historical Methods (3) (Y) Methods of conducting historical research, including library, Internet, and archival research, in addition to an introduction to issues of professional historiography. Students will complete a wide variety of exercises designed to prepare them for the historical work of the major. Pre: Sophomore standing or consent of instructor.

HIST 309 History of Asian Religions (3) (AY) The historical development of Asian religious traditions from their origins to the present, with an emphasis on the major traditions of India, China, and Japan. Spring semester only. Pre: Sophomore standing or consent of instructor.

HIST 310 History of Japan I: Early Japan (3) (AY) Japanese history and culture from prehistory to the mid-17th century. Topics include: origins of Japanese people and culture; the Imperial state; contacts with China and Korea; aristocratic culture, particularly the role of women; the samurai class and the Shogunates; Buddhism and Shinto; late medieval disorder and development; unification and pacification. (Same as JPST 310) Pre: Sophomore standing or consent of instructor.

HIST 311 History of Japan II: Tokugawa to Meiji (3) (AY) Japanese history and culture from the 17th through 19th centuries. Topics include: samurai and the class system; political change, economic growth and social tensions; urban and rural evolution; popular culture and literature; Japan's isolation and reopening; collapse of the Tokugawa system; the Meiji Restoration; dissolution of the samurai class; social reorganization and rapid modernization; the Meiji Constitution and new Imperial state. (Same as JPST 311) Pre: Sophomore standing or consent of instructor.

HIST 312 History of China I: Early China (3) (AY) Chinese history and culture from prehistory through the Ming Dynasty. Topics include: Chinese philosophy, culture, religion, and literature; the Imperial State; family institutions; China's relationship with border societies; dynastic cycles and creative disorder; technology and economic change; education and the state examination system; Mongol invasion and empire; China's role in world trade. Pre: Sophomore standing or consent of instructor.

HIST 313 History of China II: Qing (3) (AY) Chinese history and culture from the 17th century through the fall of the Qing in 1912. Topics include: fall of the Ming and establishment of the Qing dynasty; Manchu-Han relations; economic growth and world trade; opium; international relations; reformers, reform movements, and uprisings; adapting Western ideas and technology; collapse of the Qing. Pre: Sophomore standing or consent of instructor.

HIST 314 History of Japan III: 20th Century to Present (3) (AY) Japanese history and culture from 1890 to present. Topics include: Meiji and 1947 constitutions; democracy and leadership; militarism and pacifism; evolving Imperial institution; economic growth and social change; tradition and modernity in Japanese culture; Japan's place in world systems and world culture. (Same as JPST 314) Pre: Sophomore standing or consent of instructor.

HIST 316 Pacific History I (3) (AY) Melanesia, Micronesia and Polynesia from pre-contact to 1900: Euro-American exploration, culture contact, and colonial annexation. Pre: Sophomore standing or consent of instructor.

HIST 317 Pacific History II (3) (AY) Melanesia, Micronesia and Polynesia from 1900 to the present: colonial exploitation, decolonization, independence and the search for identity in the contemporary world. Pre: Sophomore standing or consent of instructor.

HIST 318 History of China III: 20th Century to Present (3) (AY) Chinese history and culture from 1900 to present. Topics include: Fall of the Qing dynasty; Republic of China; warlordism; imperialism and Chinese resistance; Civil War; Communist reunification of the mainland; People's Republic under Mao Zedong; post-Mao Chinese economic reforms and leadership; Nationalist Taiwan's economic growth and slow democratization; international relations including overseas Chinese. Pre: Sophomore standing or consent of instructor.

HIST 319 European Women's History (3) (AY) Study of European women from pre-history through the 20th century with emphasis on women's social and cultural roles in western history. Current feminist theory is also studied. (Same as WS 319) Pre: Sophomore standing or consent of instructor.

HIST 321 History of Australia and New Zealand (3) (Y) Both Australia and New Zealand are part of the broader Pacific region, had colonies in the Pacific, and continue to have significant influence in the islands. This course examines the origin and nature of their indigenous populations, the evolving nature of their settler communities with Great Britain in the 19th century, and their development as independent nations in the 20th

century. Offered in Spring Semester only. Pre: Sophomore standing or consent of instructor.

HIST 322 The Bible and History (3) (AY) Selected books of the Old and New Testaments with reference to their historical and cultural background. Pre: Sophomore standing or consent of instructor.

HIST 323 Ancient Greece (3) (AY) Political, social, and cultural history of ancient Greece from the Minoan to Hellenistic periods. Pre: Sophomore standing or consent of instructor.

HIST 331 World War II in the Pacific Islands (3) (AY) A survey of the impact of World War II in the Pacific Islands. Topics covered include the Pacific Islands in the pre-war period, effects of the battles and presence of foreign forces on Pacific Island societies, resulting changes in colonial relationships, and the new strategic position of the Pacific Islands in the post-war period. Pre: Sophomore standing or consent of instructor.

HIST 332 Hawaiian Kingdom (3) (Y) History of Hawai`i from early migrations and settlement to the 1890's with emphasis on political and social history: formation of the Kingdom of Hawaii, changes in land tenure, disease and de-population issues, the 1893 overthrow of the monarchy, and annexation. Offered Fall semester only. Pre: Sophomore standing or consent of instructor.

HIST 333 Twentieth Century Hawaii (3) (Y) History of Hawaii since the overthrow of the monarchy in 1893, covering the Republic of Hawaii and the period under United States control—immigration, World War II, the labor movement and the red scare, Hawaiian renaissance, and the sovereignty movement. Offered Spring semester only. Pre: Sophomore standing or consent of instructor.

HIST 336 Disease and Medicine in 19th Century Hawaii (3) (Y) This course considers the role of health, disease, and medicine in 19th century Hawaii by bringing together the approaches of history and medical anthropology with the understandings of biomedicine. Perceptions of health, the body, and medicine, and the impact of epidemic diseases in Hawaii's cultural, social, and political history, from both Native Hawaiian and Western perspectives, are examined. Offered Spring semester only. Pre: Sophomore standing or consent of instructor.

HIST 340 History of Religion in America (3) (AY) A historical and thematic study of the growth of religion in America from the seventeenth century to the present. Pre: Sophomore standing or consent of instructor.

HIST 341 Ancient Rome (3) (AY) Political, cultural, and social history of ancient Rome from the Etruscans to 476 C.E. Pre: Sophomore standing or consent of instructor.

HIST 354 Introduction to Islamic History (3) (AY) A history of the growth and development of Islam from the time of Muhammad to the present. Special attention given to relationship of Islam to the history and religious traditions of Europe. Fall semester only. Pre: Sophomore standing or consent of instructor.

HIST 356 Medieval Europe (3) (AY) A survey of the social, intellectual, cultural, and political development of Europe from the fall of the Roman Empire to the late fifteenth century. Topics covered include feudalism, religion, the crusades, trade, epidemic disease, and warfare. Pre: Sophomore standing or consent of instructor.

HIST 357 Renaissance and Reformation (3) (AY) Political, social, intellectual, religious, and artistic development of the Renaissance and the Protestant and Catholic Reformations. Pre: Sophomore standing or consent of instructor.

HIST 359 Christianity and the Western Tradition (3) (AY) An introduction to the history and spirituality of Christianity and its relationship to the "Western Tradition" from its origins to the present. Fall semester only. Pre: Sophomore standing or consent of instructor.

HIST 360 American Women's History (3) (AY) Study of American women from the 17th through the 20th centuries. Special emphasis will be on women's social and cultural roles. Current feminist theory is also studied. (Same as WS 360) Pre: Sophomore standing or consent of instructor.

HIST 365 War and Empire in Eighteenth-Century Europe (3) (AY) A survey of the social, intellectual, cultural, and political development of Europe from the War of the Spanish Succession to the advent of the Napoleonic era. Topics covered include absolutism, Enlightenment, mercantilism, military conflict, and revolution. Pre: Sophomore standing or consent of instructor.

HIST 375 Europe in the Nineteenth Century (3) (AY) A survey of the social, intellectual, cultural, and political development of Europe from the Napoleonic era to the outbreak of the First World War. Topics covered include industrialization nationalism, socialism, liberalism, imperialism, warfare, and revolution. Pre: Sophomore standing or consent of instructor.

HIST 379 History of Entrepreneurship in America (3) (AY) The role of entrepreneurship in developing the American business system from its European origins to its current global manifestations and its future prospect. Focus on the value, characteristics, and practices of entrepreneur and on the changing relations over time between business, labor and government (Same as Mgt 379). Pre: Sophomore standing or consent of instructor.

HIST 380 United States: 1620-1789 (3) (AY) The political, social, and intellectual history of North America from the time of European contact until 1789. Topics include: Native American settlement and polity; European settlement; colonial America; causes and course of the American revolution; development of republican government; constitutional convention; ratification of the federal Constitution. Pre: Sophomore standing or consent of instructor.

HIST 381 United States: 1790-1865 (3) (AY) The political, social, and intellectual history of the United States from the Early National Period through the Civil War. Topics include: Marshall Court, market revolution and early industrialization, immigration, Jacksonian democracy, social reform movements, sectionalism, Mexican War, Civil War, emancipation. Pre: Sophomore standing or consent of instructor.

HIST 382 United States: 1866-1929 (3) (AY) The political, social, and intellectual history of the United States from Reconstruction through the Stock Market Crash of 1929. Topics include: key Supreme Court issues, Reconstruction, industrialization, immigration, racial tension, U.S. imperialism, Progressivism, World War I, economic change. Pre: Sophomore standing or consent of instructor.

HIST 383 United States: 1930-1980 (3) (AY) The political, social, and intellectual history of the United States from the Great Depression through the Carter presidency. Topics include: FDR's New Deal, World War II, Civil Rights Movement, Cold War, Kennedy's New Frontier, U.S. involvement in Vietnam, the Watergate crisis. Pre: Sophomore standing or consent of instructor.

HIST 385 Europe in the Era of World War I (3) (AY) A survey of the social, intellectual, cultural, and political development of Europe from the late nineteenth century to the interwar period. Topics covered include nationalism, imperialism, art, trade, culture and warfare. Special emphasis on World War I and its effect upon modern European development. Pre: Sophomore standing or consent of instructor.

HIST 392 Japanese Women (3) (AY) History of women in Japan from the earliest historical eras, including the Heian aristocracy and evolving samurai culture, through the present. Topics include property rights, family structures, the influence of religion and secular philosophies, effects of political and legal changes, women's role in the economy and its effect on their status and lives, and women's activism. (Same as JPST 392 and WS 392) Pre: Sophomore standing or consent of instructor.

HIST 394 Special Topics in History (3) (S) Advanced topics chosen by the instructor. The course content will vary. May be repeated for credit, provided that a different topic is studied: b) American, c) European, d) Asian, e) Pacific, h) Hawaiian. Pre: junior standing or consent of instructor.

HIST 395 Europe in the Era of World War II (3) (AY) A survey of the social, intellectual, cultural, and political development of Europe from the interwar period through the Cold War. Topics covered include the Depression, Fascism, totalitarianism, the Holocaust, the Cold War, and decolonization. Special emphasis on World War II and its effect upon modern European development. Pre: Sophomore standing or consent of instructor.

HIST 420 Mao (3) (IO) An in-depth investigation into the life, career, and legacy of Mao Zedong, China's dominant 20th century figure. Competing political and historical interpretations will be examined using biography, primary sources in translation, and secondary scholarship. Pre: Junior standing and previous coursework in Asian history or consent of instructor. Fall semester only. **NOTE:** Course begins in Fall, 2008.

HIST 425 History of Russia to 1700 (3) (AY) Development of Russian thought, institutions, society, and culture. Warfare, dynastic consolidation, and territorial expansion to 1700. Pre: One 300-level European survey course, or consent of instructor.

HIST 435 Russia Since Peter the Great (3) (AY) The development of Russian thought, society, government and institutions from 1700 to the Second World War. Special emphasis on Russian westernization and reform as they were encouraged or abandoned during the reigns of Russian leaders from Peter the Great through Stalin. Pre: One 300-level European survey course, or consent of instructor.

HIST 445 European Imperialism (3) (AY) The origins and development of European imperialism and its political, social, and environmental impact on the world. Special emphasis on the period from 1850 to the First World War. Pre: One 300-level European survey course, or consent of instructor.

HIST 455 European Intellectual History Since 1789 (3) (AY) Intellectual and cultural development of Europe since 1789. Ideas in the arts, philosophy, science, literature, and politics as they have affected Europe. Pre: One 300-level European survey course, or consent of instructor.

HIST 459 Germany Since Frederick the Great (3) (AY) Development of Germany since 1740 in political, social, and economic fields. Special emphasis on the growth of the Prussian state, German unification, the two World Wars and the rise of totalitarianism. Pre: One 300-level European survey course, or consent of instructor.

HIST 470 United States in the World 1865–2003 (3) (AY) U.S. expansion, imperialism, diplomacy, and foreign relations from 1865. Pre: 300-level US survey course, or consent of instructor.

HIST 471 U.S. Constitutional History (3) (AY) U.S. constitutional history including discussions of constitutional development, state sovereignty, civil liberties, freedom of contract, affirmative action, and the modern presidency. Pre: One 300-level US survey course, or consent of instructor.

HIST 481 Land and Sovereignty in the Pacific (3) (Y) Land is fundamental to traditional Pacific Island societies. Colonial rule meant a loss of both political sovereignty and, in many cases, significant amounts of land through private alienation and government acquisition. Using case studies, this course will investigate the historical relationship between land and sovereignty as Pacific people have sought to regain and maintain their independence.

HIST 485 Seminar in World History (3) (AY) Investigation and discussion of major issues and events in world history. May be applied to any track, depending on area of research. Pre: One 300-level history course or consent of instructor.

HIST 486 Women in Ancient European Civilization (3) (AY) Study of European women up to the year 800, with primary focus on the Mediterranean Basin. Themes encompass religion, social customs, and economic activities. Pre: One of the following 300-level courses (HIST 319, 323, 341, 356, or 360) or consent of instructor. Same as WS 486.

HIST 490 Historiography and Research Methods (3) (S) Course focuses on historiography and research methods in history, resulting in a research paper in the student's area of emphasis for the Senior Thesis. Required of all history majors. Pre: senior standing and HIST 300: Historical Methods or consent of instructor.

HIST 491 Senior Thesis (3) (S) Course focuses on the writing of a thesis paper on a topic in the student's area of emphasis. Required of history majors selecting the Thesis option. Recommended for students planning to enter graduate programs. Pre: HIST 490.

HIST 492 Senior Project (3) (Y) Application of historical knowledge and methods to community issues. Possible projects include historical society internships, collection of oral history, development of local historical materials, and cooperative projects with local schools. Pre: HIST 490 and consent of instructor. (offered every Spring)

HIST 494 Special Topics in History (1-3) (S) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. b) American, c) European, d) Asian, e) Pacific, h) Hawaiian. Pre: Junior standing and consent of instructor.

HIST 499 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

HORTICULTURE (HORT)

College of Agriculture, Forestry and Natural Resource Management

HORT 262 Principles of Horticulture (2 lec., 1 lab) (3) (S) Introduction to the various divisions of horticulture and the relationship of plants to environment. Plant structure and function. Opportunity for observation and practice of various horticultural technologies. Students are required to participate in a garden project.

HORT 263 Hydroponics (2 lec., 1 lab) (3) (Y) Introduction to circulating and non-circulating hydroponic methods. Students are required to participate in the construction and maintenance of a hydroponic system. Pre: HORT 262.

HORT 264 Plant Propagation (2 lec., 1 lab) (3) (Y) Seminal propagation; vegetative propagation by cuttings, grafting, budding, layering, division and separation. Propagating systems and plant tissue culture. Recommended: HORT 262.

HORT 266 Nursery Management (3 lec., 1 lab) (4) (Y) Horticultural and management practices involved in the operation of wholesale nurseries in Hawai'i with emphasis on production of tropical foliage plants. Practical laboratories will apply principles to cultivate crops. Excursions to various nurseries. Pre: HORT 262 or consent of instructor.

HORT 303 Introduction to Plant Tissue Culture (2 lec., 1 lab) (3) (S) Introduction to the basic concepts and principles of tissue culturing plants. Special emphasis will be placed on setting up a laboratory and other business concerns. Limited enrollment. Pre: HORT 262, CHEM 124 or consent of instructor; recommended: HORT 264.

HORT 304 Plant Tissue Culture Acclimatization (2 lec., 1 lab) (3) (Y) Discussion and application of methods employed to acclimate locally tissue cultured plants. Limited enrollment. Pre: HORT 262; recommended: HORT 303.

HORT 350 Tropical Landscape Horticulture (2 lec., 1 lab) (3) (Y) Identification of landscape plants; design, construction, installation, care and maintenance of landscapes. Limited enrollment. Pre: HORT 262 or BIOL 175.

HORT 351 Vegetable Crop Production (2 lec., 1 lab) (3) (Y) Vegetable cultural methods, postharvest handling method and marketing. Special emphasis will be placed on growing crops for market sales. Pre: HORT 262 or consent of instructor.

HORT 352 Tropical Fruit Production (2 lec., 1 lab) (3) (Y) History, botanical relationships, climatic relationships, culture, management, and marketing. Excursions to various fruit orchards. Pre: HORT 262 or consent of instructor.

HORT 354 Floriculture and Ornamental Production (3 lec., 1 lab) (4) (Y) Cultural and management practices in production of cut flowers and flowering pot plants. Major Hawaiian and mainland flower crops are considered. Visits to anthurium and other enterprises. Pre: HORT 262 or consent of instructor.

HORT 360 Orchid Culture (3 lec., 1 lab) (4) (Y) Systematics, anatomy, physiology, and breeding of orchids with emphasis on production of orchid plants and flowers. Practical laboratories will include culture from pollination to marketing and field trips to local orchid nurseries.

HORT 437 Structure of Tropical Plants (3 lec., 1 lab) (4) (AY) Plant structure in relation to cultural practices, functions, genetic factors and development. Pre: BIOL 175. (Same as BIOL 417)

HORT 450 Advanced Plant Tissue Culture (2 lec., 1 lab) (3) (S) Provides the student with hands-on experience in plant tissue culture techniques. Evaluative and diagnostic skills will be emphasized. Students will design and test techniques most appropriate for tissue culturing plant(s) of interest. Limited enrollment. Repeatable for a maximum of 6 credit hours. Pre: HORT 303.

HORT 451 Plant Improvement (2 lec., 1 lab) (3) (IO) Application of plant breeding techniques and methods of improving crops with special emphasis on Hawaiian plants.

HORT 460 Turfgrass Management (2 lec., 1 lab) (3) (IO) The selection, propagation, establishment and maintenance of turfgrasses with special emphasis on warm season turfgrasses. Limited enrollment. Pre: HORT 262.

HORT 471 Post Harvest Handling (2 lec., 1 lab) (3) (IO) Methods of handling, storing, and shipping of fresh horticultural commodities with emphasis on Hawaiian fruits, vegetables, and ornamental plants. Pre: HORT 262 and CHEM 124.

HORT 481 Weed Science (2 lec., 1 lab) (3) (Y) Classification, identification, and adaptation of weeds. Principles of weed control, including properties, use, and action of herbicides. Pre: HORT 262 or BIOL 175 and one year of chemistry.

INTERDISCIPLINARY STUDIES (IS)

College of Arts and Sciences

IS 199 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required.

IS 299 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

IS 393 Foreign Field Experience (Arr) (3-15) Academic coursework, research, or internship in foreign locations which may transfer into specific disciplines after its completion.
D = Denmark, E = England, F = France, H = Hong Kong, J = Japan, K = Korea, P = People's Republic of China, R = Republic of China (Taiwan), T = Thailand. Foreign field experiences are not limited to the countries listed. May be repeated for credit.

IS 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

JAPANESE (JPNS)

College of Arts and Sciences, Languages

Students who have demonstrated competence in Japanese in high school will not be admitted to JPNS 101 and must take a placement test before enrolling in a course in Japanese.

JPNS 101-102 Elementary Japanese (4-4) Yr. (S) Development of listening, speaking, reading, writing. Structural points introduced inductively. Laboratory drill. (Not more than four credits will be granted for the completion of both JPNS 101 and JPNS 121 at Hawai'i Community College.) (Same as JPST 101-102)

JPNS 201-202 Intermediate Japanese (4-4) Yr. (Y) Continuation of Japanese 102. More advanced colloquial structures and additional *kanji.* Pre: JPNS 102 or equivalent. (Same as JPST 201-202)

JPNS 299 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: sophomore standing.

JPNS 301-302 Third-Year Japanese (3-3) Yr. (Y) Study of modern spoken and written Japanese involving advanced structures, expressions, and *kanji.* Pre: JPNS 202 or equivalent. (Same as JPST 301-302)

JPNS 340 Japanese Composition (3) (AY) Writing compositions using designated patterns, *kanji,* and themes. Pre: JPNS 202 or equivalent. (Same as JPST 340)

JPNS 365 Japanese Literature in English (3) (AY) Survey of major works from earliest times to the present. Knowledge of Japanese is not required. (Same as ENG 365, JPST 365)

JPNS 394 Special Topics in Japanese (1-3) Advanced topics chosen by the instructor. Course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: junior standing and consent of the instructor.

JPNS 399 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: junior standing.

JPNS 401 Fourth-Year Japanese (3) Yr. (Y) Study of modern spoken and written Japanese involving advanced structures, expressions and additional *kanji.* Pre: JPNS 302 or equivalent. (Same as JPST 401)

JPNS 425 Translation Workshop (3) (AY) Theory and practice of translation of Japanese materials into English. Emphasis on literary translation, but non-literary texts may also be considered. Pre: JPNS 302 or consent of instructor. May be repeated once for credit. (Same as JPST 425)

JPNS 451-452 Structure of Japanese (3-3) Yr. (AY) Phonology, morphology, syntax of modern colloquial grammar. Pre: LING 102 and JPNS 202, or consent of instructor. (Same as LING 451-452, JPST 451-452)

JPNS 481 Readings in Modern Japanese Literature (3) Yr. (AY) Reading and discussion in Japanese of selected works of fiction, poetry, and drama. Pre: JPNS 302 or consent of instructor. May be repeated once for credit. (Same as JPST 481)

JPNS 499 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: senior standing.

JAPANESE STUDIES (JPST)

College of Arts and Sciences

JPST 101-102 Elementary Japanese (4-4) Yr. (Y) Development of listening, speaking, reading, writing. Structural points introduced inductively. Laboratory drill. (Not more than four credits will be granted for the completion of both JPNS 101 and JPNS 121 at Hawai'i Community College.) (Same as JPNS 101-102)

JPST 201-202 Intermediate Japanese (4-4) Yr. (Y) Continuation of JPNS 102. More advanced colloquial structures and *kanji.* Pre: JPNS 102 or equivalent. (Same as JPNS 201-202)

JPST 299 Directed Studies (1-3) (S) Permission of the instructor and statement of planned reading or research required. Pre: sophomore standing.

JPST 301-302 Third-Year Japanese (3-3) Yr. (Y) Study of modern spoken and written Japanese involving advanced structures, expressions, patterns, *kanji.* Pre: JPNS 202 or equivalent. (Same as JPNS 301-302)

JPST 310 History of Japan I: Early Japan (3) (AY) Japanese history and culture from prehistory to the mid-17th century. Topics include: origins of Japanese people and culture; the Imperial state; contacts with China and Korea; aristocratic culture, particularly the role of women; the samurai class and the Shogunates; Buddhism and Shinto; late medieval disorder and development; unification and pacification. (Same as HIST 310)

JPST 311 History of Japan II: Tokugawa to Meiji (3) (AY) Japanese history and culture from the 17th through 19th centuries. Topics include: samurai and the class system; political change, economic growth and social tensions; urban and rural evolution; popular culture and literature; Japan's isolation and reopening; collapse of the Tokugawa system; the Meiji Restoration; dissolution of the samurai class; social reorganization and rapid modernization; the Meiji Constitution and new Imperial state. (Same as HIST 311)

JPST 314 History of Japan III: 20th Century to Present (3) (AY) Japanese history and culture from 1890 to present. Topics include: Meiji and 1947 constitutions; democracy and leadership; militarism and pacifism; evolving Imperial institution; economic growth and social change; tradition and modernity in Japanese culture; Japan's place in world systems and world culture. (Same as HIST 314)

JPST 315 East Asian Religions (3) (AY) The development of Buddhism, Confucianism, Taoism, Shinto and folk religion in China, Korea and Japan. Pre: Junior standing or consent of instructor.

JPST 340 Japanese Composition (3) (AY) Writing compositions employing designated patterns, *kanji,* and themes. Pre: JPNS 202 or equivalent. (Same as JPNS 340)

JPST 353 Politics of Japan (3) (Y) Aspects of Japanese politics, emphasizing the post-1945 period. Topics include political development and change, the political economy of Japan, major political institutions and organizations, policy-making processes, and controversial political issues. (Same as POLS 353)

JPST 356 Japan (3) (Y) Culture origins and development with emphasis on contemporary Japanese culture. (Same as ANTH 356)

JPST 358 Japanese Immigrants (3) (Y) Examination of social and cultural adaptations of Japanese immigrant populations, with foci on Hawai'i and Brazil. Topics include the role of the Japanese government and emigration companies, the factors of generation, kinship, ethnicity, and contemporary Japanese migrants. (Same as ANTH 358)

JPST 365 Japanese Literature in English (3) (AY) Survey of major works from earliest times to the present. Knowledge of Japanese is not required. (Same as JPNS 365, ENG 365)

JPST 375 Japanese Music (3) (AY) Historical survey of traditional, contemporary, and Western-influenced music of Japan and study of major genres. No previous musical knowledge is required. Pre: junior standing or consent of instructor

JPST 380 Japanese Mythology in Film (3) (Y) Interdisciplinary approaches to the study of Japanese myths and legends through contemporary films; mythological contexts related to Taoism, Buddhism, Shintoism as well as superstitions and legends are examined in relation with selected films from Japan. Offered Spring semester only.

JPST 381 Art of Japan (3) (AY) The history of art in Japan with emphasis on Buddhist art, the relationships between Chinese and Japanese arts. No prerequisites necessary for juniors and seniors - others admitted by special permission. (Same as Art 381)

JPST 392 Japanese Women (3) (AY) History of women in Japan from the earliest historical eras, including the Heian aristocracy and evolving samurai culture, through the present. Topics include property rights, family structures, the influence of religion and secular philosophies, effects of political and legal changes, women's role in the economy and its effect on their status and lives, and women's activism. (Same as HIST 392 and WS 392)

JPST 394 Special Topics in Japanese Studies (1-3) Advanced topics chosen by the instructor. Course content will vary. May be repeated for credit, provided a different topic is studied. Pre: Junior standing and consent of instructor.

JPST 399 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: junior standing.

JPST 401 Fourth-Year Japanese (3) (IO) Study of modern spoken and written Japanese involving advanced structures, expressions and additional *kanji.* Pre: JPNS 302 or equivalent. (Same as JPNS 401)

JPST 425 Translation Workshop (3) (AY) Theory and practice of translation of Japanese materials into English. Emphasis on literary translation, but non-literary texts may also be considered. Pre: JPNS 302 or consent of instructor. May be repeated once for credit. (Same as JPNS 425)

JPST 430 Philosophy of Zen (3) (AY) Chief philosophical teachings of Zen, its methods and cultural influences. Comparative study of Zen and Western thought. Pre: previous work in philosophy or religious studies, or consent of instructor. PHIL 302 is recommended. (Same as PHIL 430)

JPST 450 Mahayana Buddhist Philosophy (3) (AY) Important tenets and major schools of Mahayana Buddhist philosophy in India, China, Japan, Tibet, and Hawai'i. Comparative study of Mahayana and Western philosophy. Pre: previous work in philosophy, religious studies, or consent of instructor. PHIL 302 is recommended. (Same as PHIL 450)

JPST 451-452 Structure of Japanese (3-3) Yr. (AY) Phonology, morphology, syntax of modern colloquial grammar. Pre: LING 102 and JPNS 202, or consent of instructor. (Same as LING 451-452, JPNS 451-452)

JPST 457 Japanese Culture and Communication (3) (AY) This course explores aspects of Japanese communication from cross-cultural perspectives and examines problems in intercultural interactions between Japanese and non-Japanese. Offered Spring Semester only. Same as COM 457.

JPST 481 Readings in Modern Japanese Literature (3) (IO) Reading and discussion in Japanese of selected works of fiction, poetry, and drama. Pre: JPNS 302 or consent of instructor. May be repeated once for credit. (Same as JPNS 481)

JPST 494 Special Topics in Japanese Studies (3) (IO) Advanced topics selected by the faculty in Japanese Studies.

JPST 499 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: senior standing.

KE'ELIKŌLANI ANTHROPOLOGY, EDUCATION & INDIGENOUS STUDIES

Built upon a core commitment to Hawaiian language and culture education, Ka Haka 'Ula O Ke'elikōlani provides courses that also address the broader world of indigenous peoples and the use of Hawaiian as an official medium of education for the State of Hawai'i. Courses other than Hawaiian language (HAW) and Hawaiian Studies (HWST) are marked with an initial K (for Ke'elikōlani) followed by an appropriate alpha, e.g. IND (Indigenous Studies), ANT (Anthropology), ED (Education), etc.

KANT 486 Hawaiian Culture Before 1819 (3) (Y) Hawaiian culture before the 1819 overthrow of the native Hawaiian religion; fishing and farming, political-economic organization and religion. Emphasis on early Hawaiian writers: Malo, Kamakau and 'I'i. Conducted in Hawaiian. Pre: ANTH 100 or HWST 111, or consent of instructor. See ANTH 386.

KED 451 Hawaiian Medium Field Experience I (9) Practical experience and application of teaching methods and strategies in content areas in Hawaiian medium schools. Must be taken credit/no credit. Conducted in Hawaiian. Pre: completion of KED 351, 352, 353, 354, 355; concurrent enrollment in KED 452 and permission from the Division.

KED 452 Hawaiian Medium Field Experience I Seminar (3) Problems in application of theory in the delivery of instruction in Hawaiian medium classrooms. The interface between the Hawaiian medium and English medium classrooms of an individual school. Must be taken credit/no credit. Conducted in Hawaiian. Pre: concurrent registration in KED 451 and permission from the Division.

KED 453 Hawaiian Medium Field Experience II (9) Supervised teaching in Hawaiian medium schools. Must be taken credit/no credit. Conducted in Hawaiian. Pre: concurrent registration in KED 454 and permission from the Division.

KED 454 Hawaiian Medium Field Experience II Seminar (3) Issues in the delivery, administration, and support of Hawaiian medium education. Must be taken credit/no credit. Conducted in Hawaiian. Pre: concurrent registration in KED 454 and permission from the Division.

KED 460 Cooperating Teacher Seminar in a Mauli Ola Setting (2) Indigenous teacher education issues for providing effective professional leadership for new teachers. Content focuses on teacher development and support strategies, assessment of performance, and conducting effective conferences for the student teacher. Must be taken credit/no credit. Conducted in Hawaiian. Pre: teaching license with a minimum of one year Hawaiian language immersion, Hawaiian studies, or Hawaiian language teaching experience; minimum of three years college-level Hawaiian language course work; and permission from the Division.

KED 463 Substitute Teacher Seminar for a Mauli Ola Setting (1) Preparation to teach in a Hawaiian medium environment as a substitute teacher. Content includes the completion of Hawai'i State requirements for substitute teacher certification, basic classroom management, lesson design and delivery, learning and implementation of policies and procedures to be employed as a substitute in Hawai'I's DOE schools. Must be taken credit/no credit. Conducted in Hawaiian. Offered in summer.

KED 464 Mauli Ola Approaches to Learning and Teaching (4) A systematic approach to develop, implement, and assess culture-based learning and teaching for the mauli ola environment. Content includes understanding of the natural learning cycle; lesson design and delivery; application, alignment, infusion, and assessment of standards; and curriculum cohesiveness. Conducted in Hawaiian.

KED 470 Foundations for Hawaiian Medium Education (3) Goals of Hawaiian medium education and their cultural, philosophical, historical, and legal bases. Basic tools for planning, developing, delivering, and evaluating instruction of Hawaiian-speaking children, including techniques for management and age-appropriate development from a Hawaiian cultural base. Conducted in Hawaiian. Pre: permission from division.

KED 471 Language Arts in Hawaiian Medium Education (3) Literacy in Hawaiian and associated comprehension and speaking skills. Teaching other languages, including English, to Hawaiian-literate students. Use and teaching of oral and written literature in dramatized presentations. Conducted in Hawaiian. Pre: permission from the Division.

KED 472 Math and Science in Hawaiian Medium Education (2) Mathematical and scientific concepts within a Hawaiian cultural and environmental framework. Techniques for teaching content, problem solving, and critical thinking to Hawaiian-speaking children. Conducted in Hawaiian. Pre: permission from the Division.

KED 473 Social Studies in Hawaiian Medium Education (2) Major global and local social processes that affect the lives of Hawaiian-speaking children and their families. Integration of social studies and practical arts with a Hawaiian historical and cultural perspective. Conducted in Hawaiian. Pre: permission from the Division.

KED 474 Technology, Arts, and Physical Education in Hawaiian Medium Education (3) Group and individual expression to convey thoughts and emotions through various media including music, fine arts, dance, multimedia technology and communications, and physical education. Understanding and appreciation of such expressions and their integration in Hawaiian tradition. Conducted in Hawaiian. Pre: permission from the Division.

KIND 240 Culture Revitalization Movements (3) (Y) Efforts throughout the world to preserve the linguistic and cultural distinctiveness of indigenous and regional minorities. The interrelationship of such efforts with political, cultural, educational, and economic structures. Focus on comparison of other movements with that of Hawai'i. (When followed by H, taught through Hawaiian.)

LINGUISTICS (LING)

College of Arts and Sciences

LING 102 Introduction to Linguistics (3) (Y) A broad introduction to general linguistics: survey of phonology, morphological, syntactic, and semantic analysis, and historical and comparative linguistics. (Formerly LING/ENG 203).

LING 121 Introduction to Language (3) (S) Linguistically oriented approaches to human behavior, including ethnolinguistics, sociolinguistics, and psycholinguistics. The way language functions in culture, society, and the cognitive processes. (Same as ANTH 121)

LING 299 Directed Studies (1-3) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

LING 311 Phonetics and Phonology (3) (AY) Provides a conceptual framework and practical skills to engage in work in phonetics and phonology. Course includes training in the production and perception of speech sounds, as well as the physiological and acoustic description of them. Students learn IPA transcription symbols and practice analyzing phonological data based on the languages of the world. Pre: LING 102 or 121 or consent of instructor.

LING 320 History of the English Language (3) (AY) The major developments in the English language from the 5th century to the present day. Pre: ENG/ESL 100, LING 102 or LING 121,or consent of instructor. (Same as ENG 320)

LING 321 Morphology and Syntax (3) (IO) Introduction to grammatical analysis and theory; practical experience in solving problems in morphology and syntax, using data drawn from a wide variety of languages. Pre: LING 102 or consent of instructor. (Same as ANTH 321, ENG 321)

LING 324 Modern English Grammar and Usage (3) (IO) The fundamentals of English morphology and syntax, conventions of written and spoken English, and sociolinguistic aspects of major English registers and dialects. Pre: ENG/ESL 100, LING 102 or LING 121, or consent of instructor. (Same as ENG 324)

LING 331 Language in Culture and Society (3) (AY) An examination of the articulation of language in social and cultural context, including topics relevant to sociolinguistics and ethnolinguistics. Pre: ANTH/LING 121 or LING 102 or consent of instructor. (Same as ANTH 331)

LING 333 Psycholinguistics (3) (AY) Theory and method in the investigation of the relationship between language and cognition, first- and second-language acquisition, speech pathologies. Pre: LING 102, PSY 100 or consent of instructor. (Same as PSY 333)

LING 344 Children and Language (3) (AY) Strategies of language acquisition used by children; emphasis on investigative skills and methods, including some field work. Recommended prerequisite: LING 102 or LING 121. (Same as ENG 344)

LING 345 Historical and Comparative Linguistics (3) (Y) This course provides an introduction to the principles of historical linguistics beginning with a survey of the features of the world's language families. A problem-solving approach is adopted as students learn the comparative method of reconstruction and actually engage in the linguistic reconstruction of protolanguages. Offered Fall semester only, beginning Fall, 2007.

LING 347 Pidgins and Creoles (3) (Y) A study of the world's pidgins and creole with special reference to the Pacific region; the origin and nature of pidgins and creoles; the relationship of Hawaiian Creole English to other creoles in the world; the link between the development of a creole and language acquisition. (Same as ANTH 347, ENG 347; recommended LING 102 or 121)

LING 350 Second Language Acquisition Theory (3) (AY) Current research and theories of learning a second language or additional language from social, psychological and linguistic perspectives. Topics include the attainment of communicative competence, the critical period hypothesis, focus on form, individual learning styles, and learner autonomy. The emphasis is on how the knowledge of second language acquisition theory helps improve the quality of classroom language teaching. Pre: LING 102 or consent of instructor. (Same as ENG 350)

LING 351 Methodology of Foreign Language Teaching (3) (IO) Foreign language teaching and learning from the perspectives of theory and practice. The application of modern linguistics to specific problems confronting the teacher. Pre: LING 102 or consent of instructor.

LING 356 Language and Gender (3) (AY) Students engage in the analysis of gender as it relates to language and society. Provides students with analytic resources for thinking critically about the relationship between language and social practice. Students gather and analyze data based on current theories. Pre: ENG 100/ESL 100 and LING 102 or consent of instructor. (Same as WS 356, ENG 356)

LING 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: Junior standing and consent of instructor.

LING 410 Semantics and Pragmatics (3) (IO) Introduction to the fundamentals and modern theories of meaning, reference and the relations between language and knowledge of the world. Ways in which the interpretation of sentences in natural languages depends upon the literal meaning of propositions and their logical (semantic) and contextual (pragmatic) inferences. Pre: LING 102 or consent of instructor.

LING 451-452 Structure of Japanese (3-3) Yr. (AY) Phonology, morphology, syntax of modern colloquial grammar. Pre: LING 102 and JPNS 202 or consent of instructor. (Same as JPNS and JPST 451-452)

LING 453 Hawaiian Phonetics and Phonology (3) (AY) Sound system of the Hawaiian language. Stylistic and regional variation. Interaction of the Hawaiian sound system with the sound systems of other languages, especially that of English. Conducted in Hawaiian. Pre: HAW 202, which may be taken concurrently, or equivalent; LING 102, LING 211, LING 311 recommended. (Same as HAW 453)

LING 454 Hawaiian Morphology and Syntax (3) (AY) Grammatical system of the Hawaiian language. Conducted in Hawaiian. Pre: HAW 202, which may be taken concurrently, or equivalent; LING 102 recommended. (Same as HAW 454)

LING 455 Hawaiian: A Polynesian Language (3) (AY) The similarities and differences among Polynesian languages and the reconstruction of their common ancestor language. The development of Hawaiian from that common ancestor. Conducted in Hawaiian. Pre: HAW 303, which may be taken concurrently, and HAW 453 or LING 102; HAW 454, LING 371 recommended. (Same as HAW 455)

LING 494 Special Topics in Linguistics (1-3) (IO) Advanced topics chosen by the instructor. Course content varies from semester to semester and the course may be repeated for credit, provided that a different topic is studied. Pre: junior or senior standing and consent of instructor.

LING 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

MANAGEMENT (MGT)

College of Business and Economics

MGT 235 Planning, Process and Structure in Electronic Business (3) (AY) Issues in the management of businesses intending to engage in electronic commerce (EC). Topics include the forms, structures, internal processes, and organizational behaviors likely to be exhibited by e-businesses, and how e-businesses may differ from traditional businesses in these respects. Case studies will be used extensively to explore these issues. Also examined are startup and planning requirements for EC managers and entrepreneurs (netpreneurs).

MGT 300 Management, Organizations and Human Behavior (3) (S) Survey of classical and modern management theory and practice. Management implications of organization theory. Basic concepts in work motivation, communication, group dynamics, leadership, organizational change, conflict, personality, and leadership. Pre: Admission to Professional Business Program, COM 251 and ENG 209.

MGT 330 Human Resource Management (3) (Y) The contemporary theory and practice relating to the management of human resources: recruiting, selection, psychological testing, interviewing, job evaluation, performance review, training and development, wage and salary administration, benefit and service programs, and labor-management relations. Pre: Admission to Professional Business Program, MGT 300 and junior standing.

MGT 332 Organizational Behavior and Management (3) (Y) The human relations movement; basic concepts in behavior pertaining to organizations including personality, motivation, leadership, communication, change, conflict, and group dynamics. Course includes the relationship of these concepts to performance, job satisfaction and organizational commitment. Pre: Admission to Professional Business Program, COM 251 and ENG 209.

MGT 333 International Business Management (3) (S) Provides a systematic introduction to international business management, drawing examples from Pacific Rim business and commerce. Course introduces multinational marketing and international aspects of personnel management, plus introductory material on international business financial transactions. Pre: Admission to Professional Business Program, ECON 131 and MGT 300.

MGT 379 History of Entrepreneurship in America (3) (AY) The role of entrepreneurship in developing the American business system from its European origins to its current global manifestations and its future prospects. Focus on the values, characteristics, and practices of entrepreneurs and on the changing relations over time between business labor and government. (Same as HIST 379)

MGT 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, junior standing and consent of instructor.

MGT 423 Business and Society (3) (S) Impact of business on society and the impact of the societal environment on business operations and decision making. Pre: Admission to Professional Business Program, BUS 240 and MGT 300 or consent of instructor. (PHIL 323 may be substituted for this course in the professional core.)

MGT 425 Business Planning for New Ventures (3) (Y) Development of a business plan for a new venture with attention to form of business organization; competitive advantage; accounting systems and controls; financial, marketing, human relations, operations and risk management; government regulation and compliance; social responsibility. Identification of sponsors and sources of help for small business. Pre: Admission to Professional Business Program, COM 251, ENG 209 and ECON 130 or BUS 100.

MGT 430 Labor Relations and Collective Bargaining (3) (AY) History, structure, current state, and future of organized labor in the U.S. Legal issues surrounding collective bargaining and labor agreements. Processes of collective bargaining and labor contract administration. Grievance systems, arbitration, and other forms of dispute resolution. Economic issues under collective bargaining. Pre: Admission to Professional Business Program, MGT 300.

MGT 490 Strategic Management (3) (S) Integrative capstone course using concepts of strategy formulation, competitive analysis, and strategy implementation as models for problem solving and decision making in an organizational setting. Computer software applications are used to aid in comprehensive case analysis. Pre: Admission to Professional Business Program, MGT 300, MKT 310, FIN 320, QBA 361 and senior standing.

MGT 491 Small Business Consulting (3) (AY) Development of a consulting report for a local small business. Student is assigned to a consulting team and a local small business or community organization. Each consulting team will produce a consulting report that identifies major issues facing the client organization and an action plan designed to address these issues and improve competitive position. In addition to the written report, each team is required to make an oral presentation of findings. Compliance with a binding non-disclosure agreement is required. Pre: Admission to Professional Business Program, MGT 300, MKT 310, FIN 320, QBA 361 and senior standing.

MGT 494 Special Topics in Management (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program, varies with topic.

MGT 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

MARINE SCIENCE (MARE)

College of Arts and Sciences

MARE 100 Marine Option Program Seminar (1) (Y) Orientation to the Marine Option Program with statewide overview of ocean issues and the organizations involved with marine activities, management, education, research and business. Exploration of opportunities for internships, research projects, independent study and careers. Portions on HITS with participation of students and faculty from throughout the UH system. CR/NC only.

MARE 101L Introduction to Marine Science Field Laboratory (2) (Y) (Summer Only) A basic introduction to field techniques in marine science including: the use of marine charts, measuring bathymetry, marine sediment sampling, techniques for measuring salinity, temperature, and ocean circulation, plankton sampling and identification, marine fishes and invertebrates, and marine wildlife management techniques used in tagging sea turtles. Field trips required.

MARE 110 Current Issues in Marine Science (3) (S) Introduction to marine science via the controversies and problems facing our ocean environment. Topics may include coastal population growth, sonar, fisheries, dolphin-safe tuna, cruise ship waste, global warming, mercury in fish, beach erosion, alien species, and coral reef decline. **Designed for non-majors. This course satisfies CAS general education requirements in the Natural Sciences.**

MARE 156 Natural History & Conservation - Hawaiian Islands (3) (Y) The formation of the Hawaiian Islands, establishment of their native terrestrial and marine flora and fauna, and human impacts and conservation. (Same as BIOL 156)

MARE 156L Natural History Field Trips (1) (Y) Field trips for Natural History and Conservation Hawaiian Islands. (Same as BIOL 156L)

MARE 171 Marine Biology (3) (S) Marine organisms: classification, structure, physiology, ecology and adaptations to the marine environment. This course satisfies CAS general education requirements in the Natural Sciences. Pre: Two high school or college science courses, or consent of instructor. (Same as BIOL 171)

MARE 171L Marine Biology Laboratory (1) (S) Provides students with direct exposure to the biota of Hawai'i via laboratory work and field trips to sites around Hilo. The course focuses on the identification, natural history, and ecology of common marine organisms. Pre: current or previous enrollment in BIOL/MARE 171. (Same as BIOL 171L)

MARE 190 Hawaiian Marine Field Experience (2) (Y) (Summer Only) Provides a unique opportunity for students to experience the marine environment of the Big Island. Course consists of field trips to coastal and underwater sites around the island. Some swimming and snorkeling involved but not required. (Same as BIOL 190)

MARE 194 (A-Z) Special Topics in Marine Science (1-3) (S) Topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is chosen. Pre: Varies with topic.

MARE 201 Oceanography (3) (S) Geological, chemical, physical and biological aspects of the ocean; structure, formation, and features of ocean basins; seawater's properties and their distribution; currents, waves, tides; characteristics of marine organisms; marine ecological principles. Pre: Two high school or college science courses recommended.

MARE 201L Oceanography Laboratory (2) (S) The basic techniques of oceanography including: marine charts and navigation, bathymetry, marine sediments, techniques for measuring salinity, temperature, dissolved oxygen, and surface and deep circulation, light and sound in seawater, wave dynamics, tides, plankton sampling and identification. In-class field trips required. Pre: concurrent or previous enrollment in MARE 201.

MARE 250 Statistical Applications in Marine Science (3) (S) Hands-on approach to the design of field experiments, collection of ecological data, analysis of data on microcomputers using statistical methods, and presentation of results. Requires completion of an independent project using data collected in the field followed by the preparation of both written and oral reports. Pre: MARE/BIOL 171 or MARE 201; and CS 102 or placement by exam, or consent of instructor. (Same as BIOL 250)

MARE 262 Introduction to Aquaculture (2 lec., 1 lab) (3) (Y) (Aquaculture 262, College of Agriculture, may be taken for marine science credit as MARE 262). Discussion of the biological, physicochemical and economic aspects of aquaculture, including a survey of the culture techniques of cultured species of finfish, shellfish, lower invertebrates and algae. Pre: MARE 171 or college level biology class.

MARE 264 Quantitative Underwater Ecological Survey Techniques (QUEST) (3) (Y) Summer Only) The application of commonly utilized nearshore underwater ecological surveying techniques using SCUBA. Intensive two-week course combining lecture and field work. Data will be collected in the field, reduced, analyzed and presented in an oral report. Pre: authorization as a scientific diver in training before start of course, and consent of instructor.

MARE 265 Marine Ecology and Evolution (3) (S) Principles of ecology and evolution for Marine Science majors stressing integrated approach and recent advances. Topics include but are not limited to evolutionary mechanisms, macroevolution, systematics and origin of life, population and community ecology and ecological processes, marine communities, dispersal, biodiversity, and biogeography. Pre: MARE 171/171L and MARE 201 or consent of instructor.

MARE 282 Global Change (3) (Y) Principal components of global change and impacts on the marine environment. Course focuses on the interdisciplinary nature of global change and interrelationships to biological, physical, anthropological, economic, and political concepts. Pre: college-level science course.

MARE 282L Global Change Laboratory (1) (IO) Elements of global change in the physical, chemical and biological properties of the Hawaiian Islands using laboratory exercises and field trips. Involves shipboard water sampling and analysis, snorkeling on coral reefs, and hiking in rain forests. Pre: previous or concurrent enrollment in MARE 282.

MARE 294 Special Topics in Marine Science (1-3) (S) (Summer) Topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is chosen. Pre: Varies with the topic.

MARE 299V Directed Studies (1-3) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

MARE 301L Advanced Oceanography Laboratory (2) (Y) (Summer Only) Analysis of mero/holoplanktonic composition and density in east Hawaiian waters, *in situ* quantification of piscine agonistic and feeding behavior, territory mapping using a common herbivorous pomacentrid fish, sea turtle population evaluation via Schnabel analysis, use of satellite-based navigation systems, computer controlled bathymetric profiling, marine sedimentation and turbidity monitoring, thermohaline circulation profiling by CTD, Eulerian and Lagrangian techniques.

MARE 310 The Atoll Ecosystem (3) (Y) Formation, structure, distribution, oceanography, biota and ecology of atolls. Human interactions, historical and modern, with atoll ecosystems. Atoll resource management issues and actions. Pre: MARE/BIOL 171, MARE 201, or BIOL 156 or consent of instructor.

MARE 325 Coral Reef Ecology (3) (Y) Provides a background in evolutionary and natural history of tropical reefs, coral reef community structure and interactions, and coral reel ecosystem processes/functions. Student will learn ecology of Hawaiian and global coral reefs. Student will review information on the increasingly important conservation issues related to tropical reef systems and review present management strategies employed. Pre: MARE 265 or consent of instructor. Offered in Spring Semester only.

MARE 350 Coastal Methods and Analyses (3) (Y) Planning of field and laboratory data collection and experimentation in the coastal environment. Course covers hypothesis development, experimental design, statistical analyses of data, data interpretation, scientific writing, and presentations. Pre: Junior standing; BIOL/MARE 250; MARE 201; MARE 265; CHEM 125. Must be taken concurrently with MARE 350L. Offered Fall Semester only.

MARE 350L Coastal Methods and Analyses Lab (2) (Y) Implementation of field and laboratory data collection and experimentation in the coastal environment. Techniques include measuring geological, chemical, and physical coastal properties; estimating the abundance and diversity of plankton, nekton, and benthos; and use of modern data recording and analyzing systems. Pre: Junior standing; BIO/MARE 250, CHEM 125, MARE 201, MARE 265. Must be taken concurrently with MARE 350. Offered Fall semester only.

MARE 353 Pelagic Methods and Analyses (3) (Y) Planning of field and laboratory data collection and experimentation in the neritic and pelagic marine environment from an oceanographic vessel platform. Course covers hypothesis Course covers hypothesis development, experimental design, statistical analyses of data, data interpretation, scientific writing, and presentations. Pre: Junior standing; MARE 201, BIOL/MARE 250; MARE 265; CHEM 125. Must be taken concurrently with MARE 353L. Offered Spring Semester only.

MARE 353L Pelagic Methods and Analyses Lab (2) (Y) Implementation of field and laboratory data collection, and experimentation in the neritic and pelagic marine environment from an oceanographic vessel platform. Techniques include measuring geological, chemical, and physical proper-

ties; estimating the abundance and diversity of plankton, nekton, and benthos; and use of modern data recording and analyzing systems. Pre: Junior standing; MARE 201, BIOL/MARE 250; MARE 265; CHEM 125. Must be taken concurrently with MARE 353L. Offered Spring Semester only.

MARE 360 Marine Resources (3) (IO) A survey of human use of the marine environment including physical and biological resources. Topics covered include: fisheries, mariculture, marine mineral and energy resources, chemical resources of sea water, the use of coastal lands and waste disposal in the sea. Pre: MARE 201 or BIOL/MARE 171, or consent of instructor. (Same as BIOL 360)

MARE 364 Advanced QUEST (3) (Y) (Summer Only) Students lead a dive team learning underwater ecological surveying techniques; supervise field data collection, data reduction and analysis, and team presentation of written and oral reports; and assist in training students in identification of marine organisms. Pre: BIOL?MARE 264, authorization as a scientific diver in training before start of course, and consent of instructor. Students receive CR/NC for the course. as

MARE 366 Tropical Marine Research Investigations (3) (Y) (Summer Only) Research projects on marine-related problems. Students will do a literature search; develop experimental design; collect, reduce and analyze data; do a written final report; and present findings at a symposium. Projects will be selected from a list of topics or can be original with the consent of the instructor. Pre: consent of instructor. (Same as BIOL 366)

MARE 371 Biology of Marine Invertebrates (3) (Y) A survey of the major groups of invertebrates focusing on those dominant in the marine environment. Students will learn methods used to identify and classify invertebrates and will survey the anatomy, physiology, and natural history of the major groups. Pre: MARE 265 or BIOL 176 or their equivalent, concurrent enrollment in MARE 371L. (Same as BIOL 371)

MARE 371L Biology of Marine Invertebrates Laboratory (1) (Y) Direct exposure to the major groups of invertebrates in the marine environment, focusing on those present in Hawai'i. Students will learn to identify and classify invertebrates and will survey the anatomy and natural history of the major groups. Pre: concurrent or previous enrollment in BIOL/MARE 371. (Same as BIOL 371L)

MARE 372 Biology of Marine Plants (3) (Y) Diversity, distribution and ecology of marine macroalgae and seagrasses. Students will learn methods to identify common marine plants of the Hawaiian Islands and the tropical Pacific. Marine plants and their relation to human affairs will be discussed. Pre: MARE/BIOL 171 or BIOL 175 or consent of instructor; concurrent enrollment in MARE 372L. Offered in Spring Semester only.

MARE 372L Biology of Marine Plants Laboratory (1) (Y) Laboratory activities relating to the taxonomy, biology, chemistry, physiology, and human uses of seaweeds and seagrasses. Includes field trips. Pre: Concurrent enrollment in MARE 372. Offered in Spring Semester only.

MARE 390 Biology of Marine Mammals (3) (Summer) Comprehensive investigation of a diverse group of highly adapted marine vertebrates. Whales, dolphins, porpoises, seals, sea lions, walruses, manatees, dugongs, sea otters, and polar bears will be covered. Focus will be on taxonomy, anatomy and physiology, behavior, reproductive ecology, adaptations to the marine environment, and conservation and management. Pre: MARE 171 or consent of instructor.

MARE 390L Biology of Marine Mammals Laboratory (1) (Summer) Field and lab techniques employed by professional marine mammal biologists including shore and boat-based surveys, photo-identification, and acoustic sampling. Investigations will focus on local species of marine mammals. Pre: Concurrent or previous enrollment in MARE 390.

MARE 394 Special Topics in Marine Science (1-3) (S) (Summer) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is chosen. Pre: Varies with topic.

MARE 399V Directed Studies (1-3) Statement of planned reading and research required. Pre: junior standing and consent of instructor.

MARE 400 Aquacultural Engineering (3 lec., 1 lab) (4) (Y) Principles of site selection, design and construction of aquaculture systems. Pre: AQUA 262 or consent of instructor. (Same as AGEN 400)

MARE 420 Water Quality and Aquatic Productivity (2 lec., 1 lab) (3) (Y) Study of water quality and aquatic productivity as it relates to aquaculture and fisheries. Pre: CHEM 124 or consent of instructor. (Same as BIOL 425 or AQUA 425)

MARE 425 Chemical Oceanography (3) (Y) Chemical processes occurring in marine and estuarine waters and their impact on the nearshore and oceanic environments. Topics include: salinity, chlorinity, major and minor elements, and dissolved gasses in seawater; macro and micronutrients, dissolved and particulate organic matter; geochemistry of marine sediments; and radiometric dating and stable isotopes as water mass tracers. Pre: CHEM 125, MARE 201.

MARE 434 Teaching Marine Science (3) (AY) Marine science concepts and teaching strategies for pre-service and inservice teachers. Includes geological, chemical, physical and biological topics. Pre: MARE/BIOL 171, MARE 201, and MARE 265.

MARE 435 Marine Field Experience for Teachers (3) (AY) Training for pre-service and inservice teachers in marine science field experiences content and strategies. Includes geological, chemical, physical and biological topics. Pre: MARE/BIOL 171, MARE 201, and MARE 265..

MARE 440 Physical Oceanography (3) (Y) Topics in physical oceanography include: distribution of water characteristics in the ocean; dynamics of circulation and water masses; wave characteristics including formation, propagation, dispersion and refraction; dynamic and equilibrium theories of tides as well as tsunami, seiche, and internal waves; sound and optics; and the latest methods and instrumentation in physical oceanography. Pre: PHYS 107, MARE 201.

MARE 444 Biological Oceanography (3) (Y) This course focuses on the interaction of phytoplankton, zooplankton, and pelagic organisms in the open ocean environment. Students will learn aspects of plankton taxonomy, physiology, and pelagic population dynamics. Students will survey the current research status of the field using primary literature. The student's knowledge will then be applied to the study of local and global productivity and trophodynamics. Pre: Junior standing and MARE 265 and CHEM 125, or consent of instructor.

MARE 450 Aquaculture Production Techniques (3) (Y) Theory and practice of aquaculture techniques: identification; reproduction; hatchery and nursery operations; grow-out; health management; harvest and marketing. Pre: AQUA 262 or aquatic ecology or consent of instructor. (Same as AQUA 450)

MARE 450L Aquaculture Production Techniques Laboratory (1) (Y) Hands-on experience in hatchery, nursery and grow-out of algae, molluscs, crustaceans, and fish. Includes field trips. Pre: AQUA 450 or concurrent enrollment in AQUA 450 or consent of instructor. (Same as AQUA 450L)

MARE 460 Marine Conservation (3) (Y) Concepts and issues in marine conservation ecology and marine resource management. Topics include resource exploitation, invasive species, eutrophication, marine pollution, and global climate change. Ecological impacts of resource depletion, environmental modification, and biodiversity loss will be discussed along with methods used to address impacts. Pre: MARE 265 or consent of instructor. Fall Semester only.

MARE 461 Geological Oceanography (3) (Y) A detailed study of the ocean floor to include marine stratigraphy, plate tectonics, oceanic sediments and paleoceanography. Pre: MARE 201, GEOL 111, and one of CHEM 124, 125 or MARE 440; or consent of instructor.

MARE 465 Marine Molecular Ecology (3) (Y) Ecology of marine organisms revealed by molecular biological techniques. General exposure to ways in which molecular genetic tools are used to analyze marine organism population structure, biodiversity, phylogeography, evolution, and responses to the changing environment. Pre: MARE 171, BIOL 125, BIOL 357 and 357L or consent of instructor. Offered Fall semester only.

MARE 470 Senior Thesis Research (3) (Y) Practical experience in designing and completing a marine-related research project. Students will submit project proposals for evaluation and approval. Once approved, students will do a thorough literature review, develop an experimental design, and collect and record data, and present preliminary results. Pre: MARE 265; MARE 350 or MARE 353; and ENG 225 or consent of the instructor.

MARE 471 Senior Thesis Report (3) (Y) Second-semester continuation of MARE 470. Students finish their research projects no later than six weeks into the semester. Following data reduction and analysis, a final written report will be prepared. Students will also present 15-minute seminar presentations on the results of their projects. Pre: MARE 470 and consent of instructor.

MARE 480 Senior Internship (3) (Y) Applications of knowledge and skills in a public, private, or government agency involved in marine science education or research. Pre: junior or senior class standing, consent of instructor and preapproved placement.

MARE 484 Biology of Fishes (3) (Y) The biology of marine and freshwater fishes. Topics covered include: general anatomy, locomotion, respiration, osmoregulation, sensory systems, reproduction, electrosensitive and electrogenic fishes, coloration and bioluminescence in fishes, migratory patterns, trophic ecology, territorial behavior, and phylogenetic interrelationships. Pre: BIOL/MARE 171 or BIOL 175 or their equivalent; MARE 265 or equivalent, or consent of instructor. (Same as BIOL 484)

MARE 484L Biology of Fishes Laboratory (1) (IO) Anatomy of jawless, cartilaginous and bony fishes. Review of common local reef fishes. Optional laboratory and field trips for Biology of Fishes. (Same as BIOL 484L)

MARE 490 Marine Reptile Conservation and Ecology (3) (Summer) All-encompassing look at the natural history of these ancient marine vertebrates. Topics include investigations of sea turtles, sea snakes, saltwater crocodiles, and marine iguanas throughout the world. Subjects will consist of conservation and management, human impacts, reproduction and feeding ecology, evolution, taxonomy, and anatomy and physiology of these unique marine animals. Pre: MARE 265 or equivalent or consent of instructor.

MARE 490L Marine Reptile Conservation and Ecology Laboratory (1) (Summer) Field and lab techniques employed by sea turtle biologists including shore and underwater photo-surveys, forage surveys, and evaluation of nests and hatchlings. Investigations will focus on local species of sea turtles. Pre: Concurrent or previous enrollment in MARE 490.

MARE 494 Special Topics in Marine Science (1-3) (S) (Summer) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is chosen. Pre: Varies with topic.

MARE 495 Senior Seminar (3) (S) Lectures, discussions, and research reports of topics in marine science presented by faculty, students, invited speakers, and visiting scholars. Students will be expected to present a seminar, as well as participate in other course activities. Pre: Senior standing or consent of instructor

MARE 496 Teaching Assistance & Tutoring in Marine Science (1-3) (Y) Practice in individual tutoring, and in the preparation of the selected topics in Marine Science lecture or laboratory courses, under direct instructional supervision. This course may be repeated for a maximum of 6 credits and may not be used to replace any specific course or elective requirements of the Marine Science major. Pre: consent of the supervising instructor and the department chair.

MARKETING (MKT)

College of Business and Economics

MKT 310 Principles of Marketing (3) (S) Fundamental marketing concepts and contemporary marketing issues are analyzed within present economic, social and legal environments; consumer and functional analysis are emphasized. Pre: Admission to Professional Business Program, ECON 130 and ACC 250.

MKT 311 Marketing Management (3) (Y) Planning, evaluation, and control of the marketing function. Procedures for developing the analysis and solution to common marketing management problems involving pricing, distribution, product development and promotion. Pre: Admission to Professional Business Program, MKT 310.

MKT 312 Retailing Management (3) (IO) Principles, functions, and analysis of problems in retailing: location and layout, merchandise planning, buying and selling, organization, expense analysis and control, coordination of store activities. Pre: Admission to Professional Business Program, MKT 310.

MKT 313 Promotional Strategy (3) (Y) The role of promotion in an organization's communication processes from a theoretical and managerial perspective. Advertising, personal selling and sales promotion are analyzed from the view of both the organization and its consumer groups. Pre: Admission to Professional Business Program, MKT 310 and junior standing.

MKT 314 Marketing Channels of Distribution (3) (AY) The concepts and theoretical foundations of the relationships among suppliers, manufacturers, processors, wholesalers, retailers, and consumers. Also, channel decision and distribution policies in the interest of the consuming public and the organization are discussed. Pre: Admission to Professional Business Program, MKT 310 and junior standing.

MKT 315 Consumer Behavior (3) (Y) An integrated framework for understanding consumer behavior from a marketing perspective. Course focuses on environmental issues, as well as consumer decision processes. Pre: Admission to Professional Business Program, MKT 310.

MKT 316 Services Marketing (3) (Y) Marketing function within a service organization, designing the service product, and establishing service price, communication and distribution policies. Distinctions are developed between marketing strategies of service and goods-oriented organizations, and between "for-profit" and "not-for-profit" organizations. Pre: Admission to Professional Business Program, MKT 310 and MGT 300.

MKT 318 Internet Marketing (3) (AY) Marketing principles applied to Internet commerce. This course examines the tools and techniques currently used to harness the potential of the Internet. Internet marketing strategies that effectively blend the product, price, distribution channels and communication variables will be discussed along with the use of relationship marketing through on-line strategies. The preparation and use of an Internet marketing plan will be developed through case studies and/or student projects. Pre: Admission to Professional Business Program, MGT 235 or MKT 310.

MKT 319 Marketing Research (3) (Y) An overview of the marketing research process as part of an organization's decision support systems. Topics include research design, attitude measurement, along with data sources, collection and analysis. A research application component will emphasize the planning, execution, and analysis of a real-world marketing research project. Pre: Admission to Professional Business Program, MKT 310 and QBA 260.

MKT 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, junior standing and consent of instructor.

MKT 494 Special Topics in Marketing (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program, varies with topic.

MKT 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

MATHEMATICS (MATH)

College of Arts and Sciences

MATH 100 Survey of Mathematics (3) (S) The role of mathematics in our modern technological society. Topics may include logic, number systems, computers, algebra, and probability. Pre: Recommendation in Math Placement Exam.

MATH 103 Fundamentals of Algebra (3) For students who need to improve algebrai c skills prior to taking Pre-calculus or Applied Calculus., or for courses in introductory chemistry, physics, or statistics. Topics include exponents and radicals, factoring, systems of equations, linear equations, quadratic equations, general properties of functions, graphing, polynomial functions, exponential and logarithmic functions. Pre: Math Placement Test.

MATH 104 Precalculus Mathematics (4) (S) MATH 104 is an intensive one semester focus on the material covered in the sequence MATH 104F-104G. A student may not receive credit for both MATH 104 and MATH 104F-104G. Pre: A Math Placement Score greater than 29 or B+ or better in MATH 103 or C or better in MATH 104F.

MATH 104F Pre-calculus I: Functions (3) (S) Functions and relations; polynomial and rational functions; exponential and logarithmic functions; matrices; sequences and series. Pre: A Math Placement Score greater than 19 or C or better in MATH 103.

MATH 104G Pre-calculus II: Trigonometry and Analytic Geometry (3) (Y) Trigonometric functions; analytic trigonometry; analytic geometry. Pre: Math Placement Score greater than 39 or C or better in MATH 104F.

MATH 107 Mathematics for Education I (4) (Y) Concepts, properties and applications of number systems. Intended for prospective elementary school teachers. Class time spent on both lectures and projects. Pre: Recommendation in Math Placement Exam.

MATH 108 Mathematics for Education II (4) (Y) Concepts, properties and applications of topics from probability, statistics, and geometry. Intended for prospective elementary school teachers. Class time spent on both lectures and projects. Pre: MATH 107 or consent of the instructor.

MATH 111 Mathematical Applications of Personal Computers (3) (S) Use of symbols, equations, images in scientific documents. Computations using spreadsheets with sums, averages, and mathematical functions. Data analysis: curve fitting, interpolation, statistics. Data presentation: visualization, charts, and graphs. Symbolic computation. Database processing: forms, queries, reports, VBA. Additional topics chosen from: real-time data acquisition, more advanced statistical methods, system simulation. Intended for science majors. (Same as CS 102) Pre: Recommendation in Math Placement Exam.

MATH 115 Applied Calculus (3) (S) Emphasis on applications and computations rather than theory. Derivatives, curve sketching, optimization, exponential and logarithmic functions, integration, and applications in these areas. Pre: A Math Placement Score greater than 19 or C or higher in MATH 103.

MATH 121 Introduction to Statistics and Probability (3) (Y) Basic topics in statistics and probability. Pre: Recommendation in Math Placement Exam.

MATH 205-206 Calculus I-II (4-4) Yr. (S-S) Basic concepts of differentiation and integration with applications. Integrals of trigonometric, exponential and logarithmic functions; differential equations; techniques of integration and applications, infinite series. Pre: A Math Placement Score greater than 49 or C or higher in MATH 104 or 104G for enrollment in MATH 205. A Math Placement Score greater than 59 or C or better in MATH 205 for enrollment in MATH 206.

MATH 231 Calculus III (3) (Y) Discussion of topics in MATH 205 and MATH 206 in several variables; partial differentiation, max-min problems, multiple integration. Pre: "C" in MATH 206.

MATH 232 Calculus IV (3) (Y) Multiple integrals, line integrals, Green's Theorem, surface integrals, ordinary differential equations. Pre: "C" in MATH 231.

MATH 299 Directed Studies (1-3) (IO) Permission of instructor and statement of planned reading or research required. Pre: sophomore standing.

MATH 300 Ordinary Differential Equations (3) (Y) Theory and methods of solutions of ordinary differential equations and systems of linear differential equations with constant coefficients. Power series solutions, Laplace transforms, and applications. Pre: "C" in MATH 206.

MATH 301 Partial Differential Equations (3) (AY) Construction and behavior of solutions of partial differential equations in physical and engineering applications, classical equations of mathematical physics, initial and boundary value problems, and eigenvalue problems. Pre: MATH 300.

MATH 303-304 Complex Variables with Applications (3-3) Yr. (AY) Introduction to the theory of functions of a complex variable. Analytic functions, Reimann surfaces, complex integration, Taylor and Laurent series, residue theory, conformal mapping. Applications to scientific problems of interest. Pre: MATH 231 for MATH 303; MATH 303 for MATH 304.

MATH 310 Discrete Mathematics (3) (Y) Topics from discrete mathematics, including logic, proof techniques, recurrence relations, set theory, combinatorics, relations, functions, graphs, Boolean algebraic structures and applications to coding theory. Not open to students with credit in CS 215. Pre: MATH 206.

MATH 311 Introduction to Linear Algebra (3) (Y) Algebra of matrices, linear equations, vector spaces, linear transformations, eigenvalue eigenvector problems, diagonalization and basic applications. Pre: C in MATH 310 or CS 215.

MATH 317 Introduction to the Theory of Equations (3) (AY) Number systems as related to solutions of polynomial equations, division algorithm, factorization, fundamental theorem of algebra, location of roots, relations to other areas of mathematics. Pre: "C" in MATH 311, or consent of instructor.

MATH 380 Chaos (3) (AY) An introduction to non-linear dynamical systems for science majors. Topics include dynamics in one and several dimensions, stability, excitable media, fractals, and time series analysis. Applications in physics, chemistry, ecology and other fields are illustrated. Pre: MATH 206 and either PHYS 171 or MATH 232. (Same as PHYS 380)

MATH 394 Topics in Mathematics (1-3) (IO) Intermediate topics chosen by the instructor. Topics will be selected from both the theoretical and applied areas of mathematics. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

MATH 399 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: consent of instructor.

MATH 407 Introduction to Numerical Analysis I (3) (Y) Solutions of equations in one variable, direct and iterative methods for systems of linear equations, the algebraic eigenvalue problem, interpolation and polynomial approximation, error analysis and convergence for specific methods. Offered spring semester. Pre: C in MATH 206 and MATH 311 and programming experience. (Same as CS 407)

MATH 421 Elementary Probability Theory (3) (Y) Sets, sample spaces, combinatorial probability, random variables, mathematical expectation, classical distributions, applications. Pre: "C" in MATH 311 or consent of instructor.

MATH 422 Elementary Mathematical Statistics (3) (Y) Statistical inference, estimation, hypothesis testing, regression, correlation, introduction to analysis of variance. Pre: "C" in MATH 421 or consent of instructor.

MATH 431-432 Real Analysis (4-4) Yr. (AY) A study of the basic concepts and theorems underlying classical analysis, including the topology of R", uniform convergence, and differential and integral calculus. Pre: "C" in MATH 232.

MATH 441-442 Geometry I - II (3-3) (AY) Axiomatics, advanced concepts in Euclidian geometry, analytic geometry in the plane and space, differential geometry, basic concepts in modern geometrics: spherical, hyperbolic, Riemannian. Pre: at least a C grade in MATH 231 and MATH 311.

MATH 454-455 Modern Algebra (3-3) Yr. (AY) Basic concepts of algebraic structures, groups, rings, fields, polynomials. Pre: "C" in MATH 311.

MATH 494 Special Topics in Mathematics (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Possible topics would be selected from real and complex analysis, elementary topology, matrix groups, numerical analysis, statistics, and probability. Pre: senior standing and consent of the instructor.

MATH 495A-495B Seminar (1-1) Yr. (Y) Seminar presentations of topics in the physical sciences by faculty, enrolled students and invited speakers. The first semester (495A) is taken CR/NC; in the second semester (495B), students are required to present a seminar for a letter grade. Pre: senior standing or consent of instructor. (Same as ASTR 495A-495B, GEOL 495A-495B, CHEM 495A-495B and PHYS 495A-495B)

MATH 496 Teaching Assistance and Tutoring in Mathematics (1-3) (S) Practice in individual tutoring and in the preparation of the selected topics in mathematics lecture or laboratory courses, under direct instructional supervision. This course may be used for a maximum of six (6) credits and may not be used for substitution for any specific course or elective requirements of the Mathematics major. Pre: Consent of the supervisor and the department chair.

MATH 499 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

MUSIC (MUS)

College of Arts and Sciences, Performing Arts Department

MUS 102 University Chorus (3) (S) Large ensemble singing of traditional choral literature. Fundamentals of voice production and musicianship. Study of composers and compositional styles from selected periods of music history. Public performance required. No audition required. May be repeated for credit.

MUS 123 Elementary Voice Class I (1) (Y) Fundamentals of voice production applied to vocal literature at elementary level.

MUS 124 Elementary Voice Class II (1) (Y) A continuation of MUS 123. Refinement of vocal skills; study and performance of vocal literature in English and other languages. Pre: MUS 123.

MUS 125 Class Piano I (1) (Y) Basic principles of piano performance. Relevant problems in piano literature at elementary level. This course is designed for Performing Arts majors (or intended majors) only. Pre: MUS 180 or placement conference.

MUS 126 Class Piano II (1) (Y) A continuation of MUS 125. Application of harmonic concepts and basic keyboard techniques. Expanding repertoire of pieces at the elementary level. Pre: MUS 125.

MUS 135-136 First-Level Applied Music (Arr) (S) For music majors or performers of considerable experience. Individual instruction given in voice, piano, wind instruments, and percussion. Instruction is given in individual lessons for music majors and minors. One (1) credit consists of one half-hour lesson per week for 13 weeks of the semester. Two (2) credits may be earned by taking either two half-hour lessons per week, or one (1) one-hour lesson per week. Applied Music fees are in addition to regular tuition. For Applied Music courses and fee structure, see Performing Arts department chair and consult instructor at the time of registration. Students are required to participate in student recitals and juries.

MUS 160 Introduction to Music Literature (3) (Y) Appreciation of western art music through discussion, listening and reading. Study of elements, textures, forms and style characteristics. No previous music knowledge required.

MUS 163 American Music and Popular Culture (3) (Y) A survey of American musical styles of the 20th century, including rock, blues, jazz, country, Motown, R&B, and other folk idioms. Emphasis will be on stylistic evolution, interactions, and social context. No previous musical knowledge is required.

MUS 165 Introduction to Jazz (3) (IO) A survey of classic and modern jazz in a historical framework. Study of elements, trends, genres, forms and style characteristics. Appreciation of jazz through discussion, listening and reading. No previous musical knowledge is required.

MUS 175 Introduction to the Music of Polynesia (3) (AY) A general survey of the traditional and acculturated music of eight major Polynesian island groups: Tonga, Samoa, New Zealand, Cook Islands, Society Islands, Marquesas Islands, Easter Island, and Hawai'i. Music is viewed as both an organization of sound and as a product of culture and people. (Same as HWST 175)

MUS 176 The History and Development of Hawaiian Music (3) (AY) A general survey of the interrelationships of traditional and acculturated Hawaiian music. Vocal music genres to be discussed include: chant; Christian hymn singing; secular choral singing; male and female falsetto singing; *Chalangalang; Hapa Haole;* and contemporary. Instrumental music genres include: pre-European instrumental styles; slack key guitar; 'ukulele; and steel guitar. (Same as HWST 176)

MUS 180 Elementary Music Theory (3) (S) Designed for non-music majors. Aural skills and musical notation: pitch, rhythm, tonality, and chord structure. First experiences at the piano also included.

MUS 185 Music Theory I (3) (Y) Designed for those with sufficient musical background. Basic concepts and materials of music. General awareness of musical styles, with concentration on 18th-century norms. Principles of tonality, harmony, 4-part writing. Connecting sound and notation through writing. Must be taken concurrently with MUS 185L. Pre: placement conference.

MUS 185L Music Theory I Laboratory (1) (Y) Connecting sound and notation through analysis, aural dictation, and sight singing. Taken concurrently with MUS 185.

MUS 186 Music Theory II (3) (Y) Emphasis on harmonic aspects of tonal music, including all diatonic triads, dominant 7th and secondary dominants. Small forms, increased application through analysis and writing. Must be taken concurrently with MUS 186L. Pre: Music 185 and MUS 185L.

MUS 186L Music Theory II Laboratory (1) (Y) Increased application of aural skills through analysis, dictation, and sight-singing. Reinforces concepts presented in MUS 186. Taken concurrently with MUS 186. Pre: MUS 185 and 185L.

MUS 199 Directed Studies (1-3) (S) Permission of instructor and statement of planned reading or research required.

MUS 235-236 Second-Level Applied Music (Arr) (S) For music majors or performers of considerable experience. Continuation of MUS 135-136. Instruction is given in individual lessons for music majors and minors. One (1) credit consists of one half-hour lesson per week for 13 weeks of the semester. Two (2) credits may be earned by taking either two half-hour lessons per week, or one (1) one-hour lesson per week. Applied Music fees are in addition to regular tuition. For Applied Music courses and fee structure, see Performing Arts department chair and consult instructor at the time of registration. Students are required to participate in student recitals and juries. Pre: MUS 136.

MUS 285 Music Theory III (3) (Y) Wider awareness of musical styles; concentration on chromaticism of the 19th century. Diatonic 7th, N6, Aug6, altered dominants, chromatic mediants, 9th, 11th and 13th chords. Large formal designs and advanced melodic/harmonic developments. Examined through analysis and writing. Must be taken concurrently with MUS 285L. Pre: MUS 186 and 186L.

MUS 285L Music Theory III Laboratory (1) (Y) Expanded concepts in aural dictation and sight-singing. Reinforces concepts presented in MUS 285. Taken concurrently with MUS 285. Pre: MUS 186 and 186L.

MUS 286L Music Theory IV Laboratory (1) (Y) Expanded concepts in aural dictation and sight-singing. Pre: MUS 285 and 285L.

MUS 299 Directed Studies (1-3) (Y) Permission of instructor and statement of planned reading or research required. Pre: Sophomore standing.

MUS 335-336 Third-Level Applied Music (Arr) (S) For music majors or performers of considerable experience. Continuation of MUS 235-236. Instruction is given in individual lessons for music majors and minors. One (1) credit consists of one half-hour lesson per week for 13 weeks of the semester. Two (2) credits may be earned by taking either two half-hour lessons per week, or one (1) one-hour lesson per week. Applied Music fees are in addition to regular tuition. For Applied Music courses and fee structure, see Performing Arts department chair and consult instructor at the time of registration. Students are required to participate in student recitals and juries. Pre: MUS 236.

MUS 349 Orchestration (3) (AY) Survey of instruments of the orchestra and band. Study of selected scores. Basic principles of scoring and transcribing for the orchestra or band. Two semester projects. Pre: MUS 186 or consent of instructor.

MUS 365-366 History of Western Music (3-3) Yr. (AY) Development of Western music from its origins to the 20th century. Styles, schools, and composers. Pre: MUS 160 and 186, or consent of instructor.

MUS 385 20th Century Composition Techniques (3) (AY) Study of the major compositional techniques and esthetics of 20th century music, including parallelism, atonality, serialism, pandiatonicism, neo-classicism, indeterminacy, extended techniques, electronic music, neo-romanticism, and eclecticism. Examine important schools of composition, analysis of major works, and composition exercises. Pre: MUS 285 or consent of instructor.

MUS 390 Choral Conducting (3) (IO) Basic conducting technique and its application to the directing of choral organizations. Includes score reading, lyric diction, rehearsal techniques, and interpretative problems. Concurrent enrollment in a choral ensemble is required. Pre: MUS 186 or consent of instructor.

MUS 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

MUS 402 Instrumental Ensemble (3) (S) Instruction and rehearsal in various types/genres of instrumental music. Public performance may be required, depending on instrumentation and personnel. Emphasis on music literacy and individual performance skills. May be repeated for credit. Pre: audition, or consent of instructor.

MUS 404 University Showcase Singers (3) (S) Performance of choral literature from Renaissance to the present, including ethnic music of Hawai'i. Public performance required. May be repeated for credit. Pre: audition and consent of instructor.

MUS 406 (Alpha) Chamber Ensemble(s) (2) (S) Rehearsals and performance of chamber music for small instrumental/vocal groups. B: Collegium Musicum (Early Music Consort); C: Vocal Music; D: Keyboard Accompanying; E: Saxophone Quartet; F: Chamber Music; G: Brass Ensemble; H: String Ensemble; I: Woodwind Ensemble; J: Percussion Ensemble; L: New Music Ensemble; M: Musical Theatre. Public performance required. May be repeated for credit. Pre: audition and consultation.

MUS 419 Music for Elementary Teachers (3) (AY) Survey of practical methods and materials used in teaching basic musical concepts in the elementary classroom; emphasis on music fundamentals, creative activities, and comprehensive musicianship for elementary students; development of skills in singing and using classroom instruments. Pre: MUS 180 or consent of instructor.

MUS 435-436 Fourth-Level Applied Music (Arr) (S) For music majors or performers of considerable experience. Continuation of MUS 335-336. Instruction is given in individual lessons for music majors and minors. One (1) credit consists of one half-hour lesson per week for 13 weeks of the semester. Two (2) credits may be earned by taking either two half-hour lessons per week, or one (1) one-hour lesson per week. Applied Music fees are in addition to regular tuition. For Applied Music courses and fee structure, see Performing Arts department chair and consult instructor at the time of registration. Students are required to participate in student recitals and juries. Pre: MUS 336.

MUS 462 Choral Music (3) (AY) Historical and stylistic study of choral literature from the Renaissance to the present. Pre: MUS 365 and 366, or concurrent enrollment in 366, or consent of instructor.

MUS 485 Form and Analysis (3) (AY) Structural analysis of music literature from various style periods, including standard form types and analytical techniques applicable to post-19th century music. Pre: MUS 285.

MUS 487 Counterpoint (3) (IO) Contrapuntal procedures and techniques of the 16th (modal counterpoint) and 18th (tonal counterpoint) centuries. Pre: MUS 285.

MUS 494 (Alpha) Special Topics in Musicology (3) (Y) Specialized focus on selected topics from one of the historical style periods, including composer biographies, genre studies, analytical studies, topics in the historical and sociological context of music, musicological research issues and methodologies, and/or bibliographic studies. A: Medieval; B: Renaissance; C: Baroque; D: Classical; E: Romantic; F: 20th Century. Pre: MUS 285, 365, and 366, or consent of instructor.

MUS 499 Directed Studies (1-3) (S) Statement of planned reading or research required: Pre: senior standing and consent of instructor.

NATURAL RESOURCES (NRES)

College of Agriculture, Forestry and Natural Resource Management

NRES 230 Philippines Environment and Natural Resources (3) (Y) Examination of the Philippines environment and natural resources from a long-term perspective. Analysis of the effects of resource management practices on environmental quality, agro-ecosystems, the economy, and food security. Consideration of conflicting values and resolution. Offered spring semester only.

NRES 320 Environmental Issues in Asia-Pacific (3) This course examines the impact of rapid agricultural development, deforestation, industrialization, and urbanization on air, soil, and water in the Asian-Pacific environment plus the causes, consequences, and corrective measures for pollution in this region. Combinations of expert approaches and geo-information systems, including introductory modeling, are used to predict contaminant fate, behavior, and critical load. CHEM 114/124 or equivalent is recommended.

NRES 425 Marine Biogeochemistry (3) (Y) Marine biogeochemistry examines the chemical processes occurring in marine and estuarine waters, their impact on near shore and oceanic environments, and their connection to climatic stability. Marine biogeochemistry is inherently interdisciplinary, involving aspects of biology, earth science, and physics as well as chemistry. Pre: CHEM 124 or consent of instructor.

NATURAL SCIENCE (NSCI)

College of Arts and Sciences

NSCI 394 Special Topics in the Natural Sciences (1-3) (IO) Selected topics in the natural sciences chosen by the instructor. The course content will vary. May be repeated provided a different topic is studied. Pre: consent of instructor.

NSCI 494 Special Topics in the Natural Sciences (1-3) (IO) Selected topics in the natural sciences chosen by the instructor. The course content will vary. May be repeated provided a different topic is studied each time. Pre: Junior standing and/or consent of instructor.

NURSING (NURS)

College of Arts and Sciences

NURS 203 General Pharmacology (3)(Y) Pharmaceuticals discussed with emphasis on methods and sites of administration, mechanisms of action, toxicity, rate and uses of major therapeutic agents. Intended for undergraduates in the health sciences and related fields. Prerequisites: MATH 100, BIOL 243, 243L, 244, 244L or consent of instructor.

NURS 347 Health Assessment (3) (Y) Introduction to comprehensive health assessment of clients across the life span using critical thinking skills. Emphasis on the pathophysiologic influences on subjective and objective findings of selected systems. Detailed health assessment techniques will be introduced as well as methods of comprehensive history-taking. Note: Restricted to Nursing students only.

NURS 347L Health Assessment Practicum (1) (3 lab hrs.) (Y) Application of the nursing process in the comprehensive health assessment of clients across the life span. Emphasize the pathophysiologic and/or pathopsychologic influences on subjective and objective findings of selected systems. Detailed health assessment techniques as well as comprehensive history-taking. Note: Restricted to Nursing students only.

NURS 348 Human Pathophysiology (3) (Summer) This course explores concepts of the biologic basis for disease in adults and children. Alterations in normal body functions leading to disease and discomfort of the individual will be presented within an organized framework. Pre: BIOL 243, BIOL 243L, BIOL 244, BIOL 244L

NURS 350 Transcultural Care and Health Promotion (3) (Y) The course introduces basic principles of teaching-learning, adult learning, group process and basic transcultural care and health promotion concepts. Note: Restricted to Nursing students only.

NURS 351 Professional Nursing Issues and Trends (3) (Y) Introduction of contemporary health reform issues and trends affecting the nursing profession. Overview of the history of nursing, significant national nursing studies, code of ethics, relationship of nursing theory to nursing practice and nursing research. Includes introduction to client care management. Note: Restricted to Nursing students only.

NURS 352L Nursing Skills Laboratory (1) (Y) Practice of basic clinical skills in a campus laboratory setting to prepare student for clinical practice in community settings. Includes faculty demonstrations, student return-demonstrations, and performance testing. Note: Restricted to Nursing students only.

NURS 353 Nursing Concepts and Skills (3) (Y) Introduction to the art and science of the professional role of transcultural nursing care. Fundamental nursing concepts, process, and practice will provide the novice nursing student with a firm foundation for advanced nursing study. Note: Restricted to Nursing students only.

NURS 353L Nursing Concepts and Skills Practicum (3) (9 lab hrs.) (Y) Introduction to the application of the nursing process in the delivery of care to medical/surgical populations. Comprehensive, faculty-guided experiences in developing a beginning knowledge base for entry into the nursing profession. Note: Restricted to Nursing students only.

NURS 355 Adult Health Care I (3) (Y) Care of adult clients with acute medical/surgical problems. Integration of pathophysiology in the understanding of human responses to health deviations. Use of the nursing process to develop individualized, culturally congruent care plans. Note: Restricted to Nursing students only.

NURS 355L Adult Health Care I Practicum (3) (9 lab hrs.) (Y) Application of the nursing process in providing individualized, culturally congruent care to adult clients with acute medical/surgical problems. Note: Restricted to Nursing students only.

NURS 356 Parent-Newborn Health Care (3) (Y) Emphasizes the nursing process in applying culturally congruent nursing care to child-bearing families. Note: Restricted to Nursing students only.

NURS 356L Parent-Newborn Health Care Practicum (3) (9 lab hrs.) (Y) Application of the nursing process in providing culturally congruent nursing care interventions to child bearing families. Supervised clinical experiences in the labor and delivery room, newborn nursery, post-partum units, as well as community meetings. Note: Restricted to Nursing students only.

NURS 357 Mental Health Care (3) (Y) Application of mental health concepts, transcultural caring and professional nursing skills in delivering mental health care. Includes study and application of treatment modalities appropriate to selected psychopathological conditions. Note: Restricted to Nursing students only.

NURS 357L Mental Health Care Practicum (3) (9 lab hrs.) (Y) Application of nursing process in the delivery of mental health care to selected populations. Faculty guided clinic experience in acute and community settings. Note: Restricted to Nursing students only.

NURS 358 Nursing Research (3) (Y) Introduction to the research process and the application of the scientific method in nursing. Pre: Statistics course. Note: Restricted to Nursing students only.

NURS 371 Computers and Health Care (3) (Y) Overview of computer systems and their roles in communications and data management both within and outside of the clinical context. Impact of computerized information processing on nursing practice. Note: Restricted to Pre-nursing and Nursing students only.

NURS 372 Spirituality in Health Care (3) (Y) An examination of the role of spirituality in patient care for clients of multicultural backgrounds across the life span. Exploration of spirituality as an integral part of self. Spring semester only.

NURS 373 Gerontological Health Care (3) (Y) Care of the aging adult with an emphasis on successful aging and health promotion. Integration of theory and evidence-based practice in providing culturally congruent care. Fall semester only.

NURS 374 Skills for Nursing Leadership and Management (3) (Summer) Development of effective leadership skills, communication skills, interpersonal skills, presentation and technical writing skills necessary for nursing leadership and management. Emphasis on team management and conflict resolution skills are included.

NURS 375 Applied Human Nutrition (3) (Y) Applied nutrition in human health and disease, and the nurse's role in supporting nutritional care. Pre: one chemistry and one anatomy/physiology course, or consent of instructor. Note: Restricted to Pre-nursing and Nursing students only.

NURS 394 Special Topics in Nursing (1-3) Intermediate topics chosen by the instructor. Topics will be selected from both the theoretical and clinical areas of professional nursing. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

NURS 399 Directed Studies (1-3) Statement of planned reading or research required.

NURS 410 Community Health Care (2) (Y) Content will integrate nursing and community health theories. Emphasis on culturally sensitive care to families and other groups in a variety of community health delivery settings. Identification of community resources and processes for implementing change to promote community health. Note: Restricted to Nursing students only.

NURS 410L Community Health Care Practicum (4) (12 lab hrs.) (Y) Application of the nursing process in the delivery of nursing care to individuals, families, groups, and communities. Integration of community resources in collaborative relationships with community agencies to service populations with specific health care needs. Note: Restricted to Nursing students only.

NURS 455 Adult Health Care II (3) (Y) Prevention intervention and therapeutic modalities in caring for adult clients with acute medical and/or surgical problems. Emphasis on increasing medical-surgical nursing expertise with incorporation of client management skills and more advanced problem solving. Note: Restricted to Nursing students only.

NURS 455L Adult Health Care II Practicum (5) (15 lab hrs.) (Y) Continued care of adult clients with acute medical and/or surgical problems. Emphasis on increasing medical-surgical nursing expertise with incorporation of patient management skills and more advanced problem solving. Note: Restricted to Nursing students only.

NURS 456 Parent-Child Health Care (3) (Y) Emphasizes the nursing process in the provision of safe and culturally appropriate care to children in the context of the family. Preventive health care, anticipatory guidance and health promotion in a developmental context are explored. Note: Restricted to Nursing students only.

NURS 456L Parent-Child Health Care Practicum (3) (9 lab hrs.) (Y) Application of the nursing process in delivery of nursing care to infants, children, adolescents, and their families. Focus on growth and development, health assessment and health promotion/disease prevention. Note: Restricted to Nursing students only.

NURS 457 Collaborative Health Care, Leadership and Management (3) (Y) Management and leadership concepts in delivering comprehensive nursing care to clients with complex health care needs. Emphasis on critical thinking and evaluation of clinical judgment in nursing practice. Organizational resources and delivery patterns are investigated for their effectiveness in addressing client needs in a variety of community settings. Note: Restricted to Nursing students only.

NURS 457L Collaborative Health Care, Leadership and Management Practicum (2) (6 lab hrs.) (Y) Application of management and leadership concepts in delivering comprehensive nursing care to clients with complex health care needs. Emphasis on critical thinking and evaluation of clinical judgments in nursing practice. Incorporation of organizational resources and delivery patterns into nursing care that is effective and addresses client needs in a variety of community settings. Note: Restricted to Nursing students only.

NURS 459 Nursing Review (1) (Y) Review of human body systems, nursing management, concepts, and skills in client health care. Note: Restricted to Nursing students only.

NURS 459L Nursing Review Practicum (1) (3 lab hrs.) (Y) Application of nursing skills in concentrated clinical experience in the acute care setting. Note: Restricted to Nursing students only.

NURS 468 Nursing Management and Leadership: Politics of Care (3) (Y) Overview of current health issues on the local, state, national and international levels. Emphasis on the concept of empowerment and active involvement in facilitating changes in health policies. Includes nursing management. Note: Restricted to Nursing students only.

NURS 469 BSN Nursing Preview (3) (AY) Preview of academic and clinical opportunities for baccalaureate level nurses with an emphasis on leadership roles and advanced practice. An experiential component is included in this course which will supplement didactic content. This course is open to licensed registered nurses progressing toward the BSN degree. Pre: Licensed RN only. Offered spring semester only. Note: Restricted to Nursing students only.

NURS 494 Special Topics in Nursing (1-3) (IO) Advanced topics chosen by the instructor. Topics will be selected from both the theoretical and clinical areas of professional nursing. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

NURS 499 Directed Studies (1-3) (S) Statement of planned reading or research required.

PHILOSOPHY (PHIL)

College of Arts and Sciences

PHIL 100 Introduction to Western Philosophy (3) (S) Major philosophers, methods, and issues in Western philosophy. Discussion of such problems as our knowledge of reality, the freedom of the will, the relations between the mind and body, morality, ethics, the meaning of life, and the existence of God.

PHIL 101 Introduction to Asian Philosophy (3) (S) Philosophical teachings of Hinduism, Buddhism, Jainism, Confucianism, Taoism, Neo-Confucianism, and Shintoism.

PHIL 209 Reasoning (3) (Y) Informal logic: Study of practical reasoning, argument, and the use and misuse of language. Emphasis on development of critical thinking skills.

PHIL 211 History of Ancient Philosophy (3) (Y) Philosophy of the Pre-Socratics, Plato, Aristotle and Roman Thinkers.

PHIL 213 History of Modern Philosophy (3) (Y) From the Renaissance to the 19th century. PHIL 200 recommended.

PHIL 220 Social Ethics (3) (Y) Contemporary ethical issues, such as abortion, euthanasia, the death penalty, sexual equality, sexual integrity, discrimination and reverse discrimination, violence, pornography, ethnic injustice, and environmental and population control.

PHIL 230 Belief, Knowledge and Truth (3) (Y) The sources and limits of human knowledge. Classical and contemporary epistemological theories, and their application to the everyday search for knowledge.

PHIL 299 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

PHIL 300 History of Indian Philosophy (3) (IO) The historic Indian schools of thought, Brahmanism, Jain, Carvaka, Buddhist, Samkyha, Yoga, Nayaya, Vaisheskika, Mimamsa, and Vedanta. The main philosophers and thinkers of India including Gandhi, Radhakrishnan, and Tagore. Pre: previous work in philosophy or religious studies is recommended.

PHIL 301 History of Chinese Philosophy (3) (Y) History of the Confucian, Taoist, and Buddhist philosophies and their interaction in China. The pivotal thinkers including Mao. Pre: previous work in philosophy or religious studies is recommended.

PHIL 302 History of Buddhist Philosophy (3) (AY) History of Buddhist philosophy and its cultural influence and intellectual development in Asia and Hawai'i. Pre: previous work in philosophy or religious studies is recommended.

PHIL 310 Metaphysics (3) (Y) Puzzling problems in Western thought, such as the nature of personal identity, the freedom of the will, time, and the relation between mind and body. Pre: previous work in philosophy.

PHIL 315 Ethical Theory (3) (Y) Classical and contemporary theories of right and good. Pre: previous work in philosophy.

PHIL 320 Social and Political Philosophy (3) (AY) Good and right applied to economic, political, and religious establishments; obligation, freedom of dissent, capital punishment, violence, rights, revolution, and war. Pre: previous work in philosophy; PHIL 220 recommended.

PHIL 323 Professional Ethics (3) (AY) Professional conduct is being questioned as never before-lawyers, physicians, engineers, accountants, etc., are criticized for disregarding the rights of clients and the public interest. The course addresses the ethical problems of "the professions" in general and will focus on professions in business, law, and health care. Pre: previous course work in philosophy.

PHIL 325 Philosophy of Law (3) (AY) Problems and controversies in the nature of law and its bearing on human conduct. Topics: legal and moral obligation, obedience and respect, enforcement of morality, punishment and responsibility, justification of practices such as plea bargaining, bail, prosecutorial discretion, etc. Pre: previous work in philosophy.

PHIL 330 Aesthetics (3) (IO) The aesthetic object, form in art, representation, meaning in art, and claims of knowledge in art. Pre: previous work in philosophy and in art or music.

PHIL 340 Philosophy of Religion (3) (AY) Philosophical problems in religious beliefs and religious knowledge. The existence of God, immorality, the problem of evil. Pre: previous work in philosophy or Religious Studies.

PHIL 345 Symbolic Logic (3) (Y) Techniques of symbolic logic, including propositional logic, predicate logic and the logic of relations.

PHIL 360 Existentialism (3) (IO) The themes which recur in the works of existential philosophers from the 19th century to the present. Pre: junior standing or consent of instructor.

PHIL 381 Philosophy of Wittgenstein (3) (AY) Topics in the philosophy of Ludwig Wittgenstein, such as: meaning, understanding, pain private language, "family resemblance," language-games, knowledge and certainty, other minds, forms of life and the purpose of philosophy. Pre: previous work in philosophy.

PHIL 390 History and Philosophy of Science (3) (AY) Natural science as a knowledge-seeking activity. Major episodes in the history of the physical and biological sciences; philosophical understanding of scientific observation, theory, and revolutionary change. Pre: previous work in philosophy or consent of instructor.

PHIL 392 Biology and Philosophy (3) (AY) Philosophical examination of the implications of modern biology for how we understand ourselves and our relations to the natural world. Evolutionary, genetic, developmental, and ecological topics will be discussed. Per: previous work in philosophy and biology, or consent of instructor. (Same as BIOL 392)

PHIL 393 Normality, Abnormality, and Society (3) (AY) Philosophical study of how human diversity interacts with social norms. Topics include health and illness, disability, gender, and sexual orientation. Perspectives from biology and the social sciences are included in a study of how beliefs about normality vary between cultures, change through time, and affect human relations. Pre: Previous work in philosophy or consent of instructor. Same as WS 393.

PHIL 394 Special Topics in Philosophy (3) (AY) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Previous work in philosophy.

PHIL 399 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

PHIL 430 Philosophy of Zen (3) (AY) Chief philosophical teachings of Zen, its methods and cultural influences. Comparative study of Zen and Western thought. Pre: previous work in philosophy or religious studies, or consent of instructor. PHIL 302 is recommended. (Same as JPST 430)

PHIL 435 Philosophy of Tao (3) (IO) Philosophical ideas of Lao Tzu, Chuang Tzu, and the Neo-Taoists, and their influences upon the lives of the Chinese and Japanese peoples. Comparative study of Taoist and Western philosophy. Pre: previous work in philosophy or religious studies, or consent of instructor. PHIL 301 is recommended.

PHIL 450 Mahayana Buddhist Philosophy (3) (Y) Important tenets and major schools of Mahayana Buddhist philosophy in India, China, Japan, Tibet, and Hawai'i. Comparative study of Mahayana and Western philosophy. Pre: previous work in philosophy, religious studies, or consent of instructor. PHIL 302 is recommended. (Same as JPST 450)

PHIL 494 Special Topics in Philosophy (1-3) (IO) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: senior standing and consent of instructor.

PHIL 497 Seminar in Philosophy (3) (IO) For serious students of philosophy. The topics vary and the course may thus be repeated for credit.

PHIL 499 Directed Studies (1-3) (IO) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

PHYSICS (PHYS)

College and Arts and Sciences

PHYS 106 College Physics I (3) (Y) Basic principles of physics designed for students in non-physical science and education majors. Covers mechanics, waves and heat. Pre: three years of high school math and placement exam. See also, PHYS 170L, which serves as the lab course.

PHYS 107 College Physics II (3) (Y) Basic principles of physics designed for students in non-physical science and education majors. Covers electricity and magnetism, optics, and modern physics. Pre: Physics 106. See also, PHYS 171L, which serves as the lab course.

PHYS 115 Physics for the Liberal Arts (3) (Y) Designed for non-science majors. Basic physical concepts through student's active participation and practical experience in a manner that is simple and intuitive.

PHYS 120 Weather and Climate of Hawai'i (3) (Y) For non-science majors and prospective science teachers. Basic meteorology, sun-earth-ocean-atmosphere interrelationships, weather types, seasonal changes, trade winds, clouds, rainfall, with examples drawn from the local weather and climate. (Same as GEOG 120)

PHYS 170 General Physics I-Particles and Waves (4) (Y) Introductory physics designed for students majoring in physical sciences or engineering **excluding physics or astronomy majors**. Covers mechanics of particles; rigid bodies and fluids; wave motion; thermodynamics and kinetic theory. Pre: MATH 205 and placement exam.

PHYS 170L General Physics Laboratory I (1) (1 3-hr. lab) (Y) A required laboratory supplement for 170and 172; covers basic principles of experimentation and physical measurement. Pre: registration in PHYS 106 or 170 or 172.

PHYS 171 General Physics II-Electricity and Magnetism (4) (Y) Introductory physics designed for students majoring in physical sciences or engineering **excluding physics or astronomy majors**. Covers electrostatics, conductors and current, dielectrics, magnetic fields and induction, Maxwell's equations and basic optics. Pre: PHYS 170, PHYS 170L, MATH 206 (or concurrent).

PHYS 171L General Physics Laboratory II (1) (1 3-hr. lab) (Y) A required laboratory supplement for Physics 171 and 173; covers basic principles of experimentation and physical measurement. Pre: Physics 106 or 170 or 172, 170L, registration in PHYS 107 or 171 or 173.

PHYS 172 General Physics I-Particles and Waves (4) (Y) Introductory physics designed for students **with a declared major or minor in physics or astronomy**. Covers mechanics of particles; rigid bodies and fluids; wave motion; thermodynamics and kinetic theory. Pre: MATH 205 and placement exam.

PHYS 173 General Physics II-Electricity and Magnetism (4) (Y) Introductory physics designed for students **with a declared major or minor in physics or astronomy**. Covers electrostatics, conductors and current, dielectrics, magnetic fields and induction, Maxwell's equations and basic optics. Pre: PHYS 170, PHYS 170L, MATH 206 (or concurrent).

PHYS 260 Computational Physics and Astronomy (3) (Y) Computational techniques in physics and astronomy, with an emphasis on the use of computer engineering and scientific software. Topics covered include approximation techniques, numerical modeling of physical systems, solutions of non-linear and inverse problems, Fourier analysis and filtering, and elementary statistical and numerical concepts. Pre: PHYS 170/171, MATH 205/206 (Same as ASTR 260)

PHYS 270 General Physics III-Introduction to Modern Physics (3) (Y) Survey of contemporary physical theory and applications: special relativity; quantum physics: atomic structure and spectra, molecular and solid-state physics; nuclear structure and reactions; elementary particles and fundamental forces. Pre: PHYS 170-171 and credit or registration in MATH 231.

PHYS 271 General Physics IV-Classical Mechanics (3) (Y) The classical kinematics and dynamics of constant, time-dependent and position-dependent forces. Particle, rigid body and fluid dynamics; central force motion; normal modes of vibrations; introduction to Lagrangian and Hamiltonian formalism. Pre: PHYS 170-171 (A or B) and MATH 300.

PHYS 299 Directed Studies (1-3) Permission of the instructor and a statement of planned reading or research is required. Pre: sophomore standing.

PHYS 330 Electromagnetism (3) (AY) Electrostatics; electric and magnetic properties of materials; Maxwell's equations of electromagnetism; electrodynamics; electromagnetic waves and boundary value problems. Pre: PHYS 171, MATH 231, MATH 232, MATH 300.

PHYS 331 Optics (3) (AY) Modern optics and the design of optical instruments: interactions of electromagnetic radiation with matter; paraxial and Seidel optical theory; design of simple optical instruments; aberrations and stops; design of telescope, spectrographs, and interferometers; photon optics; Fourier optics. Pre: PHYS 270, MATH 231.

PHYS 341 Thermodynamics (3) (AY) Thermodynamic properties of matter; equations of state; heat transfer; classical statistical treatment of kinetic theory. Pre: PHYS 171, PHYS 270.

PHYS 360 Mathematical Physics (3) (AY) Special functions of mathematical physics which arise from Sturm-Liouville equations: Bessel, beta, elliptical, gamma and Legendre functions. Generating functions, complex integral representations. Other topics may include integral transforms, Fourier analysis and linear algebra. Pre: MATH 232, or MATH 231 and MATH 300, or consent of instructor.

PHYS 380 Chaos (3) (AY) An introduction to nonlinear dynamical systems for science majors. Topics include dynamics in one and several dimensions, stability, excitable media, fractals, and time series analysis. Applications in physics, chemistry, ecology and other fields are illustrated. Pre: MATH 206 and either PHYS 171 or MATH 232. (Same as MATH 380)

PHYS 399 Directed Studies (1-3) Permission of the instructor and a statement of planned reading or research is required. Pre: junior standing.

PHYS 430-431 Modern Physics (3-3) Yr. (AY) Introductory quantum mechanics and its applications to nuclear, atomic, and particle physics. Quantum mechanical treatment of molecular structure and spectra, and the thermal properties of matter. Pre: PHYS 170-171, 270, 341.

PHYS 432 Senior Laboratory/Thesis Project (3) (Y) Individual research projects conducted in the college laboratory, library, or observatory; or at an external research facility; under the direct guidance of a member of the physics and astronomy faculty or an affiliated faculty member. Students must propose and complete a research project, and present a final report to the department. May be repeated once for a maximum of 6 credits. Permission of the department is required for registration. (Same as ASTR 432)

PHYS 494 Special Topics in Advanced Physics (3) (IO) Detailed study of selected topics in advanced physics, topic to be chosen by instructor. Course content will vary; the course may be repeated for credit, provided a different topic is studied. Possible topics include: solid-state physics; Lagragian and Hamiltonian dynamics, advanced thermodynamics or quantum mechanics. Pre: consent of instructor.

PHYS 495A-495B Seminar (1-1) Yr. (S) Seminar presentations of topics in the physical sciences by faculty, enrolled students and invited speakers. The first semester (495A) is taken CR/NC; in the second semester (495B), students are required to present a seminar for a letter grade. Pre: senior standing or consent of instructor. (Same as ASTR 495A-495B, CHEM 495A-495B, GEOL 495A-495B and MATH 495A-495B.)

PHYS 499 Directed Studies (1-3) Permission of instructor and statement of planned reading or research required. Pre: senior standing.

PLANT PATHOLOGY (PPTH)

College of Agriculture, Forestry and Natural Resource Management

PPTH 301 Tropical Plant Pathology (2 lec., 1 lab) (3) (S) Principles of plant pathology, major diseases in the tropics caused by fungi, bacteria, nematodes, and viruses; their nature, diagnosis and control. Pre: BIOL 153 or consent of instructor.

PPTH 405 Plant Disease Diagnosis (2 lec., 1 lab) (3) (Y) Practical skills in field and laboratory to determine the cause of a plant disease. Recognition of characteristic symptoms of diseased plants and signs of pathogens; use of confirming tests. Pre: PPTH 301.

PPTH 412 Plant Disease Control (2 lec., 1 lab) (3) (Y) Methods and principles of plant disease control, including chemical and nonchemical means, based on epidemiology and the disease cycle. Formulation and application of control recommendations. Pre: PPTH 301.

PLANT PHYSIOLOGY (PPHY)

College of Agriculture, Forestry and Natural Resource Management

PPHY 310 Plant Growth and Development (2 lec., 1 lab) (3) (Y) The chemistry and physiology of growth regulators and their involvement in plant growth and development. Experiments and demonstrations illustrating both basic and applied aspects of chemical growth regulation. Pre: HORT 262 or BIOL 175 and one year of college chemistry.

POLITICAL SCIENCE (POLS)

College of Arts and Sciences

POLS 101 Introduction to American Politics (3) (S) Organization and functioning of the American political system at the national level.

POLS 220 Introduction to Legal Systems (3) (Y) The legal system of the U.S.-state and federal courts, judges, attorneys, and law enforcement personnel; civil and criminal law and procedure.

POLS 242 Introduction to World Politics (3) (Y) The theory and substance of international politics, with emphasis on the international behavior of nations. Topics include war, regional integration, the United Nations, and the gap between rich and poor nations.

POLS 251 Introduction to Comparative Government (3) (S) Contemporary approaches to comparative government, and comparative analysis of selected national governments.

POLS 280 Methods of Research (3) (Y) The logic and approaches used by social scientists; concept formation, design of research projects, choice of techniques, and interpretation of results. Pre: POLS 101 or consent of instructor.

POLS 299 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: sophomore standing and consent of instructor.

POLS 300 History of Political Thought: Ancient to Modern (3) (AY) Political thought from ancient political philosophy to the advent of modern liberal democracy. Major thinkers include Plato, Aristotle, Machiavelli, Hobbes and Locke.

POLS 301 Liberalism and Its Critics (3) (Y) Liberalism and its ideological rivals: conservatism, communism and fascism. Precursors and exponents of these ideologies including Burke, Marx and Nietzsche.

POLS 302 Contemporary Political Thought (3) (AY) Political thought from early 20th century existentialism to postmodernism, feminism, and neo-conservatism. Pre: POLS 300 or 301 or consent of instructor.

POLS 320 Mock Trial (3) (Y) Experiential learning in a courtroom trial setting. Preparation includes knowledge of functions and roles of court personnel, elements of proof, techniques of direct and cross-examination. Includes role-playing in six mock trial cases.

POLS 321 Constitutional Law (3) (AY) Civil rights and civil liberties—the relationship between the individual and the government in such matters as freedom of expression, freedom of the press, religious freedom, the rights of the accused, freedom from discrimination, and the right of political participation. (Formerly POLS 421)

POLS 322 Criminal Justice (3) (Y) An examination of the criminal justice system, its structure and its function, with emphasis on the rights of the accused as exemplified in appellate court decisions. Pre: POLS 220 or consent of instructor. (Formerly POLS 422)

POLS 324 Crime and Delinquency (3) (IO) Crime and delinquency; types of adult and juvenile offenders; theories of crime and delinquency; police, courts, prisons, probation, and parole in relation to criminal and delinquent behavior. Pre: SOC 100 or consent of instructor (Same as SOC 324)

POLS 331 Presidency and Congress (3) (AY) An examination of the institutions of the Presidency and the Congress and an analysis of the history, major office holders, processes, and functions of these American institutions.

POLS 332 Politics of Race and Gender (3) (AY) A survey of the historic, legal, political, and social forces shaping society's construction of race, ethnicity, and gender; notions of power and the political significance of race and gender are explored.

POLS 334 Political Behavior, Campaigns and Elections (3) (AY) An examination of the influence of individuals, interest groups, mass movements and elections on the democratic process. Topics include electoral rules, candidate strategies, campaign finance, voting, and political mobilization.

POLS 335 Environmental Politics and Policy (3) (AY) An examination of the major environmental and natural resource problems facing society today. Topics covered will include air and water pollution, energy development, and land use. (Formerly POLS 435)

POLS 337 Politics of Hawai'i (3) (IO) Hawai'i's political culture, leadership patterns and recruitment, voter participation in politics, role of institutions, voting analysis, local political parties, and interest groups.

POLS 340 U.S. Foreign Policy (3) (Y) The policy-making process with special attention to the role of the President, the Congress, the military, organized lobbies, and the public. Pre: POLS 101 or consent of instructor. (Formerly POLS 440)

POLS 341 Women and War (3) (AY) An examination of warfare and women's involvement in this activity. Attention given to military history, the organizational requirements of warfare, the effects of war on women and the changing role of women in the armed forces. (Same as WS 341)

POLS 342 International Law (3) (AY) Development, functions, and sources of public international law. Survey of major areas: law of the sea; laws of air and space; laws of warfare; pacific settlement of disputes; and rule-making in international organizations. Pre: POLS 242 or consent of instructor.

POLS 345 Model United Nations (3) (S) An examination of the organization of the United Nations, its rules of procedure and major UN issues. The course prepares selected students to represent the University at the National MUN (New York) or a major regional MUN. May be repeated three times for credit, but only (6) credits may be applied to the major.

POLS 346 International Organizations (3) (Y) Survey of the theories of international political integration, the United Nations and its specialized agencies, the European Union, NATO, the Organization of American States, OPEC, and other supraregional and regional economic, security and political international organizations.

POLS 351 Politics of China (3) (AY) Various aspects of contemporary Chinese politics in terms of elite patterns, institutional roles, and the responses by the masses. Areas to be covered include: Mao's ideology, shifts in development strategy, impact of the Cultural Revolution, and changes and reform under Deng Xiaoping. Pre: POLS 251 or consent of instructor.

POLS 353 Politics of Japan (3) (Y) Aspects of Japanese politics, emphasizing the post-1945 period. Topics include political development and change, the political economy of Japan, major political institutions and organizations, policy-making processes, and controversial political issues. (Same as JPST 353)

POLS 355 International Political Economy (3) (AY) Topics include world powers and the world economic systems, the third world economic development, political and economic reforms, and Asian development models. Pre: ECON 100, or POLS 242 or consent of the instructor.

POLS 360 Public Administration (3) (Y) Public administration as a major component in the American political process and of public policy making and the crucial role administrators play in that process.

POLS 391 Internship (3-12) (S) Application of knowledge and skills in a public, private, or government agency/setting. May be taken for a total of 12 credits, only six of which can apply to the Sociology major or three to the minor, and a total of 15 credits of POLS/SOC 391 and POLS 481 may be applied to the POLS major. Pre: consent of instructor, preapproved placement, statement of learning objectives, and completed internship contract. (Same as SOC 391)

POLS 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

POLS 433 Politics, Media and Public Opinion (3) (AY) An examination of the role of mass media in shaping public opinion and influencing governance. Topics include the use of media by candidates, government officials and organized interests; media effects on individuals; determinants of public opinion; public opinion polling; and methods of public persuasion. Pre: POLS 101 or consent of instructor.

POLS 442 War and the State (3) (AY) An examination of the relationship between warfare and the modern state. Consideration given to the consolidation of power in national governments through the evolution of weapons technology and military organization. Also considered is the emergence of non-state actors—such as terrorist groups—whose activities challenge the nation-state.

POLS 457 U.S.-China Relations (3) (Y) This course surveys the history of U.S.-China relations to the present and gives in-depth consideration to contemporary issues including China's human rights record, the issue of Taiwan, U.S.-China trade relations, and China's global role in the 21st century.

POLS 470S Seminar in Political Science (3) (Y) This is a capstone course that provides an intensive examination of the major concepts, categories and methods of political science. Topics include political ideologies, attitudes, voting behavior, institutions of government, public policy, law, justice and world politics. Pre: POLS 380 and senior-level status or consent of the instructor. Pre: POLS 280 and junior or senior standing.

POLS 481 Government Internship (CR/NC only) (3-15) (S) Juniors and seniors may apply for an internship with the Hawai'i County Council or, in the Spring, with the Hawai'i State Legislature. Legislative interns

receive 15 semester hours of credit and a stipend. May be repeated once for credit, but no more than 15 credits of POLS 481 and/or POLS/SOC 391 shall apply to the major. Pre: consent of instructor.

POLS 490 Senior Thesis (3) (S) Individual research in problems of special interest. Pre: consent of instructor.

POLS 494 Special Topics in Political Science (1-3) (AY) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied.

POLS 499 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: senior standing and consent of instructor.

PSYCHOLOGY (PSY)

College of Arts and Sciences

PSY 100 Survey of Psychology (3) (S) Principles of human behavior, individual differences, motivation, emotion, perception, learning. This introductory course provides a general survey of the entire field of psychology and serves as the prerequisite for all upper-division psychology courses.

PSY 199 Directed Studies (1-3) (S) Permission of instructor and statement of planned reading or research required.

PSY 213 Statistical Techniques (4) (S) Frequency distributions; graphic methods; central tendency and variability; correlation and regression; inferential statistics; non-parametric statistics. Pre: two years of high school algebra or equivalent.

PSY 214 Research Methodology (4) (S) Methods of scientific observation, nature of experiments, the use of quasi-experimental designs, control group experimental designs, and single-subject experimental designs. Potentials and problems in research and clinical uses of these designs. Ethical considerations involved in conducting research. Pre: PSY 100, 213.

PSY 299 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: consent of instructor.

PSY 311 Behavioral Assessment (3) (Y) Principles, concepts, and methods for measuring overt, emotional, and cognitive behavior. Practical applications to self-observation and observation of others in natural situations and under planned behavior changes. Pre: PSY 100, 213, 214.

PSY 312 Evaluation Research (3) (Y) The application of research methods in the planning, monitoring and evaluation of social programs. Needs assessment, program monitoring impact assessment and efficiency analysis will be surveyed. Pre: PSY 100, 213, 214.

PSY 313 Testing and Measurements (3) (Y) Principles, concepts, and procedures of psychological testing, including construction, validation, interpretation, and use of tests in intellectual and personality assessment. Pre: PSY 100, 213.

PSY 314 Learning and Motivation (3) (AY) Major conditions influencing learning and forgetting; role of practice, reward, motivation, drive and emotion; theoretical interpretations of learning and motivation. Pre: PSY 100, 213, 214.

PSY 314L Learning and Motivation Laboratory (1) (IO) Laboratory to accompany PSY 314.

PSY 315 Sensation and Perception (3) (Y) Psychophysics, vision, audition, taste, smell, theories of perception. Pre: PSY 100, 213, 214.

PSY 319 Experimental Psychology (3) (Y) Original experiments with emphasis upon laboratory techniques. Control of variables, apparatus design, statistics in research. Pre: PSY 100, 213, 214.

PSY 320 Developmental Psychology (3) (S) Emotional, mental, physical, social development from infancy to adulthood; interest and abilities at different age levels. Pre: PSY 100.

PSY 321 Psychology of Personality (3) (S) Scientific study of personality through examination of major theoretical approaches: personality functioning, development, and change; assessment and research strategies; empirical data on central concepts and social-cultural determinants. Pre: PSY 100.

PSY 322 Social Psychology (3) (Y) Interpersonal relations, social attitudes; group dynamics; intergroup relations, class and cultural influences. Pre: PSY 100.

PSY 323 Community Psychology (3) (IO) Community factors such as urbanization, social service programs, and schools as they affect the psychological well-being of individuals. Social system intervention techniques to better the fit between individuals and environments. Pre: PSY 100.

PSY 324 Abnormal Psychology (3) (S) Nature and causes of psychotic, neurotic, intellectual, and other psychological disorders. Definition, assessment, and diagnosis of abnormality. Psychotherapy, chemotherapy, and other treatment alternatives. Prevention, legal, and societal issues. Pre: PSY 100.

PSY 325 Psychology of Women (3) (IO) Issues and topics relevant to the psychological development and functioning of women including sex differences in abilities and behavior, achievement motivation, work, sexuality, pregnancy, childbirth and motherhood, mental health and domestic violence. Pre: PSY 100. (Same as WS 325)

PSY 333 Psycholinguistics (3)(Y) Theory and method in the investigation of the relationship between language and cognition, first-and-second language acquisition, speech pathologies. Pre: LING 102, PSY 100 or consent of instructor. (Same as LING 333)

PSY 350 Cognitive Psychology (3) (IO) Theories, assumptions, empirical findings, and applications of cognitive psychology. Topics include memory, inference, prediction, and mental imagery. Pre: PSY 100.

PSY 352 Introduction to Biopsychology (3) (Y) Survey of the study of behavior from the viewpoint of the natural sciences. Genetics, neural mechanisms, pharmacology, and biological development of behavior will be discussed. Pre: PSY 100. Offered in spring semester only.

PSY 360 Cross-Cultural Psychology (3) (Y) Application of psychological methodology and theories to the study of behavior in selected cultures, with a focus on Polynesia. Topics to include child-rearing and socialization, cognition, personality, and social behavior patterns. Pre: PSY 100 and upper division standing.

PSY 365 Psychology of Religion (3) (Y) An introduction to the topic of psychology of religion, emphasizing an empirical approach. Core themes and concepts of the field are explored, as are prominent theories and the underlying assumptions thereof. Recent developments and empirical findings also are considered, including those from neuroscience. Sociocultural implications of past and present work in the field are discussed. Offered in Spring semester only.

PSY 370 Sport Psychology (3) (Y) Survey of methods and findings in the application of psychological principles in sport. Topics include arousal and anxiety, cognitive processes, team performance, coaching behavior and techniques to maximize sports performance. (Same as HPE 370)

PSY 370L Sport Psychology Laboratory (1) (IO) Laboratory to accompany PSY 370.

PSY 377 Counseling Psychology (3) (Y) This course covers the various theoretical approaches to counseling, the therapeutic relationship, techniques of counseling, ethical issues, research, diagnosis and assessment, cross-cultural counseling, as well as career, family and couples, and group interventions. Pre: PSY 100.

PSY 380 Health Psychology (3) (Y) Psychosocial factors in physical health, illness, and the health care system. Topics include stress and coping, personality and social factors affecting health, adaptation to chronic illness, death and dying, patient-practitioner relationships, the institutional context, and health promotion. Pre: PSY 100.

PSY 385 Women and Health (3) (Y) Reproductive health, immune activity, autoimmune disease and mental health in women are covered from physiological, psychological, historical and cross-cultural perspectives. (Same as WS 385) Pre: PSY 100.

PSY 390 Industrial and Organizational Psychology (3) (Y) The application of the methods, facts, and principles of psychology to people at work in diverse group and organizational settings.

PSY 394 Special Topics in Psychology (1-3) (Y) Intermediate-level topics chosen by the instructor, with course content varying with each offering: (A) applicable to Block 1 of major requirements, (B) applicable to Block 2 of major requirements. May be repeated for credit, provided that a different topic is studied. Pre: junior standing or consent of instructor.

PSY 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: consent of instructor.

PSY 416 Emotion (3) (Y) A comprehensive introduction to the topic of emotion as it has been treated in the field of psychology. Different theories and approaches to the scientific study of emotion, including basic neuroscientific principles and recent human brain imaging techniques are discusses. Pre: PSY 352 or consent of instructor. Offered in Fall semester only.

PSY 420 Adolescent Development and Mental Health (3) (Y) Normative and problematic development during adolescence. Cross-cultural differences and similarities in adolescent development. Theoretical approaches to adolescent mental health. Causes and effects of maladjustment. Approaches to prevention and intervention. Pre: PSY 214, PSY 320.

PSY 425 Career Development (3) (Y) Work-related behavior over the span of life. Theory, research, and counseling about career development. Work values, career goals, career decision-making, and occupational choice. Work adjustment and satisfaction. Work within the context of human lives. Interaction between career development processes and other domains of life, such as family, education, leisure, etc. The course is run as a seminar with an emphasis put on discussion. Pre: PSY 214, PSY 320.

PSY 430 Physiological Psychology (3) (AY) Relationship between physiology and behavior. Topics include neuroanatomy, the hormone systems associated with feeding, drinking, reproduction, aggression, and stress, and the neurological and hormonal basis of mental disorders. Pre: PSY 100, 213, 214, or consent of instructor.

PSY 430L Physiological Psychology Laboratory (1) (AY) Laboratory to accompany PSY 430.

PSY 432 Psychology of Motivation (3) (Y) Theories of arousal and activation, incentive and reinforcement, and behavior suppression. Pre: PSY 100 and consent of instructor.

PSY 432L Psychology of Motivation Lab (1) (IO) Laboratory to accompany PSY 432.

PSY 435 Animal Psychology (3) (AY) Biological, ecological, social and learned bases of animal behavior based on laboratory and field investigations. Pre: PSY 100, 213, and 214, or consent of instructor. Co-requisite: PSY 435L.

PSY 435L Animal Psychology Laboratory (1) (AY) Laboratory to be taken concurrently with PSY 435.

PSY 440 History of Psychology (3) (AY) Historical origins and development of contemporary psychology. Pre: 12 semester hours in psychology.

PSY 445 Practicum in Psychology: Field (4) (S) Supervised experience in human service, mental health, and other community agencies in the local community. Pre: 12 semester hours in psychology and consent of instructor.

PSY 450 Child Behavior Therapy (3) (AY) Theory, research, and practice in cognitive behavior therapy applied to child disorders and problems. Treatment applications of reinforcement, extinction, punishment, modeling, self-instruction and other cognitive strategies. Pre: PSY 320.

PSY 451 Adult Behavior Therapy (3) (AY) Theory, research, and practice in cognitive behavior therapy applied to adult disorders and problems. Treatment applications of relaxation, exposure and prevention, desensitization, aversion therapy, biofeedback, self-control, imagery and cognitive strategies. Pre: PSY 324.

PSY 454 Methamphetamine: Clinical and Forensic Aspects (3) (Summer) Effects and consequences of methamphetamine from both psychological and biological perspectives. Methamphetamine, politics, and the law. Implications for substance abuse treatment will be discussed. Pre: PSY 352 or consent of instructor.

PSY 470 Clinical Psychology (3) (Y) Nature, history, and contemporary state of the profession of clinical psychology. Theories, methods, and findings in assessment, intervention, research, and clinical practice. Multiple roles of the clinical psychologist, ethical and professional issues, standards of care, legal regulation of practice, and the mental health care system. Pre: PSY 324.

PSY 471 Child Abuse and Neglect (3) (Summer) A survey of topics related to physical, sexual, and psychological child abuse and child neglect, including: the prevalence and incidence of different forms of abuse and neglect, scientific theories and findings about the causes and consequences of abuse and neglect, forensic and clinical assessment of abuse and neglect, mandated reporting and other legal issues, and psychological interventions for abused and neglected children and their families. Pre: PSY 324.

PSY 489 Research Seminar (3) (S) Research in Psychology. Statement of 3 semester hours of planned reading or research required. Attendance at bimonthly seminar required. Seminars include lectures, discussions and research reports of topics in psychology presented by faculty, students, and visiting scholars. Pre: Consent of instructor.

PSY 494 Special Topics in Psychology (1-3) (Y) Advanced-level topic chosen by the instructor, with course content varying with each offering: (A) offering applicable to Block 1 of major requirements, (B) offering applicable to Block 2 of major requirements. May be repeated for credit, provided that a different topic is studied. Pre: senior standing or consent of instructor.

PSY 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: PSY 489 and consent of instructor.

QUANTITATIVE BUSINESS ANALYSIS (QBA)

College of Business and Economics

QBA 260 Business Statistics (3)(S) Application of statistics to business. Includes an introduction to probability and sampling; descriptive statistics, inference, regression and one-way analysis of variance. Pre: CoBE Computer Competency certification and one MATH course numbered 104F, 115, 205, or higher.

QBA 360 Management Science (3)(S) Mathematical modeling of business decisions. Classical multivariable optimization, linear programming, decision theory, simulation, and additional selected topics. Pre: Admission to Professional Business Program, QBA 260.

QBA 361 Operations Management (3) (S) The design, control and evaluation of service and product delivery systems. Topics include services design, facilities, design and location, capacity planning, demand management, yield management, inventory and supply chain management, project management, and productivity and quality measurement. Pre or Co-req: Admission to Professional Business Program, QBA 360.

QBA 362 Management Information Systems (3) (S) Examination of business information subsystems and the role of computers in accounting, marketing, production, and financial subsystems; theory of general management information systems. Pre: Admission to Professional Business Program

QBA 363 Decision Analysis (3) (AY) Modeling of decisions using decision trees, backwards induction, and utility functions. Topics include the use of Bayes' Theorem, structuring decisions, univariate and multi-attribute utility functions, the value of information, sensitivity analysis, and behavioral aspects of decision making. Pre: Admission to Professional Business Program, QBA 260.

QBA 364 Business Database Management (3) (AY) The use of computer based systems for business transaction processing and data management. Topics include file structure, database concepts, end-user programming tools, interface design, system analysis and design, and data management issues including privacy, security, integrity, law, and ethics. Pre: Admission to Professional Business Program, QBA 362.

QBA 365 Managing Electronic Commerce (3) (AY) Topics in advanced electronic commerce (EC) management. Issues include: defining EC in its various forms; exploring EC strategies; economics of EC; global EC issues. The class will complete a semester-long hands-on project requiring students to: assess a business' needs and opportunities; plan a Web site corresponding to the needs assessment; implement a fully functional and interactive commercial Web site; plan and implement administrative parameters and functions for customer service, security, site monitoring, site maintenance, business performance, and site effectiveness. Pre: Admission to Professional Business Program, CS 201 and MKT 318, or QBA 362.

QBA 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: junior standing and consent of instructor.

QBA 494 Special Topics in Quantitative Business Analysis (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program, varies with topic.

QBA 499 Directed Studies (1-3) Statement of planned reading or research required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

SOCIOLOGY (SOC)

College of Arts and Sciences

SOC 100 Principles of Sociology (3) (S) An introduction to the theories, scientific methods and empirical findings of contemporary sociology.

SOC 200 Career Opportunities in Sociology (1) (Y) A forum for the presentation of career opportunities for Sociology majors and minors. The course features speakers, and the development of practical professional skills, including writing a resume. Offered on a CR/NC basis only. Required for Sociology majors and minors. (Formerly SOC 490)

SOC 240 Social Psychology (3) (AY) An introduction to how sociologists view the relationship between social institutions, social groups and individual actions.

SOC 260 Social Problems (3) (IO) An introduction to the study of social problems in contemporary society, including their nature, sociological causes and possible solutions. Course may focus on a single social problem.

SOC 280 Statistical Reasoning in Social Inquiry (3) (Y) An introduction to basic descriptive, correlational, and inferential statistics used in the social sciences and education. Must be taken concurrently with SOC 280L.

SOC 280L Laboratory in Statistical Reasoning (1) An introduction to the techniques and usage of statistical applications involving computation and interpretation of statistics.

SOC 300 Family in World Perspective (3) (Y) A comparative analysis of family and marriage patterns, mate selection, parent-child interaction, divorce rates, socialization of gender roles, legal sanctions, trends in organization and function. Pre: SOC 100 or consent of instructor.

SOC 301 Introduction to Social Work (3) (Y) The sociological analysis of social welfare institutions and their relationship to meeting human needs and solving social problems. Course designed for students intending careers in the helping professions. Pre: SOC 100 or consent of instructor.

SOC 305 Organizational Theory and Analysis (3) (AY) Contemporary theories and techniques used in the analysis of organizations. Designed for students intending careers in administration or the human services. Pre: junior standing or consent of instructor.

SOC 310 Race and Ethnic Relations (3) (AY) Sociological analysis of the patterns of intergroup relations. Topics include the meaning of race, ethnicity, prejudice and discrimination, and the interactive strategies used by various groups. Emphasis on ethnic processes on Hawai'i and the Pacific region. Pre: SOC 100 or consent of instructor.

SOC 320 Social Stratification (3) (AY) The causes and consequences of institutionalized social inequality. Pre: SOC 100 or consent of instructor.

SOC 324 Crime and Delinquency (3) (IO) Crime and delinquency; types of adult and juvenile offenders; theories of crime and delinquency; police, courts, prisons, probation, and parole in relation to criminal and delinquent behavior. Pre: SOC 100 or consent of instructor. (Same as POLS 324)

SOC 340 Socialization and Identity (3) (AY) The process by which an individual becomes a functioning member of society. Pre: SOC 100 or consent of instructor.

SOC 342 Sociology of Human Aging (3) (AY) Aging as a social phenomenon, including social impact of a growing elderly population, and emerging social patterns among the elderly. Emphasis on the interplay of biological, psychological, sociological and cultural factors of human aging. Pre: SOC 100 or consent of instructor.

SOC 345 Human Populations (3) (AY) Introduction to population theories and sociological research on population distribution, composition, and change within global and local contexts. Pre: SOC 100 or consent of instructor.

SOC 352 Sociology of Education (3) (AY) Formal education as an aspect of socialization. Emphasis is on the American system from an historical and comparative perspective. Pre: SOC 100 or consent of instructor.

SOC 355 Sociology of Religion (3) (IO) A comparative analysis of religion. Topics include religious movements, secularization and social change, conversion and faith dynamics, and meaning and belonging functions. Case studies drawn from different societies and historical periods. Pre: SOC 100 or consent of instructor.

SOC 365 Sociology of Deviance (3) (Y) This course examines social deviance, focusing on theory and contemporary research in the field. Topics to be covered may include sexual deviance, physical and cognitive deviance, substance use, and mental illness. Pre: SOC 100 or consent of instructor.

SOC 370 Political Economy of Hawaii (3) (Y) An exploration into the political and economic processes of Hawaii and how the two interrelate and affect each other. Emphasis on current issues and practices as well as processes. Pre: SOC 100 or consent of instructor. Spring semester only.

SOC 380 Methods of Research (3) (Y) A survey of the logic, purposes, techniques, terminology, and issues of social research methodology. Pre: SOC 100, 280 and 280L or consent of instructor.

SOC 390 Sociological Theory (3) (Y) A critical examination of the theoretical foundations of contemporary sociological theories. Beginning with Marx, Weber, Durkheim, and Simmel, examines contemporary examples of social theory, including post-structuralism, critical theory, hermeneutics, and phenomenology. Pre: SOC 100 or consent of instructor.

SOC 391 Internship (3-12) (S) Application of knowledge and skills in a public, private, or government agency/setting. May be taken for a total of 12 credits, only six of which can apply to the Sociology major or three to the minor, and a total of 15 credits of POLS/SOC 391 and POLS 481 may be applied to the Political Science major. Pre: consent of instructor, preapproved placement, statement of learning objectives, and completed internship contract. (Same as POLS 391.)

SOC 394 Special Topics in Sociology (1-3) Topics chosen by the instructor. Course content will vary and may be repeated for credit, provided that a different topic is studied. Pre: SOC 100, junior standing, or consent of instructor.

SOC 399 Directed Studies (1-3) Statement of planned reading or research required. Pre: SOC 100, junior standing, or consent of instructor.

SOC 400 Seminar in Social Psychology (3) The relationship between social pressures/structure and the individual. Emphasis upon current research and theory in the area. Pre: SOC 100 or SOC 240 or consent of instructor.

SOC 405 Seminar in Social Organization (3) Social organization in all its forms, dynamics, and structures. While appealing to an historical and comparative perspective, primary attention will be directed to contemporary forms of social organization with an emphasis upon current research and theory in the area. Pre: SOC 100 or consent of instructor.

SOC 420 Seminar in Social Institutions (3) Institutions in contemporary society, with focus upon the processes and structures of modern institutions such as the polity, economy, health care, and law. Emphasis upon current research and theory in the area of specific institutions examined. Pre: SOC 100 or consent of instructor.

SOC 430 Seminar in Social Change (3) Change in human societies from a comparative and historical perspective. Topics covered include modernization, development, tradition, and secularization. Emphasis upon current research and theory in the area. Pre: SOC 100 or consent of instructor.

SOC 480 Practicum in Social Research (3) Direct involvement in all facets of the research process. Students have the option of working on their own projects or on projects initiated by the faculty. May be counted only once toward the required 35 semester hours of the major, but may be repeated once for upper division credit. Pre: SOC 280 and 380 or consent of instructor.

SOC 494 Special Topics in Sociology (1-3) Advanced topics chosen by the instructor. The course content will vary and may be repeated for credit, provided that a different topic is studied. Pre: SOC 100, senior standing, or consent of instructor.

SOIL SCIENCE (SOIL)

College of Agriculture, Forestry and Natural Resource Management

SOIL 304 Tropical Soils (2 lec., 1 lab) (3) (S) Origin, development, properties, classification, use and management of soils with emphasis on applications in the tropics. Pre: CHEM 124 or consent of instructor.

SOIL 350 Soil Fertility and Nutrient Cycling (2 lec. 1 lab) (3) (Y) Nutrient availability in relation to chemical and physical properties of tropical soil; fertility evaluation by plant response and soil tests; cycling of carbon, nitrogen, and minerals; nutrient management for enhanced plant productivity and maintenance of environmental and soil quality. Pre: CHEM 124 or consent of instructor. SOIL 304 recommended.

SPANISH (SPAN)

College of Arts and Sciences, Languages

Students who have demonstrated competence in Spanish in high school will not be admitted to SPAN 101 and must take a placement test before enrolling in a course in Spanish.

SPAN 101-102 Elementary Spanish (4-4) Yr. (S) Beginning course, primarily emphasizing oral practice. Laboratory drill.

SPAN 201-202 Intermediate Spanish (4-4) Yr. (Y) Continuation of oral practice with increasing emphasis on reading and written composition. Laboratory drill.

SPAN 299 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: sophomore standing.

SPAN 394 Special Topics in Spanish (1-3) (IO) Advanced topics chosen by the instructor. Course content will vary. May be repeated for credit, provided that a different topic is studies. Pre: junior standing or consent of instructor.

SPAN 399 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: junior standing.

SPAN 499 Directed Studies (1-3) Permission of the instructor and statement of planned reading or research required. Pre: senior standing.

TOURISM (TOUR)

College of Business and Economics

TOUR 317 Marketing and Management of Travel and Tourism (3) (AY) Principles of marketing and management applied in hotel/motel, resort, restaurant, travel, transportation, tourism and leisure industries. Course looks at who travels, where and why. Focus is on cases involving both small and large firms in the travel and tourism area. Pre: Admission to Professional Business Program, MKT 310.

TOUR 320 Tourism Economics (3) (AY) Microeconomics of travel: determinants of demand, empirical studies, demand forecasting; production cost analysis, market structure in major travel industries. Macroeconomic impacts. Pre: Admission to Professional Business Program, ECON 130.

TOUR 340 International Travel and Tourism Policy (3) (AY) Tourism in international trade, legal environment of international travel, political implications of tourism, social and cultural aspects of tourism, public and private policy issues for developed and developing destinations. Pre: Admission to Professional Business Program, junior standing.

TOUR 399 Directed Studies (1-3) Statement of planned reading or research is required. Pre: Admission to Professional Business Program, junior standing and consent of instructor.

TOUR 494 Special Topics in Tourism (1-3) Advanced topics chosen by the instructor. The course content will vary. It may be repeated for credit, provided that a different topic is studied. Pre: Admission to Professional Business Program, varies with topic.

TOUR 499 Directed Studies (1-3) Statement of planned reading or research is required. Pre: Admission to Professional Business Program, senior standing and consent of instructor.

UNIVERSITY (UNIV)

College of Arts and Sciences

UNIV 101 Freshman Experience Seminar (3) Designed to assist first year students in knowing UH Hilo, its programs, services, and place in the tradition of higher education. Students will learn about their role, the skills they will need, expectations of others, career options, and the student's contributions to this multicultural setting. Admission is generally limited to classified freshman students.

WOMEN'S STUDIES (WS)

College of Arts and Sciences

WS 151 Introduction to Women's Studies (3) (S) An interdisciplinary survey of women in contemporary society. Topics include issues in history, biology, psychology, education, communication, feminism, ethnicity and gender which impact on women's lives in modern culture.

WS 299 Directed Studies (1-3) (S) Topics will be chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

WS 319 European Women's History (3) (AY) Study of European women from pre-history to the 20th century with emphasis on women's social and cultural roles in western history. Current feminist theory is also studied. (Same as HIST 319)

WS 320 Cross-Cultural Study of Women (3) (AY) Comparative analysis of women's roles and women's lives in different societies. Topics include women's status, life stages, gender roles, images of women and power. (Same as ANTH 320).

WS 324 Culture, Sex and Gender (3) (AY) A cross-cultural examination of the development of gender systems and gender roles. Consideration of sex roles and activities as part of the larger gender system. Pre: ANTH 100 or consent of instructor. (Same as ANTH 324).

WS 325 Psychology of Women (3) (IO) Issues and topics relevant to the psychological development and functioning of women including sex differences in abilities and behavior, achievement motivation, work, sexuality, pregnancy, childbirth and motherhood, mental health and domestic violence. Pre: PSY 100. (Same as PSY 325)

WS 341 Women and War (3) (Y) An examination of warfare and women's involvement in this activity. Attention given to military history, the organizational requirements of warfare, the effects of war on women and the changing role of women in the armed forces.

WS 355 Women in Modern Literature and Film (3) (AY) Literature and film by and about women from 1900 to the present. Feminist literary theory. Pre: ENG/ESL 100 and 200-level literature course or college level Women's Studies courses or consent of instructor. (Same as ENG 355)

WS 356 Language and Gender (3) (AY) Students engage in the analysis of gender as it relates to language and society. Provides students with analytic resources for thinking critically about the relationship between language and social practice. Students gather and analyze data based on current theories. Pre: ENG 100/ESL 100 and LING 102 or consent of instructor. (Same as LING 356, ENG 356)

WS 357 Women and Religion (3) (Y) Examines roles of, and attitudes toward, women in various religious traditions. Through both chronological and comparative approaches, explores depictions of women in scriptures and other primary texts as well as women's contributions to each tradition.

WS 360 American Women's History (3) (AY) Study of American women from the 17th to the 20th centuries. Special emphasis on women's social and cultural roles. Current feminist theory is also studied. Pre: HIST 151, 152 or consent of instructor. (Same as HIST 360)

WS 385 Women and Health (3) (Y) Reproductive health, immune activity, autoimmune disease, and mental health in women are covered from physiological, psychological, historical and cross-cultural perspectives. Pre: PSY 100. (Same as PSY 385)

WS 392 Japanese Women (3) (AY) History of women in Japan from the earliest historical eras, including the Heian aristocracy and evolving samurai culture, through the present. Topics include property rights, family structures, the influence of religion and secular philosophies, effects of political and legal changes, women's role in the economy and its effect on their status and lives, and women's activism. (Same as JPST 392 and HIST 392)

WS 393 Normality, Abnormality, and Society (3) (Y) Philosophical study of how human diversity interacts with social norms. Topics include health and illness, disability, gender and sexual orientation. Perspectives from biology and the social sciences are included in a study of how beliefs about normality vary between cultures, change through time and affect human relations. Pre: Previous work in Philosophy. (Same as PHIL 393.)

WS 394 Special Topics (3) (Y) Advanced topics will be chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

WS 399 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: consent of instructor.

WS 420 Family Communication (3) (AY) Foundational concepts and theories are introduced. Communication dynamics within families are explored. Narrative, functional, interpretive, and systems approaches to family communication are included. Cultural influences are examined. Conditions necessary for optimal family functioning are addressed. (Same as COM 420)

WS 430 Gender, Place, and Environment (3) (Y) Surveys of trends in geography of gender related to place, space, and the environment. Addresses spatial interactions of gendered bodies of different ages, class, and ethnicities. Pre: Junior or Senior standing or one college level course in Women's Studies or consent of instructor. Offered in Spring semester only. (Same as GEOG 430)

WS 480 Women and Rhetoric (3) (AY) Survey of key female figures that have figured (or not figured) into the rhetorical canon. Analysis of women's use of rhetoric in everyday life and at historic moments and consideration of methodological and theoretical issues intersecting women, rhetoric, and historical research. Pre: ENG 100/ESL 100 and ENG 287 or 315 or consent of instructor. (Same as ENG 480)

WS 486 Women in Ancient European Civilization (3) (AY) Study of European women up to the year 800, with primary focus on the Mediterranean Basin. Themes encompass religion, social customs, and economic activities. Pre: One of the following 300-level courses (HIST 319, 323, 341, 356, or 360) or consent of instructor. Same as HIST 486.

WS 494 Special Topics (3) (Y) Advanced topics will be chosen by the instructor. The course content will vary. Course may be repeated for credit, provided that a different topic is studied. Pre: consent of instructor.

WS 495 Women's Studies Seminar (3) (Y) Capstone seminar to be taken in the senior year (or as a second-semester junior). Readings, discussions, presentations, and guest lectures involving advanced analysis of theories about social systems and women's lives. Seminar will facilitate students' application of theoretical material and research toward particular areas of interest. Seminar topics may vary from year to year. Pre: WS 151; 6 credits of upper-division WS courses or consent of the instructor.

WS 499 Directed Studies (1-3) (S) Statement of planned reading or research required. Pre: consent of instructor.

Graduate Catalog

GRADUATE ADMISSION POLICIES

The University of Hawai'i at Hilo is an equal opportunity institution of higher education and does not discriminate on the basis of race, gender, sexual identity, age, disability, religious affiliation, or country of origin.

Application Requirements

Note: The following requirements are the minimum requirements for any UH Hilo graduate program. Particular graduate programs' requirements may differ from the minimum. Therefore, prospective students also should check requirements of their program of interest.

Applicants applying for admission to graduate programs must submit the following items directly to the Office of Admissions:

1. A completed application form and appropriate fee. The application form and fee information are available online (www.uhh.hawaii.edu) or from the Office of Admissions.
2. One official transcript from each post-secondary institution attended. These transcripts must be sent directly from the institution or submitted by the applicant in a sealed institutional envelope if accompanying the application. Transcripts from within the UH system are not required.
3. Official Graduate Record Exam scores or other qualifying test scores as determined by the program (check admissions requirements in each program description). International applicants whose native language is not English, or who have not attained a baccalaureate or higher degree from an English-speaking institution, also must submit TOEFL scores.
4. A minimum of two letters of recommendation attesting to the academic ability or other qualifications of the applicant.
5. Statement of academic and/or long range Office of Admissionsls.
6. Verification of financial status (for all international students).

Non-accredited U.S. or International Institutions

Degrees from non-accredited U.S. or international institutions are not recognized automatically. Applications of prospective students with such degrees will be evaluated on a case-by-case basis.

International Applicants

In addition to the above requirements, international applicants must submit official academic records in the original language accompanied by certified English translations. These translations must bear the embossed seal or inked stamp of the issuing institution or government agency and the original signature of the translator. Translations must be complete and exact word-for-word translations of the original documents. International applicants with a Grade Point Average of less than a B (or equivalent) in their undergraduate work or less than a B in 12 or more credits of post-baccalaureate work are not eligible for admission.

Minimum Qualifications for Acceptance

Baccalaureate Degree

Each applicant must hold a baccalaureate degree or graduate degree from a regionally accredited U.S. college or university, or its equivalent from a recognized non-U.S. institution of higher learning. The standards of the degree in question must be equivalent in scholarship requirements to those maintained in the undergraduate program at the University of Hawai'i at Hilo.

Students may be required by programs to fulfill additional coursework beyond the major requirements if such courses are deemed important to the student's ability to successfully complete the course of study. These courses will be determined prior to the student's official admission notification, and will be included in the acceptance letter. Programs and program advisors are responsible for monitoring student completion of these courses.

If an applicant initially has been determined to be inadmissible based on his/her academic record, the graduate program may petition the Graduate Council on behalf of the applicant to reconsider the application. The petition must present evidence (e.g., relevant education, training, experience, publications) that the applicant is capable of successfully completing the desired graduate program.

Graduate Record Examination (GRE)

The GRE is required for all applicants for acceptance. Some programs may require a professional test specific to the program of study in lieu of the GRE for admission purposes. Minimum scores on the GRE or professional tests are set individually for each program. Applicants who have completed a graduate program at a regionally-accredited U.S. institution or its equivalent from a recognized non-U.S. institution are not required to submit GRE scores.

Test of English As A Foreign Language (TOEFL)

In addition to above requirements, an applicant whose native language is not English must demonstrate English language proficiency as a partial admissions requirement. Evidence of proficiency in English is successful completion of the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 (paper version) or of 213 (computer version). Applicants who have baccalaureate degrees from English-speaking institutions are exempt from the TOEFL requirement.

Grade Point Average (GPA)

The applicant must have a GPA of 3.0 or the equivalent from the last 60 semester credits (or equivalent) in the undergraduate degree completed, or must hold a graduate degree with a GPA of 3.0 or better in his/her graduate program. Under special circumstances, a GPA of 2.75 or higher will be considered based on the applicant's other qualifications and subject to the petition process noted above.

Please Note: The meeting of minimum requirements does not assure acceptance into a UH Hilo graduate degree program. Acceptance into a graduate program is competitive and decided upon by each individual graduate program.

Admission Procedures

The Office of Admissions is responsible for accepting application materials for all graduate programs. Admissions professionals screen for minimum qualifications of each application and distribute completed applications to each respective program for decision of acceptance or rejection. The admissions committee within individual programs will make the final decision on applications that meet minimum university qualifications.

The application deadline for fall semester admission is February 1. The application deadline for spring semester admission is November 1. Applications received after the priority deadlines will be considered on a space available basis. Each applicant will be notified of receipt of the application. Incomplete applications will be held in the Office of Admissions until complete and ready for review by the graduate program. Applications that remain incomplete at the end of the selection process will be labeled as "incomplete," and applicants will be denied admission. Applicants will be notified of this action.

Official notification of acceptance or rejection generally is mailed by the Office of Admissions between March 1 and May 30 for fall admission. For spring admission, notification is generally mailed between November 15 and December 15. Applicants should not make definite arrangements to attend the University until they receive formal notice of acceptance from the Office of Admissions.

Evaluation of transcripts of international students and of nontraditional grading will be done at the program level if the applicant meets other minimum qualifications. The Graduate Division and Office of Admissions will help with interpreting unusual grading practices and other special cases.

Classification of Students

Regular Admission

Regular admission may be granted to applicants who hold a baccalaureate degree with a grade point average (GPA) of 3.0 or better for the last 60 semester credits (or equivalent), or who hold a graduate degree with a GPA of 3.0 or better from an accredited institution, or through the petition process noted above. Determination of acceptance, however, is made by the admissions committees of individual programs. Students accepted by program admission committees are defined as "classified students."

Denied Admission

Students whose academic records do not meet the minimum requirements, and/or whose admission is not supported by the program and the Graduate Division, will be denied admission.

Visiting Graduate Student

Applicants who are pursuing an advanced degree in another institution and who wish to study at UH Hilo for a limited time may apply for admissions as visiting graduate students. To be eligible, applicants must be enrolled in and actively pursuing a graduate degree program at a regionally accredited institution of higher education and be in good academic standing.

Visiting graduate students register on a space available basis and only in courses for which they are judged to be eligible by the instructor of the course and the chair of the individual graduate program.

Typically, visiting graduate students enroll as "unclassified graduate students." They may be allowed to change their status from unclassified to regular status if they apply and are accepted by a graduate program at UH Hilo.

Admission as a visiting graduate student does not guarantee subsequent admission as a regularly admitted graduate student. A visiting graduate student who decides to apply for admission as a regular graduate student must apply for acceptance via the standard admissions process as do all other applicants.

Visiting graduate students who later become admitted as regular students may request to have courses taken under the visiting student status credited toward the new degree objective. They should consult with their graduate programs, which then make appropriate recommendations to the Graduate Division.

Unclassified Graduate Student

Students with documented baccalaureate degrees who do not meet the minimum requirements for admission to a program, or who for any other reason have not been formally accepted into a program, may attempt to register for selected courses. Such registration is done on a space-available basis, and is with the written consent of both the faculty teaching the course and the chair of the program. **Admission into a course as an unclassified graduate student does not guarantee admission as a regularly classified graduate student at a future date**. A **limit of 9 credit hours** at UH Hilo may be taken at the graduate level by unclassified graduate students in their academic career. Waivers to this rule may be granted with the permission of the instructor, graduate program chair, and chair of the Graduate Council (the latter acting on behalf of the Graduate Council).

Applicants who are sponsored by an educational institution or governmental agency and who wish to undertake a special program of study, research, or training without a degree objective may apply as unclassified graduate students. These students also are limited to 9 credit hours at UH Hilo.

All applicants for unclassified graduate student status are required to submit the following:

1. A graduate application;
2. Proof of baccalaureate degree;
3. A brief statement of objectives specific to each class in which the applicant hopes to enroll.

Unclassified graduate students are not required to submit the application fee, GRE scores, or letters of recommendation. If an unclassified graduate student later applies, and is accepted, into a graduate program, the student may petition for acceptance of credits taken while in unclassified status, **but acceptance of the petition by the graduate program is not assured.**

Undergraduate students in their final semester of coursework before being granted a baccalaureate degree may petition to take graduate coursework for credit in the status of an Unclassified Graduate Student. Permission must be received from the student's academic advisor, course instructor, and graduate program chair. This coursework must be in excess of the requirements for the baccalaureate degree. Failure of the student to obtain the baccalaureate degree at the end of the semester in which the graduate coursework is undertaken will invalidate any graduate credits from the coursework. Students must present evidence of successful completion of the baccalaureate degree to the Graduate Division Office.

Additional Considerations

Concurrent Degrees

An applicant may apply to more than one graduate program but may enroll in only one program initially. Concurrent enrollment in more than one program is strongly discouraged. The individual programs applied for, however, will determine individually what constitutes the minimum course load, and the student (with the approval of both program chairs) may decide to attempt both programs.

Reapplication

Applicants who have been denied admission to a graduate program at UH Hilo because of failure to meet academic standards may reapply for admission after completing at least 12 semester credits of post-baccalaureate course work. The courses must be numbered 400 or above and completed with a GPA of 3.0 or above.

Completion of additional course work does not guarantee admission. To be reconsidered for admission, applicants must follow the standard application process and will be considered along with all other applicants. If admitted, no more than 12 semester credits of relevant post-baccalaureate course work may be applied toward the new degree objective.

If Admitted, But Not Enrolled

Admission may not be postponed or deferred. Newly-admitted students who do not register during the semester for which they are admitted or who withdraw from all courses before the last day to drop are considered no-shows. Their admission status will be rendered invalid. To reapply for admission, they must contact the Office of Admissions for instructions.

Returning Student

If a student has not registered continuously, that student must reapply for admission. Readmission is not guaranteed.

International Student Documents

International student documents are processed by the International Admissions Office. Visa questions will be handled only by this office.

TUITION AND FEES

Tuition for the 2007-2008
Academic Year

Graduate Students Other Than Pharmacy
Per Credit Hour (PCH)
Resident .....$ 236.00
Nonresident .....$ 544.00

Tuition for Summer, 2008
Per Credit Hour (PCH)..... $ 286.00

Pharmacy Doctoral Students
Per Academic Year
Resident……$15,000.00
Non-Resident…….. $30,000.00

Fees for the 2007-2008
Academic Year (Per Semester)

	5+ Credits	**1-4 Credits**
Student Activities	$18.00	$9.00
Student Government	18.00	9.00
Student Publications	19.00	9.50
Student Health Fee	7.00	7.00
Student Recreation	5.00	2.50
Campus Center	7.00	3.50
TOTAL	**$74.00**	**$40.50**

Application Fee

A $50 fee is required for all applicants. This fee is not refundable, not transferable to another semester, and is required each time an application is submitted.

Late Registration Fee

Students will be assessed a $30.00 fee for registering during the late registration period, which begins on the first day of instruction.

Special Fees and Charges

Student Identification Card	$ 10.00
Graduation Application Fee	15.00
Transcript of Record	5.00
Rush Transcript	15.00
Institutional Credit by Examination	15.00
Replacement of laboratory equipment	Cost of item(s) broken or lost

REGISTRATION AND DEGREE REQUIREMENTS

Registration

Graduate students are encouraged to participate in early registration whenever possible. Graduate students must meet general guidelines and payment schedules set by the university.

Full-Time Registration Requirements for Students

Graduate students must register for six or more credits during the Fall or Spring semesters and three credits during the summer to be considered full time.

Academic Standards

A cumulative grade point average (GPA) of at least 3.0 (on a scale where A = 4.0) in courses required by the graduate program is required in order to maintain satisfactory academic standing and graduate degree certification. When the cumulative GPA falls below 3.0, the student will be placed on academic probation. Once a student is placed on probation, the student has two semesters to attain a cumulative GPA of 3.0 or higher, or the student will be dismissed.

No credit is granted for graduate courses in which a grade lower than a B- has been received. Grades lower than a B-, however, will appear on the student's transcript and will be computed into the student's GPA, although the student may NOT use the course for degree requirements.

Graduate students who do not meet other academic/program standards will be dismissed from their graduate program. This process entails a warning letter from the chair of the graduate program to the student. If the necessary academic standards are not attained within a period specified by the graduate program, the graduate program's chair recommends to the appropriate Dean that the student be dismissed from the program. Students will be notified of the intended action. Appeals of such action may be made in writing to the Vice Chancellor for Academic Affairs within ten business days.

Graduate Committees and Primary Academic Advisors

With the exception of certain professional programs, all graduate programs utilize a graduate committee system for advising and evaluating graduate students. At the Master's level, the committee is comprised of a minimum of three faculty members. One member will chair the committee and serve as the student's primary academic advisor. At least two members of a student's graduate committee must be full time tenured or tenure track faculty at UH Hilo.

For students in a non-thesis option, the graduate committee serves as an examination and evaluation body of the student's requirements as listed by the graduate program. For students utilizing a thesis option, the committee serves as the thesis committee. Acceptance or rejection of a student's work as fulfilling degree requirements is determined by a majority of the graduate committee.

Some professional programs may not utilize a graduate committee system. In these cases, a designated faculty member serves as the student's primary academic advisor. Acceptance or

rejection of a student's work as fulfilling degree requirements is determined by a majority vote of the graduate program's faculty.

Minimum Residence Credits for Degree Certification

Regardless of any previous graduate experience, a minimum of 24 credit hours must be taken at UH Hilo before a degree can be granted. This is known as the "residence requirement," and applies to all graduate degree programs at UH Hilo. Credit hours earned under courses designated as "thesis" may not be counted toward the Graduate Division's minimum residence requirement.

Minimum Credits in Graduate Level Courses

Students are required to complete a minimum of 24 credits in courses at the 600 level or higher before a degree may be granted. Specific graduate programs may require additional credits at the 600 level or higher; students are advised to read program requirements and discuss them with their primary graduate advisor.

Use of Undergraduate Courses for Graduate Credit

Graduate students may take up to six credits of course credit in 400-level classes toward their graduate degree requirements with the approval of the graduate program chair. Courses numbered 499 may not be used for graduate credit. Credits used to meet requirements for an undergraduate degree may not be used to meet graduate program requirements.

Dual Level Courses

Some courses are dually listed at the 400 and 600 level. Courses identified by graduate programs as core courses are not eligible as dual level offerings. For dual level courses, credit in the graduate course is not available to students who have received credit in the corresponding undergraduate course.

Dual level courses must be evaluated as a unit based upon their specific content, including specification of differences in expectations for undergraduate and graduate levels. Courses that have changing content from semester to semester, such as those ending in the numbers -94, -97, and -98, are not eligible for use in dual level offerings.

Overload Policy

Students may register for up to 15 credits with the approval of the graduate program chair. Any registration above 15 credits requires approval by both the graduate program chair and the Graduate Division. Students wishing to register for more than 15 credits must complete an Overload Petition. After obtaining the approval of the graduate program chair, the form must be submitted to the Graduate Division for approval. The Overload Petition must be approved before the end of the add deadline.

Incomplete Grades

An instructor may assign an Incomplete (I) when a student has done most of the course work satisfactorily, but because of unforeseen circumstances has not completed all course requirements. The Incomplete is not for the purpose of converting a failing grade, or unsatisfactory work, to a passing grade. The student must request the Incomplete option from the instructor, but it is the instructor's decision as to whether it is appropriate or not.

Graduate students who are given a grade of "I" must complete the coursework before the due date listed in the university calendar. "I" grades that are not completed by this due date automatically are converted into "NC" grades. The instructor may set a deadline sooner than that listed in the university calendar, reflecting the instructor's availability to extend his/her commitment beyond the course. The instructor, however, cannot extend the due date unless granted a specific waiver by the college Dean or, for interdisciplinary programs that involve more than one college, the Vice Chancellor for Academic Affairs.

Some departments and programs may have more restrictive policies regarding incomplete grades. Students should confer with their academic advisors concerning departmental rules and expectations.

The incomplete policy has specific implications for students receiving tuition scholarships and other kinds of financial aid and for international students holding visas. Graduate students who receive federal or state aid may lose their eligibility if they receive Incompletes. See the Financial Aid Satisfactory Academic Progress Policy.

All courses taken by graduate students are subject to the above policy. **Incomplete grades must be resolved before students can receive a graduate degree.**

Repeating Courses for Credit

A few graduate courses (numbered 600 and above) are repeatable for credit. Examples include thesis research and courses that are approved via the curriculum review process as "repeatable for credit" (e.g. Special Topics classes).

Retaking Courses for a New Grade

With the exception of courses that are explicitly repeatable for credit (see above), graduate courses cannot be retaken unless approved by the program chair and graduate division **prior to registration**. With the permission of the graduate program chair, courses may be retaken, but not for additional credits. No more than two courses may be retaken, and no graduate level course may be retaken more than once during the student's graduate career. The grade received will be averaged with the previous grade in that course in computing the UH Hilo cumulative grade point average (GPA). For graduation purposes, however, a program grade point average may be computed which includes only the grades earned in the courses that are part of the student's graduate program. A statement which specifies the recomputed program GPA will be reflected on the student's academic records and transcript.

Continuous Registration

All students admitted to a degree-granting program must maintain continuous registration each semester for at least one credit hour. Students who do not register will be removed from the graduate program and will be required to reapply to the Graduate Division. Students do not need to maintain matriculation during the summer session unless final degree requirements are to be completed during this period. Students must be registered during the semester when the degree is granted.

Leave of Absence

Under exceptional situations, students may apply for a Leave of Absence. Students on leave are excused from the registration requirement during the period of the leave. Leaves are normally granted for six months with an extension of up to one year. A Leave of Absence is granted only in exceptional circumstances, such as illness or other unusual personal hardship, and requires detailed justification. Leaves of Absence are not granted to students who wish to absent themselves to undertake thesis or dissertation research elsewhere. If possible, requests for Leaves of Absence should be submitted one month prior to the semester for which the leave is requested. Students must complete a readmission application upon return.

Withdrawals

Students who withdraw from courses for which they are registered at the University must follow a formal withdrawal procedure if they wish their record to indicate good standing. *Absence from class does not constitute due notice of withdrawal. No grades are recorded for students who formally withdraw by the listed withdrawal date that is noted in the Catalog. Withdrawal from all classes after the listed withdrawal date may be granted, but only in exceptional circumstances, such as illness or other unusual personal hardship, and requires detailed justification. Withdrawal from classes may affect financial aid eligibility. See the Financial Aid Satisfactory Academic Progress Policy in the Financial Aid Handbook. For international students, student visas require that students be registered as full time, so withdrawal from courses may result in a failure to meet visa requirements.*

Transfer of Graduate Credits

Students matriculated in advanced degree programs must petition to have previously earned graduate credits from other institutions transferred toward their University of Hawai'i at Hilo graduate degrees within their first semester at UH Hilo. Using the Graduate Division's "Application For Transfer Credit" form, students submit this petition to their graduate program. A copy of the official transcript from the other institution must be on file with the Graduate Division.

Credits petitioned for transfer must be relevant to the student's UH Hilo degree program, must have been earned at a regionally accredited university, must not have been used to satisfy the requirements of another degree, and must have been earned in graduate-level courses for which the student earned at least a B. Credits for courses in which the student received no letter grade cannot be transferred.

Credits earned through correspondence courses or through courses or experiences offered under the auspices of proprietary schools, business or industrial training programs, or schools conducted by federal agencies such as the Department of Defense normally are not considered for transfer.

Courses taken more than five years prior to matriculation in the Graduate Division are accepted only when the graduate program chair attaches a statement justifying the transfer.

The graduate chair in the student's program forwards all approved petitions to the Vice Chancellor for Academic Affairs or designee for final approval. Approved transfer credits will be included on the student's official Graduate School transcript as a single entry of total credits accepted in transfer. Letter grades from transfer credits are not considered in the determination of grade-point average.

Limitations on the number of credits acceptable in transfer are set in the first instance by the minimum residence requirement of 24 credit hours for any advanced degree; transfer credits cannot be applied toward the residence requirement. For example, for a master's program requiring a minimum of 30 credit hours, no more than six transfer credits may be applied toward the degree. When graduate programs require more than 30 credit hours, the VCAA or designee may accept a correspondingly larger number of transfer credits.

Policy Prohibiting the Awarding of a Second Degree in the Same Field

The UH Hilo policy is that a second degree at the same level (master's or doctoral) can be awarded only when a significant amount of additional coursework in a very different field is completed. Normally students who have already earned a master's or doctoral degree in a given discipline at either a foreign or U.S. institution may not earn a second degree in a similar field at the same level from UH Hilo.

Transcript Notations of Approved Concentrations Within a Major Program

For each advanced-degree recipient, approved concentrations, or specializations, may be listed on the official graduate transcript, along with the graduate major. Such listings are limited to two concentrations. In addition to the titles of approved and satisfactorily completed majors and concentrations, official graduate transcripts show the titles of doctoral dissertations and master's theses. All such special transcript listings are made only at the time of completion of final degree requirements.

Courses Taken in Other Graduate Programs at UH Hilo

Graduate students may take courses offered by other graduate programs at the university with the consent of the course's instructor. These other courses may count toward the student's degree program only with the authorization of the student's graduate program, and this authorization must be obtained before the student registers for the course.

Waiver of Regulations and Requirements

Some Graduate Division regulations and/or program requirements may be waived by the Vice Chancellor for Academic Affairs or designee in exceptional individual instances. A petition for waiver must be endorsed by the student's program graduate committee or graduate chair, who append their reasons for believing that the waiver request would not breach the spirit of the specified regulation or requirement.

REQUIREMENTS FOR ADVANCED DEGREES

Candidates for Master's Degrees

Advising and Guidance From the Graduate Committee

At the beginning of a student's work toward the master's degree, the chair of the student's graduate program, in consultation with the student, designates a primary advisor. The primary advisor may be the chair of the graduate program or another faculty member. This advisor also may serve as chair of the student's graduate committee. The graduate committee, when required by the program, will consist of a minimum of three members who meet periodically with the student to discuss his or her progress.

Requirements for a Master's Degree

The Catalog stipulates the specific requirements for a master's degree in each program of the University. The minimum requirements include the following:

1. Students must maintain continuous registration, including the semester in which the degree is awarded.
2. Students must complete at least 24 credit hours of graduate coursework in residence, exclusive of a thesis. A minimum total of 30 credit hours of graduate coursework is required for all master's degrees. A maximum of six hours of transfer credit is allowed for programs requiring 30 credit hours; additional credit hours may be accepted for transfer in programs that require more than 30 credit hours, as long as the 24 credit minimum in residence is maintained.
3. Graduate students must maintain at least a B average in courses approved by the program or graduate committee and presented for the degree.
4. Students must fulfill all departmental or school course requirements. (No credit is granted for graduate courses in which a grade lower than a C has been received).
5. Students must complete all other requirements as listed by the specific graduate program.
6. Students must complete all requirements, including thesis if required by the program, within five years after admission to the Graduate Division.

Examination

If a general examination is required for the student's master's degree, the examination may be written, oral, or a combination of both. The decision for pass or fail shall be by majority vote of the graduate committee in programs that utilize a graduate committee. In programs that do not use graduate committees, the program faculty by majority vote shall determine whether the student has passed or failed.

Thesis

Evaluation

If a thesis is required for the student's master's degree, the graduate committee, or the program faculty in programs that do not use graduate committees, will supervise and approve the thesis. Programs may designate additional examiners for the master's thesis beyond the student's graduate committee.

Preparation and Typing

Master's theses should conform to *Style and Policy Manual for Theses and Dissertations* available at the following web site:
http://www.hawaii.edu/graduate/download/manuals/td-stylepolicy.pdf

Submission and Binding

Note: This section is under construction. It is anticipated that students will be required to provide, at minimum, one hard copy of the thesis with original signature page, and one electronic version.

Annual Review Form

The primary academic advisor will submit an annual review form for each graduate student under her or his charge to the chair of the graduate program, using the form provided by their graduate program. This form will include data concerning number of credits earned; progress toward meeting other requirements such as papers, projects or theses; GPA; and other specific requirements for the graduate degree.

Awarding of the Degree

When a student has satisfied the requirements for a master's degree, the chair of the student's graduate program submits a "Recommendation for Award of Doctoral/Master's Degree" form to the Graduate Division by the required deadline. If submitting a thesis, this form should be submitted with the thesis when possible.

Deadlines

Degree completion dates will be posted on the university calendar. Those who have not completed all degree requirements by the established deadlines will be required to register the following semester.

Degree Conferral and Commencement

Degrees are conferred three times each year: December, May, and July. Students who complete degree requirements late in the summer or in the fall semester are awarded degrees in December. Students who complete degree requirements in the spring semester are awarded degrees in May. Students who complete degree requirements in early summer are awarded degrees in July.

To participate in the commencement ceremony, the student's graduate program must submit the "Recommendation for Award of Master's Degree" form to the Graduate Division by the required deadline. Commencement exercises are held only in December and May.

Completion Letter

Students who complete all requirements for the degree well in advance of the award of the degree may, upon request, receive a statement from the VCAA or designee certifying that all requirements for the degree have been completed.

Checklist for Completion of Degree Requirements

Master's Degree (non-thesis option):

- ❑ Graduate program: Appoints primary academic advisor and, where appropriate, graduate committee, in consultation with the student.
- ❑ Student: Completes coursework required for the degree.
- ❑ Student: Completes any other program requirements.
- ❑ Student: Registers for semester in which degree requirements will be completed.
- ❑ Student: Submits "Application for Graduation" form to the Business Office by the required deadline.
- ❑ Student: Passes final examination, and/or passes requirements for papers or projects as specified by the graduate program.
- ❑ Student: Completes all other requirements specified by the graduate program
- ❑ Graduate program: Submits "Recommendation for Award of Master's Degree" form to the Graduate Division.

Master's Degree (thesis option)

- ❑ Graduate program: Assigns primary advisor and committee.
- ❑ Student: Completes coursework required for the degree.
- ❑ Student: Completes any other program requirements.
- ❑ Student: Passes general examination if required.
- ❑ Student: Registers for semester in which degree requirements will be completed.
- ❑ Student: Submits "Application for Graduation" form to the Business Office by the required deadline.
- ❑ Student: Completes thesis.
- ❑ Graduate program: Submits "Recommendation for Award of Master's Degree" form to the Graduate Division when student submits thesis.
- ❑ Student: Submits original copy of thesis (with signatures) and an electronic version to the Graduate Division. [pending specifics from the library]

Candidates for Doctoral Degrees

Admission to Doctoral Work

For masters' degree candidates intending to continue into the doctoral program in the same graduate program, the student's graduate committee, at a designated time near the completion of the student's masters' work, decides whether or not to admit the student to the doctoral program. This will be indicated on the bottom of Form xx submitted to the Graduate Division by the program. For entry into a UH Hilo doctoral program from a masters' program at another university, or from a masters' program in a different discipline at UH Hilo, students follow the regular graduate application and admission procedures.

Beginning the Program

At the beginning of the student's doctoral work, the chair of the graduate program appoints a faculty advisor or graduate committee (whose chair is the principal advisor). The initial advisor assists the student in planning coursework and in understanding the program structure and requirements; the advisor has primary responsibility for monitoring the progress of the student's work. The advisor may or may not become the student's graduate committee chair at a later stage in his or her studies. The initial advisor should meet with the student at least once each semester.

Requirements for a doctoral degree

The Graduate Catalog stipulates the specific requirements for the doctoral degree in each program. The requirements include:

1. Maintenance of at least a B average in courses approved by the program's graduate committee and presented for the degree.
2. Fulfillment of all program course requirements (no credit is granted for graduate courses in which a grade lower than C- has been received).
3. Completion of at least 24 credit hours in residence regardless of any previous graduate coursework elsewhere. Students continuing their studies for a doctoral degree in the same UH Hilo program from which they earned their masters' degree need not fulfill a second residence requirement.
4. Continuous registration including the semester in which final degree requirements are completed (this does not include summer terms).
5. Demonstration to the graduate committee by means of a comprehensive examination (written and/or oral) of familiarity with basic hypotheses and techniques of the discipline and competence in applying them.
6. Fulfillment of any research skills requirements.
7. Submission of a dissertation on a topic approved by the department or school, embodying the results of original research and giving evidence of high scholarship.
8. Successful defense of the dissertation at a final oral examination.
9. Completion of any other requirements specific to the graduate program.

Research Skills Requirements

Each graduate program establishes foreign language reading competency or equivalent research skills for its students. The graduate program determines the method(s) to be used to fulfill these requirements. Graduate students may register for research skills courses that have been established in each program.

Comprehensive Examination

A comprehensive or proficiency examination is used to test candidates' specialized knowledge in the discipline and to demonstrate that they are qualified to undertake advanced-level dissertation work. The comprehensive examination may be written and/or oral.

The student's graduate committee serves as the examination committee, and this body determines the outcome of the examination. The student may repeat all or part of the comprehensive examination only once without prior approval from the Vice Chancellor for Academic Affairs (VCAA) or designee. The student has five years to complete the doctorate after passing the comprehensive examination.

Dissertation Planning

After the student passes the comprehensive examination, the student's graduate committee will oversee the dissertation work. The committee will include an additional member chosen from a field outside the graduate program or from a similar field but from a different university, appointed by the VCAA or designee. Based on the student's recommendations, the committee is appointed by the chair of the student's graduate program. Two of the three regular members of the committee must be full time faculty at UH Hilo.

Committees are formed and modified (if necessary) by mutual agreement between the student and the faculty. The principal dissertation supervisor serves as chair of the graduate committee. Faculty are not required to serve on a particular dissertation committee if they do not wish to, and they are entitled to withdraw from a dissertation committee for reasonable cause. Faculty members from outside the student's own department or school may serve on the dissertation committee, but they do not replace the outside examiner, who is appointed by the VCAA before the final oral examination is scheduled.

Visiting, adjunct, and research faculty of UH Hilo (not holding the rank of Professor, Associate Professor, or Assistant Professor) may be appointed to a dissertation committee by the VCAA or designee upon recommendation of the program for a period not to exceed their term appointment at UH Hilo. If such term appointment is renewed, the member may continue to serve on the student's graduate committee.

Prospectus

The prospectus functions to identify the topic to be undertaken in the dissertation and to formalize the approval of the project by a faculty committee. The timing, format, length, and conventions governing the prospectus are set by each graduate program. If the student's program requires a prospectus, the student should submit it within six months after being admitted to candidacy; the prospectus must first be approved by the dissertation committee. In a conventional prospectus, a student is

asked to identify a topic, to summarize relevant backgrounds, and to explain the approach. Some programs substitute for the prospectus another means of ensuring that the student's project has been identified clearly and has received written approval by each member of the committee.

Before approving the dissertation project, the chair of the graduate committee is encouraged to arrange a conference with the student and the other committee members for the purpose of discussing the research topic. Each program must inform doctoral students of its expectations, standards, and procedures regarding the prospectus or other approval of dissertation projects and must provide access to samples of accepted proposals or prospectuses. Graduate programs should include specific information about their expectations for a prospectus in advising manuals for graduate students.

Admission to Candidacy

After the student has passed the comprehensive examinations and met all research skills and coursework requirements, as certified by the program's submission of the "Recommendation for Admission to Candidacy for Doctoral Degree" form, he or she will be officially admitted to candidacy for the doctoral degree by the VCAA. Intra- and inter-program majors and minors should be declared at this time where applicable.

At least two semesters normally elapse between admission to candidacy and the granting of the degree. Doctoral candidates must complete all requirements for the degree, including the dissertation, within five years after admission to doctoral candidacy.

Declaration of Candidacy

In the semester that the student plans to complete the dissertation, he or she must submit a "Declaration of Candidacy for a Graduate Degree" form to the Graduate Division by the required deadline.

Preparation and Typing

Doctoral dissertations should conform to *Style and Policy Manual for Theses and Dissertations* available at:

http://www.hawaii.edu/graduate/download/manuals/td-stylepolicy.pdf.

Submission and Binding

The student should obtain "Requirements and Guidelines for Graduate Theses and Dissertations" from the UH Hilo Library for detailed instructions. Two print copies of the dissertation must be presented by the student to the Library by the due date listed on the University calendar. One copy will be bound and returned to the student, the other will be bound and added to the Library's collection. There is a fee for binding (of the student's copy) and copyright.

Dissertation Defense

The graduate committee has direct charge of all matters pertaining to the dissertation. The student's dissertation must have the unanimous approval of his or her dissertation committee and of the chair of the graduate program before arrangements are made for the final examination for the degree. Members of the student's graduate committee serve as the examination committee.

Outside Examiner

The VCAA or designee, upon recommendation from the graduate program, adds an outside examiner to the examination committee as the representative of the faculty. The outside examiner is either a UH Hilo faculty member from a related area outside the student's graduate program or someone from a related discipline outside the University. Normally, the outside examiner will have no involvement in the supervision of the student's dissertation. The outside examiner's function on the examination committee is to render an independent judgment and to assure that the dissertation satisfies Graduate Division standards. An outside examiner is supposed to serve the Graduate Division and, therefore, must have substantial experience evaluating the scholarship/research of doctoral students (e.g., by being part of a graduate program, on graduate committees, supervising graduate research).

In special circumstances, particularly when a student would benefit from early counsel from a faculty member outside UH Hilo, the department chair or director of graduate studies can petition the VCAA or designee to appoint an outside examiner while the dissertation is still being written. If the nominee is from another institution, the program officer should forward the nominee's academic credentials, including a vita, to the VCAA or designee to be evaluated. The VCAA or designee then invites the nominee or another faculty member to serve as outside examiner.

Final Oral Exam (Dissertation Defense)

After the student's program has been notified of the appointment of an outside examiner, the program director, in conjunction with the chair of the examination committee, may proceed to schedule the final oral examination.

Because of the time required to give adequate consideration to the student's research, the student should submit the dissertation to the graduate committee well in advance of the final oral defense. Normally, two months is recommended; the student should consult the committee.

The final oral examination is open to any person wishing to attend. Members of the graduate committee must be given sufficient time to question the candidate about the dissertation. The final defense is a public examination, however, and the committee chair is responsible for the conduct of an open and impartial examination, including reasonable participation by observers. At the conclusion of the examination, it is customary for the chair to request that everyone except the graduate committee leave the room, so that the members may reach a decision. This procedure should not be invoked at any other time during the examination and should not preclude any questions from either committee members or outside observers.

No member of a graduate committee can be expected to participate in a dissertation defense if that member has not had at least two weeks to read and consider the dissertation beforehand.

At the final examination, the student will be required to respond to examiners' questions concerning the dissertation and to defend the validity of the dissertation. To pass, the student must receive no more than one dissenting vote from the total graduate committee present. All members of the graduate committee who accept the dissertation in partial fulfillment of requirements for the doctorate shall so attest by their signatures on the "Recommendation for Award of Doctoral Degree" form. If the

outside examiner does not signify approval in this manner, he or she should give the reason for dissent by submitting a separate memorandum to the VCAA or designee within three days of the examination.

If at the final examination the examiners generally approve of the dissertation but require significant changes and are not yet prepared to sign the "Recommendation for Award of Doctoral Degree" form, the chair of the graduate committee will coordinate with other members of the committee to compile all required changes and will inform the student of the scope and substance of those changes. The committee will establish how the changes will be reviewed and approved.

Following the oral exam and approval of the dissertation, the chair of the graduate program submits to the Graduate Division the signed "Recommendation for Award of Doctoral Degree" form, indicating that the student has now fulfilled all academic requirements for the doctoral degree and has successfully defended the dissertation. Members of the dissertation committee sign the signature page in the original copy of the dissertation; the outside examiner does not sign the signature page.

Remote Participation

Normally, all members of the graduate committee and the outside examiner are present at the defense. At the discretion of the program, with the unanimous consent of all members of the graduate committee and the student, committee members or the outside examiner may participate in the defense via real-time teleconferencing or real-time videoconferencing. In all cases, the chair and at least one other member of the dissertation committee must be physically present.

If in exceptional circumstances one member of the graduate committee cannot be present *(either physically or virtually)*, they may submit questions and comments in writing. Such arrangements must be approved in advance by the program and must have the unanimous consent of all other members of the graduate committee and the student.

Filing the Accepted Dissertation

Submission

By the deadline published for each semester, the student is required to submit the dissertation to the Library along with payment of the appropriate fees. Details on these requirements may be found at the Library.

The dissertation should include the acceptance (signature) page with original signatures indicating approval by the dissertation committee (see sample below).

Abstract (Mandatory)

The acceptable length for an abstract to be published in Dissertation Abstracts International (DAI) is 350 words. An abstract within the dissertation need not be limited. The student may prepare a lengthy abstract for inclusion in the dissertation and a more concise summary for publication in DAI. The abstract is expected to give a succinct account of the student's dissertation so that a reader can quickly learn the essential contents and results. A typical abstract includes a statement of the problem, an account of procedure or methods followed, and an account of main results and conclusions.

Abstracts must be prepared carefully, since they are published in DAI without editing or revision. Abstract copy must be typed on one side of the paper and should be double-spaced. Symbols and foreign words and phrases must be printed clearly and accurately.

To remain within the 350-word limit, the following method for counting is recommended:

There is a maximum of 2,450 typewritten characters per abstract. Count the number of characters, including spaces and punctuation, in a line of average length and multiply by the number of lines. An average abstract will have about 70 characters per line with a maximum of 35 lines.

The original abstract is deposited with University Microfilms International, Ann Arbor, Michigan, and is listed and indexed in Dissertation Abstracts International. This constitutes publication. However, publication in University Microfilms does not copyright material.

Agreement Form

At the time the student submits the dissertation to the Library, he or she will be asked to complete the required University Microfilms Agreement Form. Students are encouraged to contact the Library for these forms prior to submitting their dissertation. Those students who will be mailing their dissertations should request that this form be mailed to them.

Copyright

To protect the right of authorship by copyright, it is only necessary under current law to affix a notice of copyright to the page following the title page. The copyright notice should give the full legal name of the author, as follows:

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All Rights Reserved

Unless a dissertation is copyrighted in this way, it becomes part of the public domain as soon as a copy of it is placed on the library shelves.

The Graduate Division also urges students to register their dissertations with the federal copyright office. The advantage of taking this step could be considerable. In the case of plagiarism, for example, the author may bring an action against the guilty party and recover damages. In the case of scholarly work, proving and recovering damages may be difficult, if not impossible. But if the work bears a notice of copyright and has also been registered with the copyright office, statutory damages may be awarded, and may include attorney's fees incurred in prosecuting the suit. Registration of the dissertation with the copyright office entails signing the appropriate section of the University Microfilms Agreement Form and payment of a $45 fee. However, even without registering the dissertation with the copyright office, the copyright notice on the page following the title page is sufficient to effect a copyright for the author.

Survey of Earned Doctorates

When the student submits the dissertation to the Graduate School, he or she will be asked to complete a "Survey of Earned Doctorates" form, which will be forwarded to the National Opinion Research Center in Chicago, Illinois. Students are encouraged to contact the Graduate Division for this form prior to submitting their dissertation.

Deadlines

Degree completion deadlines are noted in the University Calendar.

Degree Conferral and Commencement

As noted under Master's degree requirements.

Completion Letter

Students who complete all degree requirements well in advance of the awarding of the degree may, upon request, receive a statement from the VCAA or designee certifying that all requirements for the degree have been completed.

Checklist for Completion of Degree Requirements of Doctoral Degree:

√ ***Graduate program*** : Assigns principal advisor and graduate committee.
√ ***Student*** : Satisfies residence and course requirements.
√ ***Student*** : Passes research skills examinations (if required).
√ ***Graduate program*** : Arranges comprehensive examination.
√ ***Student*** : Takes comprehensive examination.
√ ***Student*** : Writes a prospectus.
√ ***Graduate program*** : Submits "Recommendation for Admission to Candidacy for Doctoral Degree" form to the Graduate Division.
√ ***Student*** : Maintains appropriate registration for dissertation credit each semester, including semester in which all degree requirements will be completed.
√ ***Student*** : Submits "Declaration of Candidacy for a Graduate Degree" form to the Graduate Division by the required deadline.
√ ***Student*** : Completes dissertation.
√ ***Graduate program*** : Nominates outside examiner by memo to the VCAA or designee.
√ ***VCAA or designee*** : Appoints outside examiner and so notifies the graduate program.
√ ***Student*** : Passes final oral examination.
√ ***Graduate program*** : Submits "Recommendation for Award of Doctoral Degree" form to the Graduate Division.
√ ***Student*** : Submits dissertation (with fees) to the Library, and completes the "UMI Microfilming Agreement Form" and the "Survey of Earned Doctorates." [details provided by Library]

STUDENT RIGHTS AND RESPONSIBILITIES

Policy on Academic Dishonesty

Graduate students are subject to the policies and procedures governing student conduct as described in the UH-Hilo Student Conduct Code. This includes acts of academic dishonesty, including, but not limited to, plagiarism, cheating, and falsifying data. Students can find these policies in the chapter of the Undergraduate Catalog entitled "Academic Regulations" under the section "Academic Dishonesty."

Policy on Conduct Violations Other than Academic Dishonesty

Instances in which graduate students are alleged to have violated the UH-Hilo Student Conduct Code in areas other than academic dishonesty will be handled following the procedures described in the Student Conduct Code. These procedures are described in the chapter of the Undergraduate Catalog entitled "Other Important Policies & Procedures" under the section "Student Conduct Code."

Conduct and Removal of Financial Support

All other recommendations to dismiss a student from the Graduate Division or one of its programs, or to break a student's assistantship contract or to revoke a fellowship, tuition scholarship, or other source of financial support, are made to the VCAA, accompanied by appropriate documentation. The student will be informed of the basis for any such decision. The student may appeal the decision by using first the grievance procedure of the student's program and then, if needed, the appeals procedures of the Graduate Council Grievance Committee. Action on a recommendation to remove support from or to dismiss a student in good academic standing will await the outcome of the grievance procedure.

Academic Complaints

The process for handling academic complaints by graduate students will follow the same general procedure as utilized for undergraduate students at UH Hilo. This procedure is outlined in the University of Hawai'i at Hilo Student Academic Complaint Policy found at www.uhh.hawaii.edu/uhh/accreditation/StudentRights.php. The following exception is made for graduate students:

Under Part III (Procedures for the Resolution of Academic Complaints Filed During the Regular Academic Year) Letter B (Complaint of Academic Impropriety), for complaints relating to academic impropriety involving post-baccalaureate students, the Dean shall refer the written complaint to the UH Hilo Graduate Council (Academic Complaints Committee) for timely review and recommendation (10 calendar days) before taking action.

MASTER OF ARTS (M.A.) IN CHINA-U.S. RELATIONS

Program Chair:

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James Wang, Ph.D., (Emeritus, UH Manoa) International Studies and Political Science

Program Purpose

The Master of Arts in China-U.S. Relations at UH Hilo is a 30-credit-hour program designed to provide students with an interdisciplinary, liberal arts background in Chinese culture and its relation to the United States' role in Pacific affairs. It will prepare students for a broad spectrum of professions such as international education, business and tourism, government, cultural exchange, and international service in China and the Pacific region.

The program aims to promote China-U.S. cultural communication. It provides a forum for dialogue and understanding between the United States and the Chinese people. United States' students will study various aspects of Chinese civilization and see the United States from a Chinese perspective, while Chinese students will learn about United States' culture and see China from a Pacific Rim perspective.

Program Emphasis

The program emphasizes three key areas of study:

1. United States' Perceptions of China's Historical and Cultural Traditions

   While considerable emphasis is placed on China's turbulent modern history, students also study, in depth, China's cultural, philosophical, and religious traditions. Students learn about China from Confucianism, Taoist, and Buddhist, as well as modern, perspectives. This learning provides a context for review of prevailing perceptions of China held by the United States in the decades prior to and after the Second World War, perceptions which have helped shape U.S. policies toward China.

2. United States' Role in China's Economic Reform

   The focus is on China's evolution from a highly-centralized, planned economy to its mass mobilization for market socialism--or capitalism with Chinese characteristics. Students examine how China has adopted market liberalization and the resulting tension with state political structures. The importance of economic relations between China and the U.S. in terms of trade and investment, and how these relations may evolve, is a main aspect of study. Related study is China's need for technological and educational advancement and the United States' role in helping it achieve those ends.

3. Government and Public Policy in China

   Students examine China's elaborate institutional structure for the party and state, and how China's leaders have attempted to move party-state organizations toward modernity. A related aspect of study involves analysis of the military's role in policymaking, especially on issues such as Taiwan, democratic reform, dissent, human rights, and the environment. These issues influence ongoing Sino-American relations.

Distinctive Features

- China Summer Tour

  Students study at both UH Hilo and Peking University in China. The program welcomes international students.

- Multidisciplinary Approach

  Students enroll in interdisciplinary courses in religion, philosophy, history, business, economics, political science, anthropology, geography, and languages of China. Core courses within the program are designed and taught from an interdisciplinary approach.

- China-U.S. Encounter

  This summer program promotes China-U.S. cultural communication. A special emphasis is placed on the study of Chinese culture and its relationship to United States' values. To provide a forum for dialogue and understanding between the American and Chinese people, the experience will consist of a mix of Asian, Pacific, and American students.

- Pacific Focus

  Students explore the cultural, social, political and economic relationships between China, the United States, and other nations in the Pacific region. Specifically, American students will see the United States from the Chinese perspective, while Chinese students will comprehend China within the Pacific Rim context.

- Year-Round Schedule

  Courses will be offered during the traditional academic year (Fall/Spring) as well as summer and winter sessions. Full time graduate students can finish their degrees more quickly,

and professionals, especially schoolteachers, can use their summers for advanced education.

Application Process

General Procedures:

Applications to the program will be examined beginning March 1 for admission the following Fall semester. After March 1 applications will be considered on a space available basis until July 1.

Applications and supporting documents should be sent to the Graduate Office of Admissions, UH Hilo, 200 West Kawili Street, Hilo, HI 96720. This office maintains applications through final notification to applicants. If you do not hear from the Graduate Office of Admissions within 30 days of submission of your application, please contact the office at 808-974-7414.

Applications that meet the initial requirements are forwarded to the China-U.S. Admissions Committee for a comprehensive review. The names of graduate candidates selected by the committee are forwarded to the Graduate Office of Admissions which sends final notification to the applicant.

Application Requirements:

A. A completed application form and appropriate fee. The application form and fee information are available online (www.uhh.hawaii.edu) or from the Graduate Office of Admissions.

B. One official transcript from each post-secondary institution attended. These transcripts must be sent directly from the institution or submitted by the applicant in a sealed institutional envelope if accompanying the application. Transcripts from within the UH system are not required.

C. Official Graduate Record Exam scores are required unless other qualifying test scores are required by a specific program (check admissions requirements in each program description). International applicants whose native language is not English, or who have not attained a baccalaureate or higher degree from an English-speaking institution, also must submit TOEFL scores.

D. A minimum of three letters of recommendation attesting to the academic ability or other qualifications of the applicant.

E. Statement of academic and/or long range goals.

F. Verification of financial status (for all international students).

Admission Status:

The applicant's admission status is valid for only the semester to which the student is accepted. Applications for those who do not register or who withdraw from the University are voided but retained for a period of one year. Students may reapply for admission the next year by notifying the Graduate Office of Admissions and submitting another application fee.

Minimum Criteria for Admission:*

An applicant must:

1. have earned a baccalaureate degree from a regionally-accredited U.S. college or university or its equivalent from a recognized non-U.S. institution of higher learning;
2. have earned a cumulative grade point average of 3.0 or higher (on an A = 4.0 scale);
3. have taken and submitted General Graduate Record Exam (GRE) scores;
4. have ensured that three letters of recommendation have been submitted by references who have observed or supervised the applicant's performance and can attest to the academic ability of the applicant to pursue graduate study or other qualifications of the applicant;
5. have earned a TOEFL score of 550 or higher (paper version) or 213 or higher (computer version) if she or he is a non-native speaker of English or has attained a baccalaureate or higher degree from a non-English speaking institution;
6. have submitted a personal statement of academic and/or long range goals.

Please Note: A minimum of one year of college-level Chinese language or its equivalent is recommended for non-native speakers of Chinese.

Transfer of Credits:

Requests for transfer of graduate credits must be made during the first semester in which the student is enrolled in the program. Courses which may be eligible for transfer will be reviewed by the CHUS program to determine program credit. Only classes with a grade of B (3.0) or higher from accredited universities or colleges will be considered for transfer. Transfer credit hours must have been completed within five years preceding the date upon which the advanced degree is to be conferred by UH Hilo.

International Credentials:

A statement describing minimum academic qualifications expected of international application may be obtained from the Graduate Office of Admissions. These qualifications must be completed prior to enrollment.

Graduation Requirements

1. Completion of at least 30 semester credits;
2. Minimum of 24 semester credits in courses numbered 600 or above. Remainder of credits may be taken from courses numbered at 400 or above at the discretion of the China-U.S. Relations program chair. Courses numbered 499 may not be used for graduate credit. Also, credits used to meet requirements for an undergraduate degree may not be used to meet graduate program requirements.
3. Completion of the program with a GPA of at least 3.0;
4. Minimum of two semesters of full time study beyond the baccalaureate degree;

5. Successful completion of a thesis (Plan A) or a series of papers (Plan B);
6. Successful completion of a thesis oral examination (Plan A) or an exit oral examination (Plan B).

Frequently Asked Questions

1. How long does it take to complete the program? The program is designed to be completed in 3-4 semesters, or 2-3 semesters including summer sessions, with additional time needed for writing the thesis (Plan A).
2. Do I need to write a Master's Thesis? Plan A requires 24 semester credits of course work and a thesis of original research. Plan B requires 30 semester credits of course work and research papers.
3. What are the entrance requirements? See section entitled Minimum Requirements for Admission.
4. Do I have to take the GRE? Yes. Applicants are required to submit official General GRE scores to UH Hilo.
5. Can I transfer credits? Yes, subject to program approval (see section entitled Transfer of Credits).
6. How much will it cost to live in Hilo? In-state students should budget approximately $13,000 per year for tuition, books, housing, food, and personal expenses; out-of-state students should budget approximately $18,000.
7. Is financial aid available? Contact the UH-Hilo Financial Aid Office for information (808-974-7323).
8. Do I need a computer? Yes, or at least daily access to one.
9. Are summer graduate courses available? Yes. UH Hilo and Peking University co-sponsor the Summer Institute in Chinese Thought and Chinese Culture. The program includes lectures on Chinese culture as well as field trips to various historical sites, ancient cities, and cultural centers in China.
10. Do I have to know Chinese in order to be admitted to the program? At the discretion of the program Admissions Committee, students with no formal Chinese language training may be admitted to the program. See Chinese Language Requirement below.

Program Curriculum

Total Semester Credit Hours Required: 30

- At least 24 semester hours must be in courses numbered 600 or higher.
- Up to 6 semester hours in 400-level courses can be used to meet the required 30 credits.

Required Core Courses (9 credits):

CHUS 600 (3)	Approaches & Perceptions: Understanding China and America
CHUS 610 (3)	Problems and Issues of Contemporary China
CHUS 695 (3)	Seminar: Comparative Study of China and the U.S.

Required Area Courses (9 credits selected from the following):

CHUS 621 (3)	Seminar in Chinese Philosophy
CHUS 622 (3)	Chinese Religions and the West
CHUS 623 (3)	Chinese Immigrants in the United States
CHUS 640 (3)	Chinese & U.S. Economies: A Comparative Approach
CHUS 641 (3)	Seminar: U.S.-China Environmental Issues
CHUS 643 (3)	Advanced Graduate Study on Contemporary Chinese Politics
CHUS 650 (3)	Intercultural Communication: China and the United States
CHUS 661 (3)	Comparative Political Economy: U.S. and Greater China

Electives: In addition to the 18 semester hours required in the core and area courses above, students need a minimum of 12 semester hours in electives.

Chinese Language Requirement: Non-native Chinese speakers are required to take two semesters of Chinese language courses or the equivalent with approval of the Program Chair. Credits in Chinese language earned at other institutions are transferable to meet this requirement. Credits in Chinese language **DO NOT** count toward the required 30 semester hours for the Program.

Plan A: Thesis required (in addition to 30 semester hours of credit and the Chinese language requirement)

Plan B: Exit oral examination required (in addition to 30 semester hours of credit and the Chinese language requirement)

MASTER OF ARTS (M.A.) IN COUNSELING PSYCHOLOGY

Program Chair:

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Website: http://www.uhh.hawaii.edu/~psych/counseling/

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Program Description:

Counseling psychology as a psychological specialty aims at facilitating personal and interpersonal functioning across the life span with a focus on emotional, social, vocational, educational, health-related, developmental, and organizational concerns. Through the integration of theory, research, and practice, and with a sensitivity to multicultural issues, this specialty encompasses a broad range of practices that help people improve their well-being, alleviate distress and maladjustment, resolve crises, and increase their ability to live more highly functioning lives. Counseling psychology is unique in its attention both to normal developmental issues and to problems associated with physical, emotional, and mental disorders. (Counseling Psychology Division of the American Psychological Association, http://www.div17.org/Students/whatis.htm)

Mission Statement:

The mission of the Master of Arts program in counseling psychology is to provide cross-cultural, student-centered, graduate training in counseling psychology. The program is designed to train students to become knowledgeable, skillful, ethical counselors who will be able to help people in need of professional counseling services. The program assigns a high priority to meeting the educational and personal needs of its students.

Program Goals:

1. To provide students with the knowledge and skills to counsel clients from different ethnic, socio-economic, and educational backgrounds;
2. To provide students with a broad understanding of general counseling theory and practice;
3. To provide students with the knowledge of the social, psychological, health, and economic problems that citizens of Hawai'i face along with the professional skills to help people cope with and manage these problems in the future;
4. To prepare students for the academic requirements of a doctoral degree in counseling psychology or a related field.

Prospects for Graduates:

Graduates of the program will be able to seek employment as professional counselors. Graduates who later obtain a doctoral degree in counseling or clinical psychology will be able to seek employment as professional psychologists. Employment prospects for professional counselors are good in Hawai'i and in many other areas of the United States. Currently a shortage of qualified counselors exists, and employment opportunities in this field are expected to grow at a faster than average rate over the coming years. Professional counselors may find employment in a wide variety of settings, including the following:

- Community mental health clinics
- Public and private elementary and secondary schools
- Colleges and universities
- Correctional facilities
- Vocational rehabilitation centers
- Job training and career counseling centers
- Residential care facilities
- Drug and alcohol rehabilitation programs and agencies
- Private practice settings
- Mental hospitals and psychiatric wards
- General medical hospitals and other healthcare facilities
- Employee Assistance Programs
- Child welfare and other family assistance agencies
- Military settings

See the program Website for detailed information about employment opportunities and for information about professional licensure.

Admission Requirements:

To be eligible for admission to the Master of Arts in Counseling Psychology program, students must meet the following minimum requirements:

1. A baccalaureate degree from a regionally-accredited institution;
2. A cumulative GPA of 3.0 on a 4.0 scale;
3. A strong background in psychology or a closely-related field, with a minimum of 15 semester hours of course work in psychology; strongly recommended are an introductory or survey of psychology, statistical techniques, research methods, and at least two 300-level or higher psychology courses. For these 15 semester hours, similar courses in closely-related fields of study may also be acceptable;
4. At least one 3-credit course in statistics and one 3-credit course in research methods from any discipline;

5. A score of 550 on the TOEFL (required of applicants for whom English is not their native language and whose undergraduate degree was earned in a non-English speaking country).

Meeting the minimum requirements does not guarantee admission. Eligible applications are reviewed by the Psychology Graduate Admissions Committee which uses multiple criteria for the assessment of applicants. Admission is selective. Priority will be given to students applying for full-time enrollment. Depending on program needs, a few outstanding applicants for part-time enrollment may be admitted.

Application Procedure:

Currently the program is accepting applications for Fall 2008 only. The application deadline for Fall 2008 is February 1. Applications received in the UH Hilo Graduate Office of Admissions after the deadline will be considered only on a space available basis by the program. Students who submit applications after the February 1 deadline may be ineligible for certain types of financial aid.

Complete applications that meet the minimum admission requirements will be forwarded to the Psychology Department's Graduate Admissions Committee which will review each application. Admission decisions will be made by this committee and forwarded to the UH Hilo Graduate Office of Admissions.

The UH Hilo Graduate Office of Admissions receives applications and supporting documents and maintains the applications through final notification. In general, for applications received by the priority deadline, Admissions will notify each applicant of acceptance or rejection by March 1.

Applicants must submit all of the following items:

1. UH Hilo Graduate application form;
2. Application fee;
3. Official transcripts from all colleges or universities attended (must be received directly from the institution or in a sealed envelope if submitted with your application);
4. Personal statement (see the program website);
5. Resume;
6. Three professional recommendation letters, which may use the special recommendation forms (not required, however) included with the application materials. The recommendations should be sent directly to the UH Hilo Graduate Office of Admissions by the referees;
7. GRE general test scores (sent to UH Hilo directly by the testing service).

In addition, international applicants must submit the following items:

- Supplementary Information Form for Foreign Students (http://www.uhh.hawaii.edu/forms/index.php);
- TOEFL scores (if English is not the applicant's native language);
- Official college transcripts in the original language accompanied by official translations into English.

Applications will be considered only when all of the above documents have been received. For more detailed information and to download application forms, students may use the program website. Application forms also may be obtained from the UH Hilo Graduate Office of Admissions:

UH Hilo Graduate Office of Admissions
Student Services Building
200 West Kawili Street
Hilo, HI 96720-4091
TEL: (808) 974-7414 or (808) 897-4456
FAX: (808) 933-0861
uhhadm@hawaii.edu
http://www.uhh.hawaii.edu/studentaffairs/admissions/

Transfer of Credits:

Requests for transfer of credits must be made during the first semester in which the student is enrolled in the program. Students will need to obtain departmental approval for all credit transfers. Only credit hours with a grade of B or better from accredited universities are transferable. Credit hours for practicum and internship courses are not transferable. Transfer credit hours must have been completed within five years prior to admission.

Program Curriculum:

Total semester hours required: 60

Required courses (50 semester hours):

- PSY 601 (4) Applied Multivariate Statistics
- 602 (3) Research Methodology and Program Evaluation
- PSY 603 (3) Psychological Assessment
- PSY 604 (3) Professional Identity, Ethics, and Legal Issues
- PSY 611 (3) Lifespan Human Development
- PSY 612 (3) Career Development
- PSY 613 (3) Psychopathology over the Lifespan
- PSY 620 (3) Counseling Theory
- PSY 622 (4) Group Work and Counseling
- PSY 623 (3) Social and Cultural Foundations
- PSY 624 (3) Counseling Skills
- PSY 640 (6) Counseling Practicum
- PSY 659 (9) Internship

Electives (10 semester hours required):

- PSY 614 (3) Family System
- PSY 641 (3) School Behavior, Adjustment, and Problems
- PSY 642 (3) Educational and Vocational Assessment
- PSY 643 (3) School and Career Guidance and Consultation
- PSY 651 (3) Theories of Family Counseling
- PSY 652 (3) Couple Counseling
- PSY 694 (3) Advanced Topics
- PSY 699 (3) Directed Studies
- PSY 700 (3) Thesis Research (repeatable)

MASTER OF EDUCATION

Program Chair:
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Program Description:

The Master of Education degree (M.Ed.) is a 33-semester-hour program designed to foster professional growth and renewal of licensed teachers. It is a cohort program that requires five semesters and two summers to complete. Courses are offered in the evening and/or on Saturdays. While the teaching force on Hawaii Island is a natural target population, the M.Ed. also is designed for licensed teachers throughout the state and in select areas of the countries of the Pacific Rim. The program promotes teacher leaders who will engage in school renewal and reform through curriculum development, school decision-making, and community outreach.

The M.Ed. is a generalist degree designed to address the unique professional development needs of Hawaii Island teachers who choose neither to relocate nor to enroll in a specialized degree program. It is designed to be broadly useful and is, therefore, interdisciplinary. The curriculum focuses on philosophical, psychological, and curriculum foundations. It emphasizes research and teaching tools including technology, assessment, research methodology, and advanced instructional strategies to facilitate instructional school-based leadership.

M.Ed. Graduates Will Be Able To:

1. Analyze and apply current trends and issues in education including school change initiatives, reform movements, infusion of technology throughout schools, and methods of addressing the needs of diverse student populations;
2. Engage in critical and reflective analysis enabling them to integrate and apply a variety of research-based methods, materials, and processes in their classrooms;
3. Conduct and report action research which will enable them to contribute to the positive intellectual climate of their schools and to assume instructional leadership roles.

Admission Requirements:

Admission is based upon previous preparation and requires previous completion of a baccalaureate degree and evidence of eligibility for the initial basic license to teach as defined by the UH Hilo Education Department. Generally, an applicant must have earned a minimum grade point average of 3.0 (4.0=A scale) or the equivalent in the last four semesters or approximately 60 semester credits of his/her undergraduate record and in all post-baccalaureate work. Applications and a detailed description of requirements are available from the Education Department or from the UH Hilo Graduate Office of Admissions. Interested potential students may contact the Education Department at 808-974-7582 for more information.

Following are the major requirements for admission:

1. Baccalaureate degree from an accredited institution;
2. A cumulative grade point average (GPA) of 3.0 (4.0 = A scale) or the equivalent in the last four semesters or approximately 60 semester credits of the undergraduate record and in all post-baccalaureate work;
3. Evidence of eligibility for an Initial Hawaii Basic License to teach;*
4. Three letters of recommendation from references who have observed or supervised the applicant's performance and are able to comment on the quality of the applicant's teaching experience, ability to pursue graduate study, and general character.

*Applicants who do not hold a license to teach should meet with an Education Department Advisor (808-974-7582 for appointment) prior to submitting documentation of eligibility for an initial basic license. These applicants will be considered for acceptance into the program on a case-by-case basis. Applicants must submit evidence of their eligibility by documenting the following:

1. Development of knowledge, skills, and dispositions described in the Hawaii Teacher Standards Board's Teacher Performance Standards;
2. Experience teaching;
3. Ability to participate in the study of education at the level of sophistication required in a graduate program.

The UH Hilo Education Department M.Ed. Admissions Committee will evaluate above evidence submitted as one of the components in the M.Ed. application.

Application packets will be reviewed only when they are complete. International applicants also must provide verification of financial status. An official TOEFL score report may be required for international applicants.

Course and Graduation Requirements:

M. Ed. Course Requirements

- ED 600 (3) Education of Ethnic Groups in Hawai'i
- ED 602 (3) Technology in Education
- ED 608A, B, C (3) Fundamentals of Educational Research
- ED 610 (3) Foundations of Education
- ED 611 (3) Advanced Educational Psychology
- ED 616A, B, C (3) Assessment and Evaluation in Education
- ED 620 (3) Individual Differences: Learner Characteristics
- ED 622 (3) School Curriculum
- ED 625 (3) Seminar in Teaching Field
- ED 635 (3) Advanced Instructional Strategies
- 600+ Elective in Content Area

M. Ed. Graduation Requirements

- Students must complete all program courses, including the elective content-area course.
- To remain eligible for continuance in the M.Ed. and to be awarded the graduate degree, students must maintain progress toward completion of the program and must have a B average (3.0 GPA) for all courses completed in the program.
- Each student must complete a culminating experience; this is an independent project that integrates what he or she has learned during the five semesters of the program. The project must be completed independently of any course and will not be associated with program course credit.

Cohort and Other Requirements

- Students enroll in the M.Ed. program as members of a cohort which is expected to complete all requirements in five semesters and two summers.
- So that students can continue to teach while pursuing the degree, courses are offered during the evening and/or on Saturdays.
- Typically, all students in a cohort will take courses together and in the sequence prescribed by the department.
- New cohorts will be established based on student demand and available resources.

Faculty Advising and Guidance:

Each student will be assigned a faculty advisor who will meet with the individual student to review, approve, and provide guidance for the culminating project.

Coursework:

Courses in the M.Ed. program are taught by Education faculty and occasionally faculty from other departments.

MASTER OF ARTS IN HAWAIIAN LANGUAGE AND LITERATURE

Program Chair:
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Faculty:
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William H. Wilson, Ph.D. pila_w@leoki.uhh.hawaii.edu
Kauanoe Kamana, M.A. kauanoe@leoki.uhh.hawaii.edu
Larry L. Kimura, M.A. larry_k@leoki.uhh.hawaii.edu
Charles Langlas, Ph.D. langlas@hawaii.edu

Program Description:

Note: The following program requirements are approved for students admitted to the graduate program beginning Fall, 2005.

The M.A. in Hawaiian Language and Literature was UH Hilo's first graduate program and the first focusing on a Native American language in the United States. The program draws upon the tremendous wealth of Hawaiian literary resources from the 19th and 20th centuries—regarded by some scholars as the largest repository of any indigenous people in the world.

The M.A. seeks to produce graduates prepared to meet the increasing demands for in-depth knowledge of Hawaiian language and literature in all sectors of contemporary life in Hawaii. With government promotion of the language mandated by the Hawaii State Constitution, Hawaiian is the language area of greatest need in Hawaii's public schools. The only language other than English used as a full medium of instruction in the public schools, Hawaiian is presently the medium through which a full academic curriculum is delivered to nearly 2,000 children on all islands except Lanai. In addition, Hawaiian language-learning programs throughout the University of Hawaii system and in high schools enjoy large enrollments and, by constitutional mandate, are a part of the education of all elementary public school children. The substance, stability, and growth of such programs will depend heavily upon individuals with graduate level training in Hawaiian language and literature.

Entrance Requirements

1. B.A. or B.S. degree from an accredited college or university;
2. 30 upper division credits in HAW or HWST courses with no grade lower that a "B" and a minimum 3.5 grade point average;
3. Three letters of recommendation;
4. Successful completion of an examination in Hawaiian language and culture;
5. Interview by Hawaiian Studies faculty;
6. Graduate Record Examination scores.

Graduation Requirements

Plan A

Complete all 8 of the following requirements for a total of 36 semester hours:

1. Earn 12 semester hours from the following 4 courses: HAW 630, 631, 654; and HWST 663.
2. Earn 3 semester hours from HWST 661 **or** 662.
3. Earn 3 semester hours from HWST 664 **or** 665.
4. Earn 3 semester hours of HAW 690 **or** HWST 699V (course must be approved by program chair).
5. Earn 6 semester hours in HAW 700.
6. Earn 9 semester hours in upper division and graduate Hawaiian Language or Hawaiian Studies courses from the following list: HAW or HWST 400-498, 600-700 (except HAW 600); KED 470-474; KANT 486.
7. Earn no grade lower than a "B."
8. Pass an exit examination in Hawaiian language and culture.

Plan B

(allowed only with permission from all Hawaiian Language and Literature graduate faculty)

Complete all 5 of the following requirements for a total of 36 semester hours:

1. Earn 24 semester hours from the following 8 classes: HAW 630, 631, 654; HWST 661, 662, 663, 664, 665.
2. Earn 3 semester hours of HAW 690 **or** HWST 699V (course must be approved by program chair).
3. Earn 9 semester hours in upper division and graduate Hawaiian Language or Hawaiian Studies courses from the following list: HAW or HWST 400-498, 600-700 (except HAW 600); KED 470-474; KANT 486.
4. Earn no grade lower than a "B."
5. Pass an exit examination in Hawaiian language and culture.

MASTER OF SCIENCE IN TROPICAL CONSERVATION BIOLOGY AND ENVIRONMENTAL SCENCE

Program Chair:
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Michael Shintaku, Ph.D., Plant Pathology, shintaku@hawaii.edu
Elizabeth Stacy, Ph.D., Biology, estacy@hawaii.edu
Misaki Takabayashi, Ph.D., Marine Science, misakita@hawaii.edu
Jason Turner, Ph.D., Marine Science, jpturner@hawaii.edu
Tracy Wiegner, Ph.D., Marine Science, wiegner@hawaii.edu

Program Description

The primary purpose of the Master of Science in Tropical Conversation Biology and Environmental Science is to provide graduate training in conservation biology and environmental science to those with baccalaureate degrees and those currently working in the field. The program will utilize the extraordinary biological, physical, and cultural complexity of the island of Hawai`i as a focus of investigation and study. The program will prepare students for technical positions and for entry into Ph.D. programs in related fields.

Program Objectives:

- Foster knowledge of current trends and issues in conservation biology and environmental sciences including basic and applied research and natural resource problems;
- Provide participants with experiences in conceptual and technical research in ecology, evolutionary genetics, geographic analysis, environmental monitoring and assessment in marine and terrestrial environments;
- Promote research and scholarly activities that will enable participants to enter the scientific research community.

Graduates Of The Program Will Be Able To:

- Perform scientific research in the interdisciplinary field of conservation biology and environmental science;
- Develop skills in natural resource and protected area management;
- Use advanced technological equipment, perform quantitative analysis, and interpret complex data;
- Present scientific results in oral and written publications;
- Interpret and critique professional scientific literature.

Application Process

Applications will be examined beginning February 1 for admission the following Fall semester. After February 1 applications will be accepted on a space available basis until May 1. The UH Hilo Graduate Office of Admissions receives applications and supporting documents and maintains the applications through final notification. If you do not hear from the Graduate Office of Admissions within 30 days of submission of your application, please contact the office at 808-974-7414.

Applications that meet the requirements will be forwarded to the Tropical Conservation Biology and Environmental Science Admissions Committee for a comprehensive review. Admission decisions made by the committee will be forwarded to the Graduate Office of Admissions which sends the final notification to the applicant.

Admission Status: The applicant's admission status is valid only for the semester to which the applicant is accepted. Applications for students who do not register or who withdraw from the University are voided but retained for a period of one (1) year. Students may reapply for admission to the next year by notifying the Graduate Office of Admissions and submitting the application fee.

Admission Requirements

1. A baccalaureate degree from a regionally-accredited U.S. institution or from a nationally-recognized foreign institution.
2. Communicate with a potential advisor(s) from the list of participating faculty with similar research interests (see Internet

Web Site). In the personal statement, list advisor(s) from the TCBES faculty who agrees to sponsor the application and to serve as primary advisor upon acceptance to the program.

3. A minimum combined verbal and quantitative score of 1000 on the General Graduate Record Exam (GRE).
4. Three letters of recommendation submitted by references who have observed or supervised the applicant's performance and are able to comment on the quality of the applicant's academic achievement, ability to pursue graduate study, and general character.
5. Grade point average of 3.0 (on a scale where A = 4.0) or the equivalent in the last four semesters of approximately 60 semester credits of undergraduate work and/or in all post-baccalaureate work.

Note: In special circumstances acceptance may be granted at the discretion of the selection committee for those students who meet some, but not all, the above requirements.

Note: Recommended Baccalaureate Courses for Admission to the Program:

- 2 years of chemistry
- 1 year of calculus
- 1 course in geographic information or remote sensing
- 1 course in statistics
- 2 courses in life sciences
- 2 additional courses in physical sciences

Transfer of Credits

Requests for transfer of graduate credits must be made during the first semester in which the student is enrolled in the program. Only credit hours with a grade of B or better from accredited universities are transferable. Transfer credit hours must have been completed within five years preceding the date upon which the advanced degree is to be conferred by UH Hilo. The TCBES program will decide which credits will be transferred.

International Credentials

A statement describing minimum academic qualifications expected of international applicants may be obtained from the Graduate Office of Admissions. These qualifications must be completed prior to enrollment.

M.S. TCBES Check List (Reminder: Priority application deadline is February 1):

- ❑ Completed UH Hilo Graduate application form
- ❑ Personal statement of objectives
- ❑ Application fee
- ❑ Official transcripts from all colleges or universities (must be received directly from the institution, or in a sealed envelope if submitted with your application)
- ❑ General Test, Graduate Record Exam
- ❑ Three Letters of Recommendation received at UH Hilo by February 1
- ❑ Official TOEFL score report, if required
- ❑ Verification of financial status (for international applicants) [www.uhh.hawaii.edu/forms/index.php]

Frequently Asked Questions

1. How long does it take to complete the program? The program is designed to be completed in 3-4 semesters, with additional time needed for writing the thesis or completing the internship.
2. What are the entrance requirements? See Check List and Admission Requirements sections.
3. Do I have to take the GRE? Yes. Applicants are required to submit General GRE scores to UH Hilo.
4. Can I transfer credits? Yes, subject to program approval.
5. How much will it cost to live in Hilo? In-state students should budget approximately $13,000 per year for tuition, books, housing, food, and personal expenses; out-of-state students should budget about $18,000.
6. Is financial aid available? Contact the UH-Hilo Financial Aid Office for information (808-974-7323). Teaching and research assistantship positions are sometimes available. Contact Dr. Price: (donaldp@hawaii.edu)
7. Do I need a computer? Yes, or at least daily access to one.
8. Is there a website for the program? Yes, the website has information on faculty research interests as well as other pertinent program information: http://www.tcbes.uhh.hawaii.edu
9. Do I need to identify an Academic Advisor in the program? Yes. It is required that you contact individual faculty members whose research interests are similar to your own. Faculty information can be found on the TCBES Program website.
10. Do I need to write a Master's Thesis? Plan A requires course work and a thesis of original research. Plan B requires course work, an internship, and research papers.

Program Curriculum

Total Credits Required:

- Plan A = 30 credits
- Plan B = 36 credits

Core Courses (8) credits required for all M.S. TCBES students):

CBES 600 (3)	Conservation Biology and Environmental Science
CBES 601 (3)	TCBES Field and Laboratory Methods
CBES 602 (1)	Research Seminar in TCBES
CBES 603 (1)	Natural Resource Management Seminar

Elective Courses*:

Plan A: 16 elective credits of 600-level CBES courses.

Plan B: 25 elective credits of 600-level CBES courses.

*A maximum of 6 credits of 400-level courses may count toward these elective credits.

CBES 610 (3)	Environmental Chemical Analysis
CBES 615 (3)	Global Environmental Change
CBES 620 (3)	Research Techniques in Molecular Conser vation Biology
CBES 630 (3)	Near shore Monitoring and Analysis
CBES 635 (3)	Physical Environment of Ecosystems
CBES 640 (3)	Advanced Remote Sensing and Digital Image Processing
CBES 645 (3)	Applying Social Science to Marine and Coastal Resource Management
CBES 650 (3)	Oceanographic Monitoring and Analysis
CBES 655 (3)	Ecological Physiology
CBES 665 (3)	Environmental Toxicology
CBES 670 (3)	Advanced Techniques in Geographic In formation Systems
CBES 675 (3)	Conservation Genetics
CBES 680 (3)	Advanced Statistical Analysis and Re search Design
CBES 685 (3)	Behavioral Ecology and Evolutionary Analysis

Other Courses

CBES 690 (3)	Internship (Plan B: 3 credits required)
CBES 694 (1-3)	Special Topics in Tropical Conservation Biology and Environmental Sciences
CBES 699 (1-3)	Directed Research
CBES 700 (1-6)	Thesis Research (Plan A: 6 credits re quired)

COLLEGE OF PHARMACY
DOCTOR OF PHARMACY (PHARM.D.)

Program Dean:
John M. Pezzuto, Ph.D.
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Email: pharmacy@hawaii.edu
808-443-5900
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Executive Administrative Specialist:
Dyanne D. Affonso, Ph.D.

Professors:
Edward Fisher, Ph.D., R.Ph., Associate Dean, Academic Affairs
Mark P. Okamoto, Pharm.D., R.Ph., Chair, Department of Pharmacy Practice
John M. Pezzuto, Ph.D., Dean of College
Associate Professors:
Robert P. Borris, Ph.D., FLS, Associate Dean, Research
Anthony Wright, Ph.D., Chair, Department of Pharmaceutical Sciences
Assistant Professors:
Leng Chee Chang, Ph.D.
Ghee T. Tan, Ph.D.
Instructor:
Anita E. Ciarleglio, Ph.D., R.Ph.
Clinical Coordinator:
Carolyn Ma, Pharm.D., BCOP, CHTP/I
Director of Student Services:
Elizabeth A. Seese, B.A.
Pharmacy/Health Sciences Librarian:
Amy Knehans, M.L.I.S.
Laboratory Manager:
Tamara Kondratyuk, Ph.D.

Program Description

The University of Hawai'i at Hilo College of Pharmacy is a four-year educational and experiential program through which students pursue the Doctor of Pharmacy (Pharm.D.) degree. The UH Hilo-CoP's Pharm.D. program prepares the student for entry into the pharmacy profession. During the four years at UH Hilo-CoP, students will complete a total of 148 semester hours of credit; 95 hours in required courses, 9 credit hours in elective professional courses, and 44 credit hours in clinical/experiential education

Mission Statement

The mission of the University of Hawai'i at Hilo College of Pharmacy is to prepare competent pharmacy practitioners who are committed to patient care, who reflect humanistic values, who embrace change, and who contribute to the renewal of the profession. The College of Pharmacy embodies a spirit of community, in which cooperation, trust and mutual respect are valued.

Inherent in this education is the acquisition by students of a relevant knowledge base as well as professionally related experiences, capabilities, understandings, skills, attitudes and values. It is the mission of the College of Pharmacy to build and deliver a quality, multidisciplinary health professions program, in which role models teach the student to learn and adopt the application of that knowledge throughout our environment.

Program Goals

1. Implement academic curricula that lead to a flagship Pharm. D. program, which produces graduates committed to serving people via science-based practice.
2. Accountability to the Institute of Medicine's core competencies for the health professional workforce.
3. Conduct research that advances pharmaceutical sciences and makes a difference for humanity inclusive of effects on global health.
4. Cultivate culturally competent, intellectually inquisitive, self-directed, caring pharmacists who are critical thinkers, problem solvers and life-long learners in a changing healthcare environment.

Prospects for Graduates

Graduates of the Pharm.D. program at the University of Hawai'i at Hilo will be able to seek employment as pharmacists in a variety of professional settings. Their professional duties may include, but are not limited to, distribution of drugs prescribed by physicians and other health care practitioners, providing information about prescriptions and their use to their patients and customers, advising health care professionals on the prescription and interaction of drug therapies, compounding, pharmaceutical research, hiring and supervision of staff, business operations of pharmacies, administering of vaccinations, etc. The job outlook for pharmacists is extremely good nationwide and in Hawai'i. There is currently a shortage of community, clinical and research pharmacists. It is expected that the field of pharmacy will grow at a "faster than average" rate over the next decade (www.bls.gov/oco/ocos079.htm). In order to practice as a registered pharmacist (R.Ph.), state licensure is required.

Admission Requirements

To be eligible for admissions into the University of Hawai'i at Hilo College of Pharmacy, students must meet the following requirements:

1. A minimum overall GPA of 2.8 on a 4.0 scale. A minimum science GPA of a 2.9 on a 4.0 scale.
2. Completion of the prerequisite courses including:

Course	Credits
Human Anatomy & Physciology	8
Biology with lab	8

Microbiology with lab	4
General Chemistry with lab	8
Organic Chemistry with lab	8
Quantitative Reasoning/Math/Calculus	3
English Compositioin	3
World Cultures	6
Humanities	9
Social/Behavioral Sciences	9
Total Credits	66

Please Note: the most current listings of prerequisite courses can be found on our website (http://pharmacy.uhh.hawaii.edu/). Prerequisites are subject to change at the end of each application cycle.

3. Completion of the PCAT (www.pcatweb.info) and submission of official scores to PharmCAS (www.pharmcas.org).
4. Completion and submission of the PharmCAS application (www.pharmcas.org) and completion and submission of the supplemental application to be sent by UH Hilo-CoP to applicants meeting the minimum qualifications.
5. International Applicants must also complete a minimum of 30 semester hours of coursework in the United States at any regionally-accredited college or university. Of the 30 require semester hours, 15 semester hours must be allocated to non-remedial science courses.

Note: Meeting the minimum qualification requirements does not guarantee admission. All eligible applications are reviewed by the UH Hilo-CoP Admissions Committee which applies multiple criteria for the assessment of applications and selection of candidates to be interviewed.

UH Hilo-CoP annually accepts 80 students for Fall admissions.

Application Procedure

UH Hilo-CoP operates on a competitive, rolling application basis. In order for students to be eligible for consideration, the students must meet the minimum requirements listed above and complete the following application procedure.

1. Students complete, or are in the process of completing, their prerequisite coursework.
2. Students take the PCAT. UH Hilo-CoP suggests that students take the PCAT at least the year prior to seeking entry. Please note that PCAT scores must be processed by Harcourt and submitted to PharmCAS in time to meet the designated application deadline.
3. Students complete and submit the PharmCAS application and fee(s) (www.pharmcas.org) along with official transcripts from all attended regionally-accredited colleges and/or universities, two (2) letters of recommendation, and PCAT scores by the designated application deadline posted on the PharmCAS website.
4. Students who meet the minimum requirements will receive a supplemental application from UH Hilo-CoP. The supplemental application must be completed and returned along with the supplemental application fee.

Upon submission of all required application components, the complete file and applicant profile will be reviewed by the CoP Admissions Committee. At said time, the committee will decide to invite the candidate for an interview, place the candidate on hold for further review, or reject the applicant. All candidates who are invited for an interview will be contacted via mail and email. After the personal interview, the applications and interview scores are presented to and reviewed by the Admissions Committee for final admissions decisions.

Program Curriculum

First Professional Year (P-1)

Fall Semester (16 semester hours)

PHPP 501(1)	Introductory Pharmacy Practice Experiential (IPPE) I
PHPP 511(1)	Inter-professional Health Care
PHPP 512 (2)	Culture and Pharmaceutical Care I
PHPS 501 (4)	Biochemistry I
PHPS 503 (1)	Pharmaceutical Calculations
PHPS 504 (3)	Pharmaceutical Immunology
PHPS 505/L (4)	Pharmaceutics/Drug Action I

Spring Semester (17-18 semester hours)

PHPP 502 (1)	Introductory Pharmacy Practice Experiential (IPPE) II
PHPS 502 (4)	Biochemistry II
PHPS 506/L (4)	Pharmaceutics/Drug Action II
PHPS 508 (3)	Statistics
PHPS 509 (3)	Pathophysiology I

ELECTIVES (2-3 semester hours)

Summer

First Professional Year IPE Forum: IOM Core Competency - Patient-centered Care and Patient Safety

Second Professional Year (P-2)

Fall Semester (17-18 semester hours)

PHPP 503 (1)	Pharmacy Practice Experiential (PPE) I
PHPP 514 (2)	Evidence-based Medicine and Critical Literature Review
PHPP 515 (4)	Integrated Therapeutics I
PHPS 507 (3)	Pharmaceutics/Drug Action III
PHPS 510 (3)	Pathophysiology II
PHPS 511 (3)	Pharmacokinetics I

ELECTIVES (1-2 semester hours)

Spring Semester (17-18 semester hours)

PHPP 504 (1)	Pharmacy Practice Experiential (PPE) II
PHPP 516 (6)	Integrated Therapeutics II
PHPP 519 (1)	Patient Interviewing, Assessment, and Education
PHPS 512 (3)	Pharmacokinetics II
PHPS 520 (3)	Pharmacy Law and Ethics
PHPS 521 (3)	Applied Pharmaceutical Care

ELECTIVES (0-1 semester hours)

Summer

Second Professional Year IPE Forum: IOM Core Competency - Interdisciplinary Healthcare Team and Inter-professional Education

Third Professional Year (P-3)

Fall Semester (16-18 semester hours)

PHPP 505 (1)	Pharmacy Practice Experiential (PPE) III
PHPP 513 (2)	Culture and Pharmaceutical Care II
PHPP 517 (6)	Integrated Therapeutics III
PHPP 522 (2)	Pharmacy Practice Management

ELECTIVES (5-7 semester hours)

Spring Semester (17-18 semester hours)

PHPP 506 (1)	Pharmacy Practice Experiential (PPE) IV
PHPP 518 (6)	Integrated Therapeutics IV
PHPP 523 (2)	Wellness, Prevention, and Disease Management
PHPP 524 (2)	Health Economics and Outcomes Assessment
PHPP 525 (2)	Marketing of Professional Services
PHPS 513 (2)	Parenteral Products and Pharmaceutical Compounding

ELECTIVES (2-3 semester hours)

Summer

Third Professional Year IPE Forum: IOM Core Competency—Evidence-based Practice and Utlilizing Informatics

Fourth Professional Year (P-4)

Fall, Spring, and Summer Semesters

Advanced Professional Practice Experiences: 42 weeks for a total of 35 semester hours

PHPP 507 (5)	Advanced Pharmacy Practice Experience (APPE)—Ambulatory Care
PHPP 508 (5)	Advanced Pharmacy Practice Experience (APPE)--Community
PHPP 509 (5)	Advanced Pharmacy Practice Experience (APPE)--Medicine
PHPP 510 (5)	Advanced Pharmacy Practice Experience (APPE)—Specialty

ELECTIVE (5)
ELECTIVE (5)
ELECTIVE (5)

Professional Electives: Students must complete a minimum of 12 semester hours of elective credits. Examples of options available are as follows:

Academic Pharmacy
Cardiology
Critical Care
Culture & Pharmacy
Drug Information
Emergency Medicine
Geriatrics (Long-term Care)
Health Outcomes
Home Health
Infectious Disease
Industry
Neonatology
Nuclear Pharmacy
Nutritional Support
Oncology
Patient Safety
Pacific Islanders & International Pharmacy
Pediatrics/Child Health
Pharmacy Management
Plant/Natural Products Durg Discovery
Poison Prevention/Control
Prescription Benefit Management
Psychiatric/Mental Health/Psychological Behavioral Health Diseases
Research

Graduate Courses

CHINA – U.S. RELATIONS: MASTER OF ARTS

CHUS 500 Graduate Studies (1) (S) Used for continuous enrollment purposes. Must be taken as C/NC. Does not count toward fulfillment of degree requirements. Pre: Master's or doctoral candidacy and consent of instructor.

CHUS 600 Approaches & Perceptions: Understanding China and America (3) (Y) Critical analysis of issues and problems in American studies of China and Chinese perceptions of America. Also historical and comparative survey of traditional Chinese culture and American civilization.

CHUS 610 Problems and Issues of Contemporary China (3) (Y) Multidisciplinary examination of problems and issues affecting lives and institutions of contemporary China: economic development, population growth, urbanization, political and social change.

CHUS 621 Seminar in Chinese Philosophy (3) (AY) Examines major philosophical ideas in the development of Chinese culture from the modern and the post-modern perspectives and studies their impact upon the life of peoples in the Pacific and the United States.

CHUS 622 Chinese Religions and the West (3) (AY) Exploration of the ways Chinese religious/philosophical traditions have influenced/been influences by Western religious, philosophical, and scientific thought. Emphasis on traditions of Confucianism and Taoism, with some attention to Buddhism.

CHUS 623 Chinese Immigrants in the United States (3) (AY) Examines the experience of Chinese immigrants in North America. Studies the formation of Chinese immigrant communities and basic processes of ethnic self-identification.

CHUS 640 Chinese & U.S. Economies: A Comparative Approach (3) (AY) This course provides for and focuses on an economic analysis of the Taiwanese, the People's Republic of China, and the United States economies. The economic analysis is supplemented by utilizing a historical, comparative, and interdisciplinary approach.

CHUS 641 Seminar: U.S.-China Environmental Issues (3) (AY) United States and Chinese environmental attitudes and policies in comparative context. Comparative domestic policies over a wide range of environmental issues and bilateral cooperation and conflict in international environmental affairs. Pre: GEOG 326 or graduate standing.

CHUS 643 Advanced Graduate Study on Contemporary Chinese Politics (3) (AY) Examines contemporary Chinese political issues and problems in the post-Deng transitional period for China. Focus of the course is on informal-elite politics, institutional development, erosion of ideology, military role, central-provincial tension, and regionalism. This course may be repeated once for credit, with a total of 6 credits possible. Pre: POLS 351.

CHUS 650 Intercultural Communication: China and the United States (3) (AY) This course provides an overview of major theories of intercultural communication between the Chinese and U.S. Americans and engages in theory-based comparisons of culture and communication in Chinese and U.S. societies.

CHUS 661 Comparative Political Economy: U.S. and Greater China (3) (AY) The political economy of the United States, people's Republic of China, Hong Kong, and Taiwan. Emphasis will be on U.S. and Greater China economic relations and the effect of the political relations on international trade of these two countries.

CHUS 694 Special Topics in China-U.S. Relations (1-3) Advanced topics chosen by the instructor. The course content will vary. May be repeated for credit, provided that a different topic is studied. Pre: To be specified when course is offered.

CHUS 695 Seminar: Comparative Study of China and the U.S. (3) (Y) Comparative study of Chinese and American cultures employing perspectives arising out of two basic core course: focus may be on past or current events, ancient or modern texts, or some other phenomena.

CHUS 699V Directed Research (1-3) (repeatable)

CHUS 700V Thesis Research (1-6) (repeatable) Graduate level thesis research, theoretical development, and writing. Students may register for 1 to 6 credit hours per semester for a maximum of 6 credits for M.A. Plan A. Pre: consent of instructor, thesis committee, and program chair; completion of "Thesis Form for Master's Degrees" CHUS 700.

COUNSELING PSYCHOLOGY: MASTER OF ARTS

PSY 500 Graduate Studies (1) (S) Used for continuous enrollment purposes. Must be taken as C/NC. Does not count toward fulfillment of degree requirements. Pre: Master's or doctoral candidacy and consent of instructor.

PSY 601 Applied Multivariate Statistics (4) (Y) Advanced statistical techniques used in psychological research and assessment. Strategies of multivariate data screening, transformation, analysis, and interpretation. Computerized statistical packages designed for multivariate analyses.

PSY 602 Research Methodology And Program Evaluation (3) (Y) Basic research methodology including quantitative, qualitative, action research, and context-based research. Theoretical knowledge and practical experience in program design and evaluation. Strong emphasis will be given to the importance of research and program evaluation and the opportunities and difficulties encountered when conducting these in the counseling profession. Pre: PSY 601

PSY 603 Psychological Assessment (3) (Y) Principles of psychological assessment. Historical perspective on psychological assessment. Assessment methods. Scales used in psychological assessment: Assessment of personality, abilities, achievement, interests, and values. Assessment of environment. Quality of assessment. Assessment design and implementation. Interpretation of the assessment results. Cross-cultural aspects of assessment. Legal and ethical issues. Pre: PSY 601

PSY 604 Professional Identity, Ethics And Legal Issues (3) (Y) Ethical issues in counseling and psychological research. Ethical decision making, confidentiality, and ethical obligations. Research ethics and psychologists in the legal system. Ethical standards and guidelines.

PSY 611 Lifespan Human Development (3) (Y) Psychological, social, and physical development over the life span. Interaction among genetic make-up, human activity, and context in the process of development. Stages and mechanisms of development. Normative development and deviations from the norm. Theories of development. Research on developmental processes in various domains. Cross-cultural perspective on human development. Current research issues.

PSY 612 Career Development (3) (Y) Work and work-related behavior over the life span. Relationships between life style and career development. Theories of vocational development. Career development of women and minorities. Occupational information and decision making. Impact of changing technology and job market. Application to career counseling with diverse populations.

PSY 613 Psychopathology Over The Lifespan (3) (Y) Abnormal development across the lifespan. DSM-IV classification of disorders and methods of appraisal. Etiology, diagnosis and treatment of child, adult, and geriatric disorders.

PSY 614 Family System (3) (IO) Family as an open system. Family structure, processes, and context. Family dynamics. Interaction among psychological, social, economic, and biological aspects of family functioning. Reciprocal relationships in the family. Interaction between families and their contexts. Cross-cultural differences in family organization and functioning. Problems in the family and ways of coping.

PSY 620 Counseling Theories (3) (Y) A pre-practicum course designed to help students gain an in-depth understanding of various counseling theories. Through reading, discussions, in-class exercises, and homework assignments, students will learn the theories.

PSY 622 Group Work And Counseling (4) (Y) Group purpose, type, development, dynamics; leadership and diversity; group work and counseling theories, methods and skills; evaluation of group work and counseling; application of group work and counseling in family, school and workplace settings. Students participate in an experiential learning group over the course of the semester.

PSY 623 Social And Cultural Foundations (3) (Y) Interaction between society and the individual. Socio-economic status, ethnicity and culture as determinants of behavior. Characteristics of multicultural and diverse societies and their effects on individual and group behavior.

PSY 624 Counseling Skills (3) (Y) A pre-practicum course designed to help student develop effective counseling skills. Through reading, discussions, in-class exercises, and homework assignments, students will learn therapeutic skills.

PSY 640 Counseling Practicum (6) (Y) Supervised experience in community practice counseling settings, including 100 hours of supervised client contact. Repeatable if different field placement. Pre: PSY 602,603, and consent of instructor.

PSY 641 School Behavior, Adjustment, And Problems (3) (IO) School adjustment in children at all school levels. Factors contributing to academic success and effective social interaction. At-risk children. Coping processes. School adjustment among culturally diverse children and children with special needs. The role of school, family, and community in the child's academic performance and school behavior. Prevention and intervention strategies.

PSY 642 Educational And Vocational Assessment (3) (IO) Principles and goals of educational and vocational assessment and counseling applications. Assessment settings, populations, and procedures. Educational assessment methods. Vocational assessment methods. Interpretation and use of the assessment results. Cross-cultural, social, legal, and ethical issues. Pre: PSY 601, 603.

PSY 643 School And Career Guidance And Consultation (3) (IO) History, principles, and goals of guidance and consultation in educational and work settings. Academic and career guidance. Individual and group guidance. Problem-specific, cultural, and developmental approaches to guidance and consultation. Guidance settings, populations, and procedures. School guidance and K-12 curriculum. Career services. Computerized guidance systems. Social, legal, and ethical issues. Pre: PSY 612, 641, or consent of the instructor.

PSY 651 Theories Of Family Counseling (3) (Y) Theoretical approaches used by systemic family therapists to assess and treat family problems.

PSY 652 Couple Counseling (3) (IO) Theory, research and practice in couple counseling from a systems perspective. Counseling process and outcome in distressed and dysfunctional couples, including cultural factors.

PSY 653 Treating Families In Crisis (3) (IO) Historical roots of family stress theory and basic theoretical approaches used by family therapists to assess and treat family stress and its symptoms.

PSY 654 Gender And Cultural Issues In Families (3) (IO) Gender and cultural issues in the family system; historical aspects of gender; gender systems; gender issues related to marriage and family therapy; development of culture; cultural similarities and differences in human development; multi-cultural and multiracial families.

PSY 655 Systemic Sex Therapy (3) (?) Human sexuality from the systems perspective. Common sexual attitudes and behavior problems. Analysis and intervention with sexual dysfunctions. Sex therapy with diverse populations of clients.

PSY 659 Internship (9) (Y) Supervised clinical experience in community practice counseling settings, including 200 hours of supervised client contact. Pre: PSY 640 and instructor's consent.

PSY 694 Advanced Topics (3) (IO) Advanced-level topic chosen by the instructor, with course content varying with each offering. May be repeated for credit provided that a different topic is studied.

PSY 699 Directed Studies (3) (IO)

PSY 700 Thesis Research (?) Supervised research, data analyses, literature review, and writing up of an original empirical study designed to develop and demonstrate the ability to do research and competence in scholarly exposition. Students are expected to work on their thesis under the supervision of their faculty and have their work reviewed by their thesis committee.

EDUCATION: MASTER OF EDUCATION

ED 500 Graduate Studies (1) (S) Used for continuous enrollment purposes. Must be taken as C/NC. Does not count toward fulfillment of degree requirements. Pre: Master's or doctoral candidacy and consent of instructor.

ED 600 Education of Ethnic Groups in Hawai'i (3) (AY) Survey of social-psychological learning characteristics, heritage, identity problems of Hawai'i ethnic groups, study of prejudice and inter-ethnic hostilities as related to education and teaching.

ED 602 Technology in Education (3) (AY) Selection, evaluation and utilization of instructional materials for systematic achievement of curriculum, goals, investigation of innovative technological advances for use in teaching and training. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 608A Fundamentals of Educational Research I (1) (AY) Systematic study of the purposes of educational research, evaluation and use of research, and introduction of research design principles with emphasis on classroom applications. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 608B Fundamentals of Educational Research II (1) (AY) Principles of research design, methodology, and analysis as applied to field research. Pre: successful completion of ED 608A or consent of instructor.

ED 608C Fundamentals of Educational Research III (1) (AY) A synthesis and application of research skills which culminates in an original research proposal. Pre: successful completion of ED 608A & B or consent of instructor.

ED 610 Foundations of Education (3) (AY) Social and intellectual history of education. Historical and contemporary relationships between schools and society. Foundations of the major philosophies of education. Contemporary educational theory and practice as related to major historical, philosophical and social factors in American culture. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 611 Advanced Educational Psychology (3) (AY) Foundations of educational psychology through the vehicle of an exploratory study. Inquiry approach stresses learning theory, measurement techniques, and research skills in education. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 616A Assessment and Evaluation in Education I (1) (AY) Systematic study of the theory and technology of measurement, assessment and evaluation in educational settings, emphasizing the development and use of traditional techniques. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 616B Assessment and Evaluation in Education II (1) (AY) Systematic study of the theory and technology of alternative assessment and evaluation in educational settings with emphasis on field-based applications. Pre: successful completion of ED 616A or consent of instructor.

ED 616C Assessment and Evaluation in Education III (1) (AY) Synthesis and application of measurement, assessment and evaluation in the use, adaptation, and/or creation of appropriate techniques in an original research proposal for a project or thesis. Pre: successful completion of ED 616A and B.

ED 620 Individual Differences: Learner Characteristics (3) (AY) Systematic study of the conceptual framework of inclusive education which consists of special education, gifted and talented education and compensatory programs. Emphasis will be placed upon individual student characteristics and strategies for effective instruction. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 622 School Curriculum (3) (AY) Development and improvement of curriculum. Explanation of contemporary curricular issues which impact teaching and learning in the classroom. Emphasis on school reform and renewal. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 625 Seminar in Teaching Field (3) (AY) Study in trends, research, and problems of implementation in interdisciplinary teaching. Pre: acceptance into the M.Ed. program.

ED 635 Advanced Instructional Strategies (3) (AY) An examination of various instructional strategies including information processing, social interaction, and personal development. Theory and research in the development, selection, implementation and evaluation of instructional models. Pre: acceptance into the M.Ed. program or consent of instructor.

ED 694 Special Topics in Education (arranged) Selected topics in education curriculum chosen by the department. The course content will vary. Course may be repeated provided a different topic is studied. Pre: Consent of instructor.

ED 699 Directed Studies (arranged) Statement of planned reading or research required. Pre: Master's candidacy and consent of instructor.

HAWAIIAN LANGUAGE AND LITERATURE: MASTER OF ARTS

HAW 500 Graduate Studies (1) (S) Used for continuous enrollment purposes. Must be taken as C/NC. Does not count toward fulfillment of degree requirements. Pre: Master's or doctoral candidacy and consent of instructor.

HAW 630 Research Methods in Hawaiian Language (3) Seminar in which students explore and choose thesis topics. Pre: Concurrent enrollment in HAW 631.

HAW 631 History of Hawaiian Language and Literature (3) Hawaiian language and literature since contact with Europeans. Styles of language and types of literature. Relationships between Hawaiian and other languages, especially Hawaii Creole English. Recommended Pre: LING 331.

HAW 632 Teaching Hawaiian as a Second Language (3) Teaching Hawaiian to speakers of other languages, particularly Hawaii Creole English. Problems faced by students in acquiring native-like fluency. History of Hawaiian language teaching. Pre: HAW 453, 454. Recommended: HWST 431, LING 351.

HAW 654 Advanced Hawaiian Grammar (3) Advanced aspects of Hawaiian grammar. Pre: HAW 453,454; LING 321.

HAW 690 Study in the Hawaiian Speaking Community (3) Off-campus field work experience. Pre: HAW 453, 454, and 631. See Graduate Program Chair for overseas minority language study option substitute for this course.

HAW 694 Special Topics in Hawaiian Language (3) Specialized topics at the graduate level. Course content will vary; may be repeated for credit provided a different topic is studied. Pre: HAW 454.

HAW 699V Directed Studies in Hawaiian Language (3) Study outside regular classroom under faculty direction. Permission of instructor and statement of planned reading or research required.

HAW 700 Thesis Research (1-6) Research and writing of thesis. Pre: HAW 630.

HWST 661 Advanced Hawaiian Music (3) Examination of indigenous and foreign forms found in acculturated Hawaiian music. Conducted in Hawaiian. Pre: HWST 471, 473.

HWST 662 Applied Hawaiian Chant (3) Applied study of the performance of various Hawaiian chant styles. Conducted in Hawaiian. Pre: HWST 462, 473, 474.

HWST 663 Traditional Hawaiian Literature (3) Focuses on indigenous oral and written literature forms and their relationships to folk tales. Conducted in Hawaiian.

HWST 664 European-influenced Hawaiian Literature (3) Hawaiian literature developed on European models, such as biographies, late nineteenth century histories, and journals. Conducted in Hawaiian.

HWST 665 Ethnological and Historical Narratives (3) Descriptions written in Hawaiian regarding traditional Hawaiian culture and history. Cultural topics range from religion and court life to farming and fishing. Conducted in Hawaiian. Pre: HAW 453m HWST 663. Recommended: ANTH 385, 386; HWST 213.

HWST 694 Special Topics in Hawaiian Culture (3) Specialized topics at the graduate level. Course content will vary; may be repeated for credit provided a different topic is studied. Conducted in Hawaiian.

HWST 699V Directed Studies in Hawaiian Culture (3) Study outside regular classroom under faculty direction. Permission of instructor and statement of planned reading or research required. Conducted in Hawaiian.

TROPICAL CONSERVATION BIOLOGY AND ENVIRONMENTAL SCIENCE: MASTER OF SCIENCE

CBES 500 Graduate Studies (1) (S) Used for continuous enrollment purposes. Must be taken as C/NC. Does not count toward fulfillment of degree requirements. Pre: Master's or doctoral candidacy and consent of instructor.

CBES 600 Principles of Tropical Conservation Biology and Environmental Science (3) Fundamental principles of tropical ecology, with an emphasis on the conservation and management of tropical ecosystems. The course discusses the various physical and biological factors that affect and shape tropical ecosystems, such as climate, topography, biogeography, biodiversity, productivity, and nutrient cycling. Tropical marine and terrestrial ecosystems around the world are compared, with a special focus on Hawai`i. Specific conservation and management challenges in each system are discussed. Restoration strategies for tropical ecosystems are also included.

CBES 601 Field and Laboratory Methods in Tropical Conservation Biology and Environmental Sciences (3) A practically oriented course introducing students to a range of laboratory and field methods and techniques used by practitioners in conservation biology and environmental sciences. A second goal of this course is to familiarize students with the biological and environmental diversity of the Island of Hawaii . Training in techniques is provided that can be used in thesis and internship projects. Students are introduced to methods used for studying, monitoring and experimenting upon plants and animals in a variety of habitats and measuring environmental variables in these habitats. Emphasis is placed on the choice of techniques for data collection, followed by rigorous analysis of results; training is given in the application of appropriate statistical techniques to ecological data. The data and information collected in this course will be more fully analyzed in CBES 605.

CBES 602 Research Seminar in TCBES (1) A research seminar course in tropical conservation biology and environmental science. Presentations will focus on research that is related to conservation biology and environmental science topics. Following the seminar there will be an open question-and-answer discussion session with the seminar speaker and students. Students also will give short presentations of their research or internship projects. These seminars will be critiqued by the instructor and the students for both the content of the project and presentation style.

CBES 603 Natural Resource Management Seminar (1) Seminars to be given by the TCBES faculty, visiting scientists from other universities, federal, state, and non-profit agency personnel working in fields related to TCBES. The seminars will focus on natural resource management issues. Following the seminar there will be an open question-and-answer discussion session with the seminar speaker and students. Students also will give short presentations of their research or internship projects. These seminars will be critiqued by the instructor and the students for both the content of the project

CBES 610 Environmental Chemical Analysis (3) Basic concepts of chemical measurements in environmental media. Analysis of environmental matrices with emphasis on water, in addition to soil, air and tissue. Topics include basics of instrument calibration and measurement, sample collection, sample lability, chemical interferences, matrix effects and reporting analyses of chemicals in the environment. Pre-req: CHEM 124, 125 with labs and CHEM 241 or equivalent, or permission of instructor. CHEM 330 and 330L recommended.

CBES 615 Global Environmental Change (3) Discusses the natural and anthropogenic processes that regulate the function of the Earth system. The basic understanding of the history and mechanisms of global change processes and the means by which human activities alter Earth system function at local to global scales will be examined, along with potential consequences of and solutions to global change. Course will focus on interrelationships of the atmosphere, hydrosphere, geosphere and biosphere and will provide students an understanding of the role that multidisciplinary science and technology have on research of the earth system.

CBES 620 Research Techniques in Molecular Conservation Biology (3) Major advances in molecular biology important to conservation studies are examined. Collection and molecular genetic analysis of plant and animals will be performed. Molecular techniques that are applied to conservation studies are performed including: PCR, RFLP, AFLP, DNA sequencing, and microsatellite analysis. Data analysis is examined including a number of popular genetics software packages that enable pairwise comparisons of large data sets and the construction of genetic distance matrices and networks. Pre-req: BIOL 357L and BIOL 481L or equivalent, or permission of instructor.

CBES 625 - Tropical Ecosystem Analysis and Management (3) This course is an introduction to concepts of ecosystem management and exploration of how those concepts apply to the tropics in general and Hawai`i in particular. The focus is on terrestrial and near coast marine ecosystems. The course explicitly recognizes that ecosystem management demands an integrated view of possible types of land use, with the appropriate mix being a function of societal objectives and scientific evaluation of what best meets those objectives. Pre-req: CBES 605 or permission of instructor.

CBES 630 Nearshore Monitoring and Analysis (4) The purpose of this course is to provide graduate students with a venue to learn techniques used to study the coastal environment in order to assess ecosystem health and/or quantify coastal impacts. Topics to be cover include, but are not limited to, species diversity, organism abundance, nutrient concentrations, sedimentation processes, sediment-water interface dynamics, and benthos quantification (i.e., percent cover). Students will learn how to collect field samples/data, conduct laboratory analysis, execute statistical analysis, and practice data interpretation. Pre-req: MARE 350/350L, CBES 605, or consent of instructor.

CBES 635 (3). Physical Environment of Ecosystems (3) Examination of the influences of climate, hydrology, geology, and soils on terrestrial and aquatic ecosystems. Emphasis on mechanisms of change, anthropogenic impacts, and monitoring networks. Pre-req: GEOL 100, 111, or GEOG 101; BIOL 251 or GEOG 309 or equivalent, or permission of instructor.

CBES 640 Advanced Remote Sensing and Digital Image Processing (3) Digital image processing of satellite-derived remotely sensed data for earth resource analysis and applications. Specific applications include image enhancement, classification, post classification analysis, special transformations, and multi-temporal analysis for land cover change detection. Pre-req: GEOG 470 or equivalent, or permission of instructor.

CBES 645 Applying Social Science to Ecosystem Resource Management (3) Social science methods for profiling natural resource dependent communities and assessing the social and economic impact of ecosystem management and regulation. Coverage of terrestrial resources with some emphasis on marine fisheries in the Pacific region. Relevant laws, policies and management agencies. Public input, best science, and the realities of management conflict and compromise. NEPA, social impact assessment. Case studies and public and professional roles in management.

CBES 650 Oceanographic Monitoring and Analysis (4). The purpose of this course is to provide graduate students with a venue to learn techniques used to study the oceanic environment in order to assess ecosystem health and/or quantify anthropogenic impacts. Topics to be cover include, but are not limited to, species diversity, organism abundance, nutrient concentrations, sedimentation processes, water column stratification/mixing dynamics, and benthic regeneration/coupling. Students will learn how to collect ship-based field samples/data, conduct land-based and ship-based laboratory analysis, execute statistical analysis, and practice data interpretation. Pre-req: MARE 350/350L, CBES 605, or consent of instructor.

CBES 655 Ecological Physiology (3) Physiological adaptations to environmental variation including physiological and biochemical mechanisms for food acquisition and digestion, thermal energetics, respiratory gas exchange, activity metabolism and osmoregulation.

CBES 660 Population Ecology and Evolutionary Analysis (3) Principles of population ecology and evolution with a focus on the analysis of populations for conservation biology. Research techniques in population ecology related to analyzing population growth and structure in geographically and age-structured populations. The importance of stochastic processes, reproductive strategies, habitat selection, foraging behavior, migration and movement patterns on the regulation of population sizes and evolution. Population, quantitative and species genetics as it relates to evolution, speciation, and biodiversity. Pre-req: CBES 605 or permission of instructor.

CBES 665 Environmental Toxicology (3) Biochemical basis for toxicity. Chemical distribution and fate in the body, and molecular mechanisms and effects of toxic action. Emphasis is on environmental toxicants. Pre-req: BIOL 410 and BIOL 443 or equivalent, or permission of instructor.

CBES 670 Advanced Techniques in Geographic Information Systems (GIS) (3) Advanced techniques in GIS including database creation and management, complex geographic data analysis and modeling, and benefits and limitation to methodology. Projects are drawn from Earth resource management, conservation and ecological studies, hazards, and cultural landscapes. Pre-req: GEOG 480 or equivalent, or permission of instructor.

CBES 675 Conservation Genetics (3) Basic concepts of population genetics and molecular evolution as it applies to Conservation Biology. Specific topics include population dynamics and inbreeding depression, and population genetic structure related to ecological parameters and requirements of an organism. Pre-req: BIOL 357 and BIOL 481 or equivalent, or permission of instructor.

CBES 680 Advanced Statistical Analyses and Research Design (3) An advanced examination of statistics and research design in conservation biology and environmental science. Emphasis is placed on specific applications and underlying assumptions, design of experiments, and observational schemes for research project. Extensive computer analysis is employed including MINITAB and SAS statistical software. Pre-req: CBES 605 or permission of instructor.

CBES 690 Internship (3) An internship for Plan B Masters Students in conservation biology and environmental science with a federal, state or non-government agency with projects in Hawai'i or other Pacific Islands . The internship project will be developed and carried-out in consultation with the host agency. The graduate committee in CBES must approve the internship project. The development of the internship is formalized through a written proposal, periodic written reports and meetings with the graduate advisor and host agency representative. A final report and oral presentation is required at the end of the internship.

CBES 694 Special Topics in CBES (1-3) The course content will vary as topics are chosen by the instructor. The course may be repeated for credit, provided that a different topic is studied.

CBES 699 Directed Research for Plan B Students (1-3) Research in conservation biology and environmental sciences for Plan B Masters Students. The development of the research project is formalized through periodic written reports and meeting with the graduate advisor. A final report and oral presentation is required at the end of the research project.

CBES 700 Thesis Research (1-6). Research in conservation biology and environmental sciences for Plan A Masters Students. The development of the research project is formalized through periodic written reports and meeting with the graduate advisor. A final thesis and oral presentation is required at the end of the research project.

PHARMACY: DOCTOR OF PHARMACY

PHPP 501 Introductory Pharmacy Practice Experiential (IPPE) I (1) This course is the first in a sequential series. Content encompasses an introduction to the profession of pharmacy by affording students the opportunity to socialize in pharmacy practice experiences. This course specifically targets the health care dimensions of pharmacy practice through service-learning experiences in various community settings. Students will rotate among diverse community partnerships, which provide health services to multi-ethnic groups as part of the community-based interventions offered in Hawaii's health care systems. The course focuses on learning outcomes related to introducing students to service-learning as integral to health professional development; communications with people across the life span in the community via one-to-one and group interactions; how to teach health-related concepts in community practice settings; and increasing student capacity in human caring, compassion, patient care assessments and health promotion. Fall Semester, Year 1.

PHPP 502 Introductory Pharmacy Practice Experiential (IPPE) II (1) The second course in the IPPE sequence will build on the skills and knowledge of PHPP 501 to develop pharmaceutical care practice through community outreach. This course specifically targets health care dimensions of pharmacy practice through community outreach experiences in a variety of community settings. Students will rotate among diverse community partnerships to collaboratively plan, design, implement and evaluate community outreach projects as part of health services delivery to diverse and multi-ethnic groups of people. Course learning outcomes are related to engaging students in the planning and design of pharmacy/health-related projects in community settings; engagement in community needs assessments as integral to pharmacy/health care planning; exploring innovative community approaches in developing competence in cultural diversity and health literacy among diverse population groups. Spring Semester, Year 1.

PHPP 503 Pharmacy Practice Experiential (PPE) I (1) Fall Semester, Year 2.

PHPP 504 Pharmacy Practice Experiential (PPE) II (1) Spring Semester, Year 2.

PHPP 505 Pharmacy Practice Experiential (PPE) III (1) Fall Semester, Year 3.

PHPP 506 Pharmacy Practice Experiential (PPE) IV (1) Spring Semester, Year 3.

PHPP 507 Advanced Pharmacy Practice Experience (APPE)—Ambulatory Care (5) Year 4.

PHPP 508 Advanced Pharmacy Practice Experience (APPE)—Community (5) Year 4.

PHPP 509 Advanced Pharmacy Practice Experience (APPE)—Medicine (5) Year 4.
PHPP 510 Advanced Pharmacy Practice Experience (APPE)—Specialty (5) Year 4.

PHPP 511 Inter-professional Health Care (1) The concept of the "health care team" is not new. However, the true implementation of this concept has eluded our current health care system. This course will allow students to use the Institute of Medicine 2003 report on Health Care Professions Education to examine the difference between the system that we now have and the system that we need. Students will learn first-hand that developing a health care team is only the beginning. They will use real-life examples to understand and resolve team conflicts and develop good communication skills, as well as to learn methods used to measure, evaluate and improve the efficacy of the health care team. Fall semester, Year 1.

PHPP 512 Culture and Pharmaceutical Care I (2) The richly multi-cultured state of Hawaii will serve as a practical laboratory for students to begin practicing the skills necessary for pharmaceutical care. Students will discover and discuss health care disparity issues and relate them to everyday experiences in the community. Video presentations, readings and in-person reports from local patient volunteers will be used to integrate didactic and experiential knowledge. Student groups will choose issues of culture in health care and present them to the class for discussion and suggested methods of resolution. Students will contribute to a perpetual "handbook of cultural competence in pharmacy" to be shared with all future students at the UHH-CoP. Students will continue throughout the curriculum to refine and make additions to this handbook as they gain first-hand experience in cultural pharmaceutical care. Fall semester, Year 1.

PHPP 513 Culture and Pharmaceutical Care II (2) Fall semester, Year 3.

PHPP 514 Evidence-based Medicine and Critical Literature Review (2) Fall semester, Year 2.

PHPP 515 Integrated Therapeutics I (4) Fall semester, Year 2.

PHPP 516 Integrated Therapeutics II (6) Spring semester, Year 2.

PHPP 517 Integrated Therapeutics III (6) Fall semester, Year 3.

PHPP 518 Integrated Therapeutics IV (6) Spring semester, Year 3.

PHPP 519 Patient Interviewing, Assessment, and Education (1) Spring semester, Year 2.

PHPP 522 Pharmacy Practice Management (2) Fall semester, Year 3.

PHPP 523 Wellness, Prevention, and Disease Management (2) Spring semester, Year 3.

PHPP 524 Health Economics and Outcomes Assessment (2) Spring, Year 3.

PHPP 525 Marketing of Professional Services (2) Spring semester, Year 3.

PHPP 550 History of Pharmacy (3) It is of value for students to appreciate the origin of pharmacy, and the manner in which ancestors of the field practiced their art. Forms of drug therapy have been utilized throughout history and recorded in sources such as the Ebers Papyri. From these ancient civilizations, through the Middle Ages and Renaissance, the profession continued to evolve. These historical aspects will be described, as well as techniques, tools, symbols, and art in pharmacy. Particular emphasis will be placed on the evolution of pharmacy in Europe and North America, and landmark drug discoveries that changed the world. Discussion will be offered as to how pharmacy is practiced now, and where the field is headed. Spring elective.

PHPS 501 Biochemistry I (4) This two semester course will lay the foundation for the understanding of medicinal chemistry, pharmaceutics and pharmacology. The course will cover protein structure and the relationship to biological function, DNA and RNA structure, function, regulation and repair, and the fundamentals of signal transduction and thermodynamics. Cell structure and its relationship to how cells manufacture and metabolize proteins, lipids and carbohydrates will be discussed. The ultimate goal of this course is to present principles critical for understanding the biochemical basis for disease states and drug action. Fall semester, Year 1.

PHPS 502 Biochemistry II (4) This continuation of Biochemistry I will delve deeper into metabolism and bioenergetics. Principles of cell molecular biology will form the basis for understanding topics such as programmed cell death, cancer and the biochemistry of hormones. Clinical correlates will be discussed and students will gain a deeper understanding of the biochemistry of nutrition. Spring semester, Year 1.

PHPS 503 Pharmaceutical Calculations (1) In this course, students will learn the fundamentals of pharmaceutical calculations, including use of the International System of Units, methods of measurement, and expressions of concentration. In addition, they will learn what constitutes an accurate, legal, understandable prescription or medication order. Students will learn how to perform calculations necessary to prepare isotonic solutions, i.v. infusions, enteral and parenteral nutrition products and patient specific dosing. The preparation of stock solutions, use of alligations, and compounding of special formulas will be discussed. Throughout the course, students will learn a top priority in their dispensing activities: prevention of mediation errors. Fall semester, Year 1.

PHPS 504 Pharmaceutical Immunology (3) Basic concepts of immunology, including innate immunity, antigen recognition, lymphocyte development and adaptive immunity, will lay the groundwork for understanding immunity in a clinical context. The student will understand how the immune system exists to protect the human host from infection, but how the development of allergy, autoimmunity, graft rejection and immunity to tumors are all variations of this function. Students will discover how to pharmacologically manipulate the immune system by vaccination and other means. They will also review biotech products available for therapeutic applications, including monoclonal antibodies, cytokines, clotting factors and gene therapies, and the techniques used to prepare these products. Fall semester, Year 1.

PHPS 505L Pharmaceutics/Drug Action I (4) This course will draw on the basic principles of chemistry, biology and physics to provide an understanding of how drugs behave at the molecular level. Students will integrate these principles to understand issues in the rational choice of drugs, dosage forms and drug delivery systems as well as their role in drug discovery and development. The legal and professional issues in drug compounding will be discussed. Discussions of Good Manufacturing Practices and Good Compounding Practices will carry over into the lab portion of the class. Students will become comfortable with equipment, procedures and records used in the compounding of various dosage forms, and will practice clinical dispensing skills vital to shaping a truly professional pharmacist. Fall semester, Year 1.

PHPS 506L Pharmaceutics/Drug Action II (4) In this continuation of pharmaceutics, students will be exposed to more advanced dosage forms and concepts such as therapeutic variability and the basis for drug interactions. Practical labs will provide hands-on experiences. Students will begin their discovery of how to utilize various drug information resources for their own edification, as well as to answer the questions of patients. In addition, students will be introduced to state-of-the-art drug information technologies and their effective use and applications. Spring semester, Year 1.

PHPS 507 Pharmaceutics/Drug Action III (3) Fall semester, Year 2.

PHPS 508 Statistics (3) This course serves as the structural framework for a career that relies heavily on the ability to understand, evaluate and communicate medical information. The student will learn basic statistical and epidemiologic skills critical for the evaluation of medical literature and for conceptualizing what constitutes truly evidence-based medicine. As stated by the authors of the textbook… "the goal is to provide students with the tools and skills they will need to be smart users and consumers of medical statistics." Spring semester, Year 1.

PHPS 509 Pathophysiology I (3) Just as physiology sets the stage for understanding disease processes, pathophysiology will set the stage for understanding later courses in pharmacology and integrated disease management. This course will teach students critical thinking skills needed to understand how the disease process occurs and how the human body responds. It will build on these concepts to introduce how early detection and intervention can delay or prevent disease progression. Clinical applications will be emphasized and students will confront issues such as how pathophysiology applies to real-life global issues including bioterrorism and the global threat of infectious disease. Spring semester, Year 1.

PHPS 510 Pathophysiology II (3) Fall semester, Year 2.

PHPS 511 Pharmacokinetics I (3) Fall semester, Year 2.

PHPS 512 Pharmacokinetics II (3) Spring semester, Year 2.

PHPS 513 Parenteral Products and Pharmaceutical Compounding (2) Spring semester, Year 3.

PHPS 520 Pharmacy Law and Ethics (3) Spring semester, Year 2.

PHPS 521 Applied Pharmaceutical Care (3) Spring semester, Year 2.

PHPS 550 Genetics in Medicine (3) This elective course will introduce the student to the basics of genetics and molecular mechanisms of inheritance as they apply to the treatment of disease and to the response of patients to drug therapy. Students will learn how genetics may lead to new strategies in drug development and treatment, how genetics may be used to predict patient response to specific treatments, and how responses are mediated. Emphasis will be placed on clinical and research applications. Spring semester elective.

Administration and Faculty

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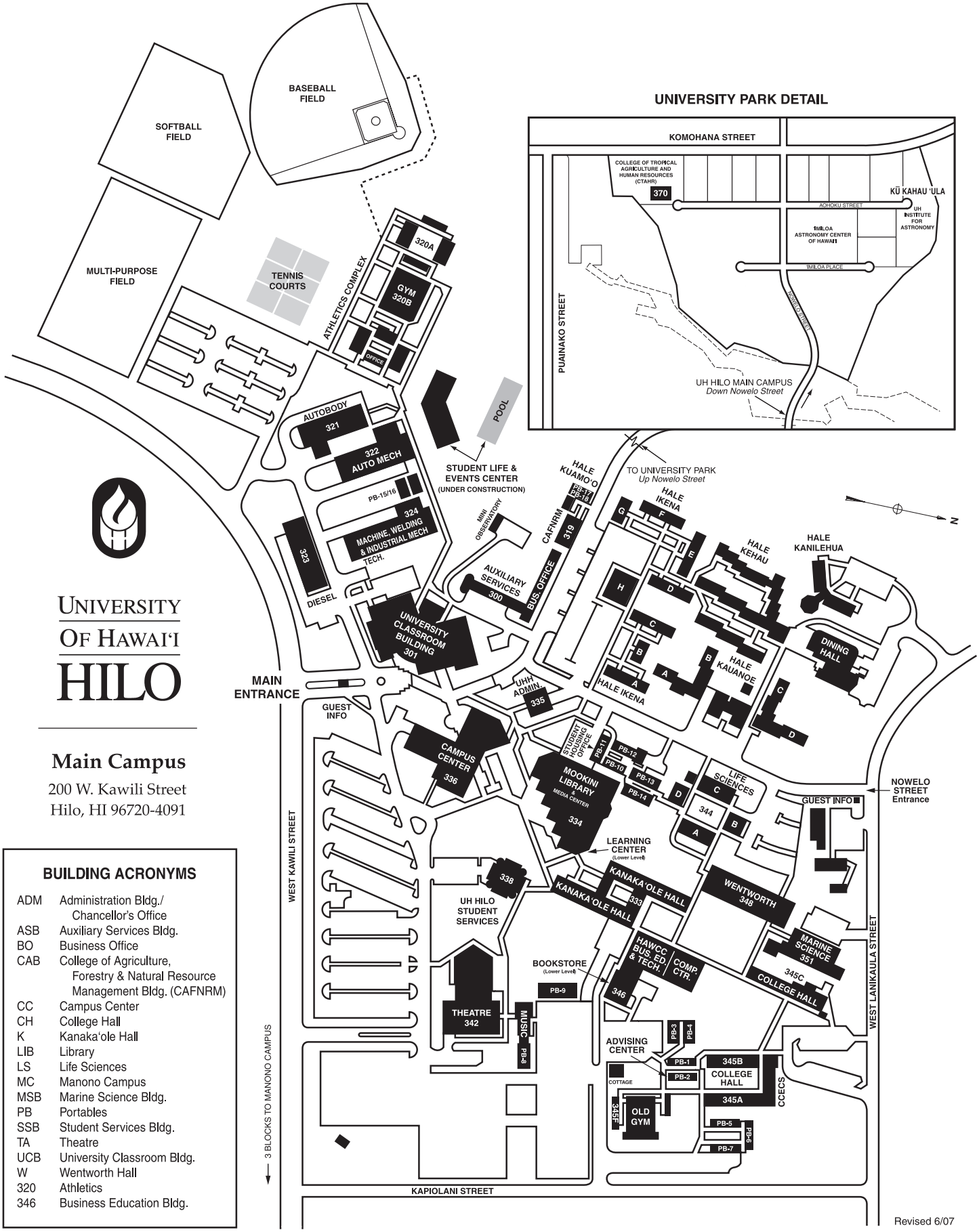


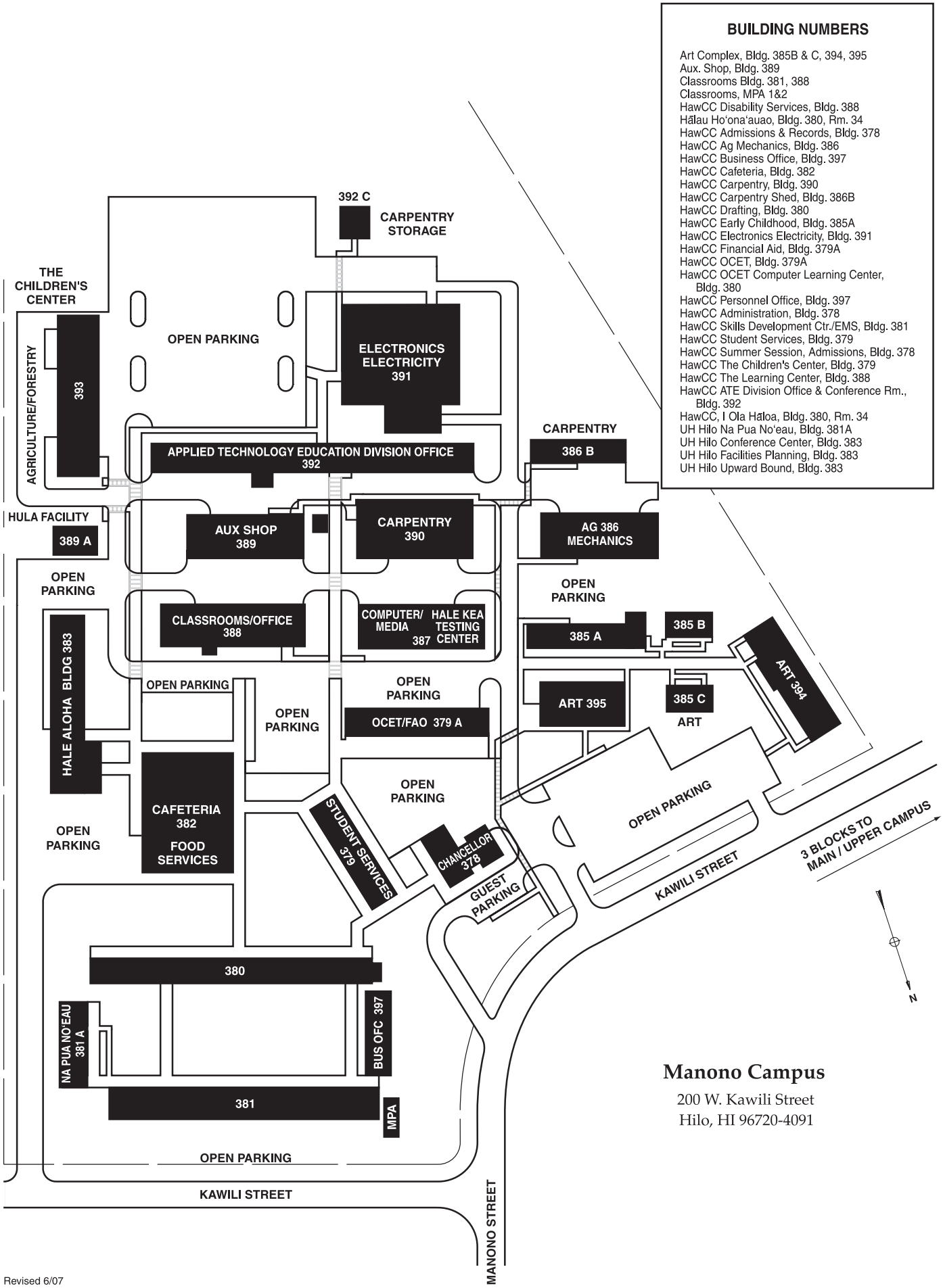
UNIVERSITY OF HAWAI'I HILO

Main Campus

200 W. Kawili Street
Hilo, HI 96720-4091

BUILDING ACRONYMS

ADM	Administration Bldg./ Chancellor's Office
ASB	Auxiliary Services Bldg.
BO	Business Office
CAB	College of Agriculture, Forestry & Natural Resource Management Bldg. (CAFNRM)
CC	Campus Center
CH	College Hall
K	Kanaka'ole Hall
LIB	Library
LS	Life Sciences
MC	Manono Campus
MSB	Marine Science Bldg.
PB	Portables
SSB	Student Services Bldg.
TA	Theatre
UCB	University Classroom Bldg.
W	Wentworth Hall
320	Athletics
346	Business Education Bldg.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KAWILI STREET
3 BLOCKS TO MAIN / UPPER CAMPUS
N
380
NA PUA NO'EAU 381 A
BUS OFC 397
381
MPA
OPEN PARKING
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