

Agricultural Training and Education Programs in Hawaii

Published October 2012

Program Name and Description	Agricultural Category	School	Location	Island	Notes About the Program
AGRICULTURAL PROGRAMS ON THE BIG ISLAND					
"AGRICULTURE" : 1-year certificate of achievement and 2-year associate in applied science degree programs. Intend to prepare students for employment in government service, agribusiness, horticulture, livestock, sugar, flowers and foliage, macadamia nuts, papaya, and coffee industries.	Agribusiness/ Agricultural Business Operations	Hawaii Community College	HILO	Big Island	
"FOOD SERVICE" : 42-credit certificate of achievement and 63-credit associate in applied science degree programs. Intend to prepare students for entry-level positions in the food service industry. Degrees are also offered at West Hawaii.	Food Services/Culinary Arts	Hawaii Community College	HILO	Big Island	
TROPICAL FOREST ECOSYSTEM AND AGROFORESTRY MANAGEMENT" : Certificate of achievement and associate in applied science degree programs. Prepares students to actively manage threatened native forests and manage the regeneration of Hawaii's native ecosystems. Students will learn how to grow native plants and establish agroforestry operations. Students will also be trained in the use of electronic data-loggers, Geographic Positioning Systems (GPS), and Geographic Information Systems (GIS). Classes and internships will involve rigorous fieldwork in forests and lava flows. Entry requirements include placement tests, completion of English 21 or placement in English 102, completion of Math 25x or 26 or placement in Math 100 and completion of English 22 or placement in English 100. Call 808-974-7537/974-7510 or go to http://www.hawcc.hawaii.edu/hawcc/forestteam for more information.	Forest Technology	Hawaii Community College	HILO	Big Island	
"AGRIBUSINESS SPECIALTY" : Bachelor of science degree program. Intends to prepare students for a variety of areas such as marketing of agricultural products, agricultural sales of equipment and supplies, employment in management, financial institutions, brokerage firms, and farm appraising. Program is flexible to meet student's individual interest. Students may gain experience through an internship program.	Agribusiness/ Agricultural Business Operations	University of Hawaii at Hilo	HILO	Big Island	
"AQUACULTURE SPECIALTY" : Bachelor of science degree program. Intends to prepare persons as aquaculturists who are qualified for technician and biologist positions, as owners/operators of aquaculture farms, or for graduate school.	Agriculture Production Operations, General	University of Hawaii at Hilo	HILO	Big Island	
"AGRICULTURE" : Bachelor of science degree program. Curriculum consists of general agriculture courses and an agriculture specialty. Students may pursue specialties in agribusiness, agroecology and environmental quality, animal science/pre-vet, aquaculture, crop protection, general agriculture, and tropical horticulture.	Agriculture, General	University of Hawaii at Hilo	HILO	Big Island	
"GENERAL AGRICULTURE SPECIALTY" : Bachelor of science degree program. Intends to prepare students with a general background in agriculture. Upon completing the various agriculture courses, students may transfer to another program within the College of Agriculture such as animal science, agribusiness, crop protection, and tropical horticulture. Students may also be prepared for graduate programs in agriculture at other institutions.	Agriculture, General	University of Hawaii at Hilo	HILO	Big Island	
"ANIMAL SCIENCE SPECIALTY" : Bachelor of science degree program. Designed for persons interested in livestock production, animal-related industries, preveterinary medicine and pregraduate studies. Provides classroom education and "hands-on" laboratories at the university farm and privately owned ranches. Curriculum includes core courses such as introduction to animal science, livestock management techniques, animal nutrition, reproduction in farm animals, feeds and feeding, anatomy and physiology, and animal breeding and genetics. Animal science electives include range management, bovine reproductive techniques, livestock and meat evaluation, animal diseases and parasites, and production courses for most livestock species.	Animal Sciences	University of Hawaii at Hilo	HILO	Big Island	

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"TROPICAL HORTICULTURE SPECIALTY" : Bachelor of science degree program. Intends to prepare students for employment in government service; nurseries; landscaping; tissue culture laboratories; flower, fruit, nut, and vegetable farms; or related industries. Also intends to prepare students for graduate school. Students are instructed with state-of-the-art equipment, new teaching classroom/laboratory facilities, and a fully-operational university farm laboratory.	Applied Horticulture /Horticultural Operations, General	University of Hawaii at Hilo	HILO	Big Island	
"BIOLOGY" : 4-year bachelor of arts degree program. Areas of emphasis include micro-biology, molecular biology, marine biology, cell biology, botany, and zoology. Biomedical studies are offered in premedicine, pre-dental, preveterinary, and pre-physical therapy areas. See UH-Hilo catalog for details. See PROGRAM 521 Physical Science, General for more information on programs in natural science.	Biological Sciences	University of Hawaii at Hilo	HILO	Big Island	
"TROPICAL CONSERVATION BIOLOGY AND ENVIRONMENTAL SCIENCES" : Master of science degree program. Intends to provide graduate training in conservation biology and environmental science and prepare students for technical positions and for entry into Ph.D programs in related fields. Students must have a bachelor's degree and be currently working in the field.	Biological Sciences	University of Hawaii at Hilo	HILO	Big Island	
"CHEMISTRY" : 4-year bachelor of arts degree program. Emphasizes either the physical or biological aspects of chemistry. A health sciences concentration is an option for students who complete 16 hours of biology courses. See UH-Hilo catalog for details.	Chemistry	University of Hawaii at Hilo	HILO	Big Island	
"GEOGRAPHY" : 4-year bachelor of arts degree program. Intends to provide a broad background in contemporary geography. Required courses represent a survey of physical geography, human geography, and geographic techniques. See UH-Hilo catalog for details.	Geography	University of Hawaii at Hilo	HILO	Big Island	
"PLANNING" : 12-credit undergraduate certificate program. Requires completion of an individually tailored program which includes Geography 340, two approved upper-division electives and a 1-semester planning internship with a local private or government agency. Contact Geography faculty for details.	Geography	University of Hawaii at Hilo	HILO	Big Island	
"GEOLOGY" : Bachelor of science degree program. Instructs students in the evolution of the earth and its materials, structure, and life. Includes courses in physical and historical geology, environmental geology, stratigraphy, geochemistry, mineralogy, volcanology, oceanography, petrology, and paleontology.	Geological and Earth Sciences	University of Hawaii at Hilo	HILO	Big Island	
"AGROECOLOGY AND ENVIRONMENTAL QUALITY SPECIALTY" : Bachelor of science degree program. Curriculum is designed for students interested in sustaining agrarian and surrounding ecosystems through more efficient management of wind, biota, and water. Intends to prepare students for career opportunities in environmental regulatory agencies, conservation, farm service agencies, and consulting. Also intends to prepare students for graduate studies.	Natural Resources and Conservation	University of Hawaii at Hilo	HILO	Big Island	
"MARINE SCIENCE" : 4-year bachelor of arts degree program. A multi-disciplinary degree program designed to take full advantage of the unique variety of marine environments available for study on and around the island of Hawaii. New students begin with introductory courses in general oceanography and marine biology. See UH-Hilo catalog for details.	Oceanography	University of Hawaii at Hilo	HILO	Big Island	
"CROP PROTECTION SPECIALTY" : Bachelor of science degree program. Intends to prepare students for employment as agricultural inspectors, research technicians, teachers, and supervisors of agricultural enterprises. Also intends to prepare students for graduate school. Provides comprehensive training through organized lectures and practical laboratories. Offers a broad range of plant protection courses such as plant pathology, weed science and entomology. Additional courses in horticulture, soil science, animal science, and agricultural engineering round out the agricultural requirements.	Plant and Soil Sciences	University of Hawaii at Hilo	HILO	Big Island	

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AGRICULTURAL PROGRAMS ON KAUAI					
"MARINE OPTION" : 12-credit certificate of completion program. This program offers students the opportunity to learn about marine and freshwater environments. Students work with marine scientists applying their academic knowledge to the real world while learning practical marine lab skills. This certificate can be used when applying for marine related jobs or for further study at a four-year institution.	Oceanography	Kauai Community College		Kauai	
"PLANT BIOSCIENCE TECHNOLOGY" : 23-credit advanced academic subject certificate program. This program is designed to provide students with education and training in horticulture, propagation/micropropagation, agriculture, pest management, and crop improvement.	Applied Horticulture /Horticultural Operations, General	Kauai Community College	PUHI	Kauai	
"CULINARY ARTS" : The culinary arts program is designed to meet the needs of persons who are already employed in the culinary arts area and to prepare persons for entry in that field: 9-credit certificate of competence in food service; 16-credit certificate of completion in food service; 30-credit certificate of achievement in culinary arts; 62-credit associate in applied science degree program in culinary arts.	Food Services/Culinary Arts	Kauai Community College	PUHI	Kauai	
AGRICULTURAL PROGRAMS ON MAUI					
"BAKING" : 2-year (65-credit) associate in applied science degree program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"SANITATION" : 2-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"PANTRY COOK" : 2-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"WAITER/WAITRESS" : 3-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"PREPARATION COOK" : 4-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"SHORT ORDER COOK" : 2-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"STOREROOM CLERK" : 4-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"BAKER'S HELPER" : 4-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"PASTRY COOK" : 12-credit certificate of competence program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"CULINARY ARTS" : 31-credit certificate of achievement and 64-credit associate in applied science degree programs.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"RESTAURANT SUPERVISION" : 2-year (73-credit) associate in applied science degree program.	Food Services/Culinary Arts	University of Hawaii Maui College	KAHULUI	Maui	
"CULTURAL & NATURAL RESOURCE MANAGEMENT-MALAMA AHUPUAA" : 64-66 credit associate in technical studies program. Students in this program take core requirements and choose from two areas of concentration: Kiaa or Malama Aina.	Natural Resources and Conservation	University of Hawaii Maui College	KAHULUI	Maui	
"SUSTAINABLE TROPICAL CROP PRODUCTION" : 15-credit certificate of completion program. Includes instruction in vegetable crop production, farm tractor and equipment operation, agricultural enterprise, soils technology, and irrigation principles and design.	Agriculture Production Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKAKAI, AND LANAI CITY	Maui	

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"SUSTAINABLE TROPICAL CROP MANAGEMENT" : 1-year (39-credit) certificate of achievement and 2-year (60-credit) associate in applied science degree programs which are part of the Agricultural Careers program. Include instruction in all certificate of completion courses plus weed science, horticulture, small engine repair, and other areas.	Agriculture Production Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
AGRICULTURE SCIENCE : 7-credit certificate of competence program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
"GIS IN ECOSYSTEM MANAGEMENT" : 8-credit certificate of competence program. Geographic Information Systems (GIS) and Global Positioning Systems (GPS) are used to improve agricultural practices to make it more efficient. Decisions about watering, planting, and pesticide use are made from data gathered by GIS and GPS.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
NURSERY PRODUCTION : 9-credit certificate of competence program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
PEST MANAGEMENT : 9-credit certificate of competence program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
"LANDSCAPE MAINTENANCE" : 13-credit certificate of completion program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
FLORICULTURE MANAGEMENT : 34-credit certificate of achievement program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
"NURSERY MANAGEMENT" : 34-credit certificate of achievement program.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	
"HORTICULTURE AND LANDSCAPE MAINTENANCE" : 1-year (40-credit) certificate of achievement and 2-year (60-credit) associate in applied science degree programs which are part of the Agricultural Careers program. Include instruction in soils technology, plant disease and pest control, irrigation principles and design, ornamental plant materials, and other areas.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKA-KAI, AND LANAI CITY	Maui	

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"TURFGRASS SPECIALIST" : 3-semester (23-credit) certificate of completion program designed to train persons to work in the specialized turfgrass industry, including golf courses, hotels, condominiums, parks, and sod farms.	Applied Horticulture /Horticultural Operations, General	University of Hawaii Maui College	KAHULUI, KAUNAKAKAI, AND LANAI CITY	Maui	
"CULINARY ARTS" : Estimated 10-month to 24-month certificate program. Provides on-center training in a variety of skills to include, but not limited to: counter and customer service skills, food safety, ServSafe certification, cleaning and sanitization, nutrition, knife skills, culinary fundamentals, preparing and cooking meat, poultry, and fish/shellfish, preparation of stocks, soups, and sauces, and introduction to pantry, station saute and panfry cooking and baking. Program includes 12 weeks of work-based learning off-center.	Food Services/Culinary Arts	Hawaii Job Corps Center	MAKAWAO	Maui	
AGRICULTURAL PROGRAMS ON OAHU					
"BIOCHEMISTRY" : 4-year bachelor of science degree program. This program prepares students to be innovative, rigorous, and well-trained scientists, educators, and health practitioners.	Chemistry	Chaminade University of Honolulu	HONOLULU	Oahu	
MARINE BIOLOGY" : 124-credit bachelor of science degree program. This is a rigorous program that includes a sequence of courses and laboratory and fieldwork. This program prepares students to enter the private or public sector and domestic or international careers in fields such as living marine resource management, marine environmental analysis and protection, and interpretation or teaching biology and marine science. Students also achieve the academic preparation to pursue a master's or doctoral degree in their field.	Marine Biology	Hawaii Pacific University	HONOLULU	Oahu	
"CULINARY (PATISSERIE)" : 19-credit certificate of completion program. Intends to prepare students for employment as pastry cooks, baker's helpers and other skilled entry-level positions in bakeries, hotels, and patisseries.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY (PATISSERIE)" : 65-credit associate in science degree program. Intends to prepare students for entry into the patisserie industry and for advancement to such positions as professional bakers, pastry cooks, and assistant pastry chefs.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY(DINING ROOM)" : 16-credit certificate of completion program. Intends to prepare students for employment as waiters/waitresses, hosts/hostesses, or captains.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY(CULINARY ARTS)" : 14-credit certificate of completion program. Intends to prepare students for employment as prep cooks, cooks helpers, and pantry helpers in restaurants, hotels, and institutions.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY(CULINARY ARTS)" : 45-credit certificate of achievement program. Intends to prepare students for employment as garde manager helpers, short-order cooks, and assistant sous chefs in restaurants, hotels, clubs and institutions.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY (CULINARY ARTS)" : 70-to 72-credit associate in science degree program. Intends to prepare students for entry into the food service industry and for advancement to such positions as line cooks, sous chefs, food service supervisors, assistant managers, and managers.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY (INSTITUTIONAL FOOD SERVICE MANAGEMENT)" : 63-credit associate in science degree program. This program intends to prepare students for entry into culinary arts field in institutional organizations such as hospitals and schools.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
"CULINARY COMPETITION" : 10-credit (1-year) certificate of completion program. This program is offered to students who participate in sanctioned culinary competitions and salons, commis opportunities in competition, and staging positions in culinary establishments.	Food Services/Culinary Arts	Kapiolani Community College	HONOLULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.

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<p>"CULINARY(CULINARY ARTS)": 18-credit (1-year) certificate of completion, advanced program. This program prepares graduates of the associate in science culinary arts with a concentration in culinary arts to continue to the BAS in culinary management at UH West Oahu. Candidates are challenged to apply basic knowledge and skills learned in the prerequisite AS degree program to advanced level culinary management courses.</p>	Food Services/Culinary Arts	Kapiolani Community College	HONO-LULU	Oahu	NOTE: Please contact the Department at 734-9466 or culinary@hawaii.edu for more information.
<p>"CULINARY ARTS": 11-month diploma program. Program is an in-depth course for the understanding, preparation, and production of worldwide cuisines. From history of foods to present day theories, terminology, systems, and trends, the program is designed to provide training for persons interested in becoming food service industry professionals. Program combines classroom lecture and hands-on kitchen preparation and production skills. Students will master the commercial kitchen while learning basic through advanced cooking techniques. Preparation of recipes, portioning, styling, and presentation with an emphasis on classic French cooking will equip students with a foundation for a career as a culinary professional.</p>	Food Services/Culinary Arts	Travel Institute of the Pacific	HONO-LULU	Oahu	
<p>"BIOENGINEERING": 4-year bachelor of science (BS) degree program. Application of biological sciences and engineering principles for the design and operation of systems for biological processing of chemicals, environment protection, and food processing and production. Contact the Department of Molecular Biosciences and Bioengineering for details.</p>	Agribusiness/ Agricultural Business Operations	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs or individual department offices for more information. * Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"BIOENGINEERING": Master of science (MS) degree program. Advanced training in the application of biological sciences and engineering principles for design and operation of systems for biological processing of chemicals, environment protection, and food processing and production. A bachelor's degree in an accredited engineering program or equivalent is required for admission. Contact the Department of Molecular Biosciences and Bioengineering for details.</p>	Agribusiness/ Agricultural Business Operations	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs or individual department offices for more information. * Changes may be made during each academic year. For more current information, please call the department chair of each unit.

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<p>"MOLECULAR BIOSCIENCES AND BIOENGINEERING": Graduate degree program. An amalgamation of biochemical, nutritional, molecular biological, and bioengineering tools to study tropical agriculture, aquaculture, and plant and environmental biotechnology. Contact the Department of Molecular Biosciences and Bioengineering for details.</p>	Agribusiness/ Agricultural Business Operations	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs or individual department offices for more information. * Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>
<p>"ANIMAL SCIENCE": 4-year bachelor of science (BS) degree program. This program is for individuals who are interested in working in agriculture as a researcher, extension personnel, a producer, a teacher, or in any of the many career options in agribusiness. This program, with advising, may also prepare students for entrance into veterinary medicine. See program 378 Veterinary Medicine for pre-veterinary program information.</p>	Animal Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, the community, and teaching. Contact the CTAHR Office of Academic Affairs or individual department offices for more information. *Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>
<p>"ANIMAL SCIENCES": 30-credit master of science (MS) degree program. Students may elect to pursue either a thesis (Plan A) or a non-thesis (Plan B) program. Students who want to specialize in nutrition, muscle biology, physiology, animal genetics and biotechnology, or livestock diseases should have a strong background in biology and chemistry.</p>	Animal Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, the community, and teaching. Contact the CTAHR Office of Academic Affairs or individual department offices for more information. *Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>
<p>"MATHEMATICAL BIOLOGY": Certificate in mathematical biology program. The purpose of this certificate program is to induce students to pursue the interdisciplinary study of biology and mathematics together with research. Students must complete 15 credits of approved coursework with a "C" grade or higher and attain a GPA of 2.5 in the collection of courses used to satisfy the certificate requirements. Acceptance into this program requires completion of either Math 304 or 305 with a grade of "C" or better.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>* Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>
<p>"BIOLOGY": 4-year bachelor of arts (BA) and bachelor of science (BS) degree programs. A minor is also offered. The BA degree program is specifically designed for premedical and other preprofessional students. The BS degree is designed to prepare students for graduate study in biotechnology, ecology/evolution, cell/molecular, organismic, or marine/aquatic biology as well as for secondary science education. Prospective majors should consult the Department of Biology early in their studies to design a curriculum that satisfies program requirements.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>* Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>

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<p>"MOLECULAR CELL BIOLOGY": 4-year bachelor of science (BS) degree program. The objective of the BS program is to prepare students for careers in fields that require advanced knowledge of molecular biology, in particular those that relate to human health and welfare. Examples of such fields include, but are not limited to medicine, pharmacology, pathology, genetic testing and counseling, biotechnology, nanotechnology, teaching, and basic research in the life sciences. This program focuses on the molecular biology of eukaryotic cells and organisms with emphasis on understanding of the molecular biology of human health, disease, and treatment. Contact an advisor in the Department of Microbiology for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"BOTANY": 4-year bachelor of arts (BA) and bachelor of science (BS) degree programs. The BA degree is a liberal arts degree with an emphasis on understanding modern concepts in plant sciences. The BS degree is a pre-professional degree intended for students who plan advanced study in botany, a career in secondary science education, or for positions requiring detailed knowledge of plants. Students should consult the Department of Botany early in their studies to design a curriculum which satisfies program requirements.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"BOTANY": Master of science (MS) and doctor of philosophy (PhD) degree programs. Six tracks are available: conservation, ecology, ethnobotany, general botany, systematics and evolution, and structure/function. An inter-departmental graduate program is available through Ecology, Evolution, and Conservation Biology (EECB)-Botany. Contact: Graduate Chair, Department of Botany for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"BIOMEDICAL SCIENCES": Master of science (MS) and doctor of philosophy (PhD) degree programs offered in the following areas of concentration: anatomy and reproductive biology, biochemistry, biophysics, genetics and molecular biology, pharmacology, physiology, and tropical medicine. A PhD degree program is offered in biostatistics-epidemiology. A Ph.D in biomedical sciences non-disciplinary program is also offered. Contact the College of Natural Sciences for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"ETHNOBOTANY": 4-year bachelor of science degree program. This program integrates biological and social science theories. Graduates of this program will be prepared to work in areas related to the conservation of biological and cultural diversity and in natural health care businesses and practices. Students will also be prepared to enter graduate school programs in ethnobotany, botany, anthropology, and related fields or enter advance medical training programs. For more information, contact Ethnobotany Advisor, Department of Botany.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT": 4-year bachelor of science (BS) degree program. Interdisciplinary study in the management of natural and environmental resources. General core in the natural and social sciences, environmental issues and policy, quantitative and analytical methods, applied management techniques, and an internship. Students select between two upper-division tracks that emphasize either the biological/physical sciences or social science. The tracks provide greater depth in the respective area plus individual student specialization in a specific subfield. Contact the Department of Natural Resources and Environmental Management for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.

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<p>"MICROBIOLOGY": 4-year bachelor of arts (BA) and bachelor of science (BS) degree programs. The BA degree is a liberal arts degree designed for pre-health professionals, educators, and those with a wide-range of interests. Students may focus on areas such as infectious disease, immunology, environmental microbiology, molecular biology, virology and cell biology of microorganisms. The BS degree is designed for those seeking a career in microbiology, molecular biology, immunology, virology or infectious diseases. This degree intends to prepare students to enter the work force as professional microbiologists or to enter graduate programs in microbiology or other biological disciplines. Contact an advisor in Department of Microbiology for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"MICROBIOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs offer advanced training with specialization in microbial ecology, biochemistry, physiology, molecular genetics; metabolic regulation, regulation of gene expression; immunology, immunogenetics, immunochemistry; medical microbiology; animal and environmental virology, viral pathobiology; and cell biology. Undergraduate preparation in biological and physical sciences is desirable. Contact the Chairperson, Department of Microbiology for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"ZOOLOGY": 4-year bachelor of arts (BA) and bachelor of science (BS) degree programs. The BA degree is a liberal arts degree allowing specialization in broad areas of zoology such as marine biology, cell and molecular biology, ecology, evolution and conservation biology, and aquaculture. This degree is particularly suited for preprofessional careers in the health sciences (e.g., premedical and physician assistant, pre dental, preveterinary medical, preoptometry) and allied fields (e.g., cytotechnology, biotechnology, animal technicians) and as a basis for prelaw (e.g., environmental law). The BS degree provides good preparation for graduate study in zoology, for technical training in zoology (e.g., aquatic technicians, animal caretakers) and as preparation for secondary school teachers of zoology and biological science. Prospective majors should consult a departmental advisor as early as possible.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"ZOOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs. Areas of strength include marine biology, ecology, evolution, and conservation biology, comparative physiology, ichthyology, avian biology, and developmental biology. Contact Graduate Chair, Department of Zoology for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"ENTOMOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs offer instruction in insect biology, ecology, pest management, biological control, and a variety of other topics related to agricultural and environmental protection and the study of insects in natural, agricultural and urban situations. Contact the Department of Plant and Environmental Protection Sciences College of Tropical Agriculture and Human Resources for program details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"PLANT AND ENVIRONMENTAL PROTECTION SCIENCES": The bachelor of science (BS) degree program offers the opportunity to take courses in environmental issues, pest management, plant protection, entomology, plant pathology and application of biotechnology to applied biological issues. Graduates are prepared for careers in state and federal agricultural and environmental agencies, pest management in the private sector, field and laboratory research, or further graduate study in the biological, agricultural, and environmental sciences. Contact the Department of Plant and Environmental Protection Sciences, College of Tropical Agriculture and Human Resources for program details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"TROPICAL PLANT PATHOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs. Contact the Department of Plant and Environmental Protection Sciences for details.</p>	Biological Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.

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"CHEMISTRY" : 4-year bachelor of arts (BA) and bachelor of science (BS) degree programs. The BA program requires 27 semester hours of chemistry beyond the introductory level. The BS program, requires additional, in-depth coursework, including at least one additional laboratory course and at least one elective. Opportunities for undergraduate research are available. There are also BA and BS degrees in biochemistry that are currently pending approval. All degrees require related work in math and physics, which should be completed within the first two years. Contact the Chemistry Department for details.	Chemistry	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
"CHEMISTRY" : Master of science (MS) and doctor of philosophy (PhD) degree programs in chemistry. Graduate research opportunities in the subdisciplines of organic, inorganic, physical, and biological chemistry are available. Contact the Chemistry Department or visit the website at www.manoa.hawaii.edu/chem/ for detailed information.	Chemistry	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	* Changes may be made during each academic year. For more current information, please call the department chair of each unit.
"FAMILY RESOURCES" : 4-year bachelor of science (BS) degree program. Emphasizes human and family development and family resource management. Prepares students to work with families to make informed decisions that enhance the quality of their lives. Includes study of human development, family development, marriage, parenting, family economics and resource management, consumer economics, group dynamics and leadership, and community development. Contact: Advisor, Family Resources, Department of Family and Consumer Sciences, College of Tropical Agriculture and Human Resources for details.	Family and Consumer Economics	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
"FOOD SCIENCE" : 30-credit master of science (MS) degree program. This program is for students who desire to work in food processing, regulation, and in the private and public sector of the food business arena. It also prepares students for managerial positions. Students will learn about food chemistry, microbiology, structure, food processing, food engineering, safety, regulation, sanitation, and quality control. Areas available for research include food safety and quality, food processing and engineering, food chemistry and biochemistry, food microbiology, food science education, and special area. Graduates of this program are prepared for diverse careers in the food industry, health-care and fitness facilities, hospitals, nutrition education and communication enterprises, government or private-sector food and nutrition agencies, and scientific research laboratories.	Food Sciences and Technology	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	
"GEOGRAPHY" : 4-year bachelor of arts (BA) degree program. Topics of study include physical geography; human geography; cartography and remote sensing; and Pacific and Asian regional problems. Contact the Geography Department at (808)956-8465 for details.	Geography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	
"GEOGRAPHY" : Master of arts (MA) and doctor of philosophy (PhD) degree programs. Topics of study are the same as the bachelor of arts degree program (except for additional computer applications under cartography and remote sensing). Contact the Department of Geography for details.	Geography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	

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<p>"GRADUATE OCEAN POLICY": 16-credit certificate program. Classified UHM graduate students and law students in good standing are eligible for this program. Community professionals who hold bachelor's degrees and who meet minimum UHM admission requirements are admitted as special, non-degree students on approval from the Graduate Division. Students must complete 16 credits in coursework drawn from an approval list (includes courses in law, geography, urban and regional planning, economics in the policy track and from oceanography, botany, zoology, geology and geophysics, meteorology, and engineering in the science track). Students must also:</p> <ul style="list-style-type: none"> • Participate in one interdisciplinary, integrative seminar in ocean policy each semester. The seminar will be team-taught with content focused on a new topic each term, 2 credits per semester. • Prepare and present a research paper. • Complete two one-credit practica such as: one week of oceanographic research at sea and observation of legislative regulatory development concerning ocean policy over the course of a semester. (Can be waived on the basis of past experience.) <p>Contact Professor Alison Rieser, Department of Geography, at (808) 956-8467 for details.</p>	Geography	University of Hawaii - Manoa Campus	HONO- LULU	Oahu	
<p>"GEOLOGY": 4-year bachelor of arts (BA) degree program. Offers instruction in geological sciences within a broad liberal arts content. Contact the Department of Geology and Geophysics at http://www.soest.hawaii.edu/gg for details.</p>	Geological and Earth Sciences	University of Hawaii - Manoa Campus	HONO- LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"GEOLOGY AND GEOPHYSICS": 4-year bachelor of science (BS) degree program. Intends to prepare students for entry-level positions in industry or graduate work in geochemistry, hydrology, geology, geophysics, oceanography, and volcanology Contact the Department of Geology and Geophysics at http://www.soest.hawaii.edu/gg for details.</p>	Geological and Earth Sciences	University of Hawaii - Manoa Campus	HONO- LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"GEOLOGY AND GEOPHYSICS": Master of science (MS) and doctor of philosophy (PhD) degree programs. Fields of research include marine geology and geophysics; seismology; solid earth geophysics; volcanology, petrology, and geochemistry; planetology and remote sensing; hydrology and engineering geology; and high pressure geophysics. Contact the Department of Geology and Geophysics at http://www.soest.hawaii.edu/gg for details.</p>	Geological and Earth Sciences	University of Hawaii - Manoa Campus	HONO- LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"HORTICULTURE/TROPICAL HORTICULTURE": The program offers a BS degree in Tropical Plant and Soil Sciences with specializations in (1) Plant Sciences and Genetics, (2) Plant Production and Management, and (3) Environmental Soil Science. Students have an opportunity to take courses in tropical flower, fruit, vegetable and crop production, turf and landscape management, plant physiology, breeding and genetics, and soil science. They learn about the full spectrum of subjects and activities required to understand and responsibly manage land, water, crops, and their environments for the benefit of humankind. In addition, they learn about the adaptation and application of new technologies, such as molecular biotechnology, computer-based systems, and the Internet, to enhance plant production systems, assure a safe food supply, and protect the environment. For more information, call 956-8909 or 956-5900.</p>	Horticulture Science	University of Hawaii - Manoa Campus	HONO- LULU	Oahu	Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs or individual department offices for more information. *Changes may be made during each academic year. For more current information, please call the graduate chair of the unit.

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<p>HORTICULTURE/TROPICAL HORTICULTURE: The department offers graduate study leading to the MS (Plan A, Plan B and Plan C) and PhD degrees. The TPSS graduate program has three options: Plant Science, Horticulture, and Soil Science. All three options emphasize the development of problem-solving skills that integrate molecular, biochemical, physiological, chemical, genetic and ecological approaches to collaborative research in plant and soil sciences. The Plant Science option develops the adaptation and application of biotechnology to tropical crop plant production and requires understanding of fundamental biological processes, molecular and organism biology, genetics, plant physiology, and crop production systems. The Horticulture option explores the many facets of tropical food and ornamental crop production and requires the understanding of agricultural systems, plant production, soil fertility, and protection of the environment, as well as supporting disciplines such as crop ecology, plant physiology, and molecular biology. For more information, call 956-5698 or 956-5900.</p>	Horticulture Science	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, industry, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs or individual department offices for more information. *Changes may be made during each academic year. For more current information, please call the graduate chair of the unit.</p>
<p>"MARINE BIOLOGY": 4-year bachelor of science (BS) degree program. The BS degree program has a very rigorous curriculum that will provide students with an excellent foundation in marine biology and related disciplines. It is built on a balanced understanding of the biology of the marine organisms, the marine environments, the organization of organisms into communities, and the relationship between these organisms and their environments. Students will be able to study a wide range of pelagic fishes, as well as sharks, marine mammals, seabirds, reef species, plants and micro-organisms. Extensive field experiences are integrated with traditional classroom and laboratory courses. It will prepare some students for employment in marine biology and others for admission to graduate schools. Prospective students should consult the Department of Biology early in their studies.</p>	Marine Biology	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	
<p>"MARINE BIOLOGY": Master of science (MS) and doctor of philosophy (Ph.D) degree programs. The goal of both programs is to produce scientists who are experts in their research areas with a broad understanding of the biology, ecology, evolution, and life processes of marine organisms. Students should have a B.S., B.A., or M.S. degree in the biological sciences including zoology, biology, microbiology, botany, biological oceanography, and marine biology. However, highly motivated students with other degrees may be considered if they have strong academic backgrounds and demonstrated experience in the biological sciences. Students without evidence of adequate preparation in mathematics, physics, and biochemistry will be required to make up these prerequisites prior to or after admission. Applicants may apply directly to the M.S. or Ph.D degree programs and the admissions committee will determine the student's readiness for their chosen program. Newly enrolled students who select the Ph.D track will be required to demonstrate doctoral-level proficiency in the two core courses: marine biology-environments and organisms marine biology-processes and impacts for advancement. Contact mbiograd@hawaii.edu for details.</p>	Marine Biology	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	
<p>"GLOBAL ENVIRONMENTAL SCIENCE": 4-year degree program. Refer to program 528 Oceanography for details.</p>	Natural Resources and Conservation	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>*Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>
<p>"MARINE OPTION PROGRAM": 12-credit certificate program. Designed for undergraduates in any field with an interest in the ocean. Program sponsors a wide variety of marine activities, including field trips, workshops, symposia, and noncredit courses. Students must complete a hands-on project to earn the certificate. In addition to oceanography courses, students take courses in marine biology. Contact the Marine Option Program for details or go to www.hawaii.edu/mop.</p>	Oceanography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>*Changes may be made during each academic year. For more current information, please call the department chair of each unit.</p>

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<p>"GLOBAL ENVIRONMENTAL SCIENCE": 4-year degree program. This program combines a solid and rigorous background in basic science with a flexible and interdisciplinary course of environmental study. The program is a holistic, scientific approach to the study of earth and earth's physical, chemical, biological, and human response to and interaction with the earth system. This program is designed to prepare persons for careers in environmental science, policy or teaching or to enter graduate or professional school. Entrance requirements include a high school diploma with a good science and math background. Contact the Global Environmental Science program at www.soest.hawaii.edu/oceanography/GES/index.html for details.</p>	Oceanography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"OCEANOGRAPHY": Master of science (MS) and doctor of philosophy (PhD) degree programs in physical, chemical, geological, and biological oceanography, and marine biology. Applicants must have training in a basic science or engineering. Math training (calculus through first-order ordinary differential equations) and one year each of physics and chemistry are required prior to admittance. Contact the Department of Oceanography at www.soest.hawaii.edu/oceanography/ for details.</p>	Oceanography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"OCEAN & RESOURCES ENGINEERING": Master of science (MS) and doctor of philosophy (PhD) degree programs. Both programs prepare students for the engineering profession with the understanding and ability to work in the ocean and resources engineering disciplines. The Department offers an academic program leading to graduate degrees in three disciplines: coastal engineering, offshore engineering, and ocean resources engineering. Admission requirements include a BS degree in engineering, applied mathematics, physics, or applied sciences. Contact the Department of Ocean Resources and Engineering at www.ore.soest.hawaii.edu for details.</p>	Oceanography	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	*Changes may be made during each academic year. For more current information, please call the department chair of each unit.
<p>"PLANT AND SOIL SCIENCES": The program offers a BS degree in Tropical Plant and Soil Sciences with specializations in (1) Plant Sciences and Genetics, (2) Plant Production and Management, and (3) Environmental Soil Science. Students have an opportunity to take courses in tropical flower, fruit, vegetable and crop production, turf and landscape management, plant physiology, breeding and genetics, and soil science. They learn about the full spectrum of subjects and activities required to understand and responsibly manage land, water, crops, and their environments for the benefit of humankind. In addition, they learn about the adaptation and application of new technologies, such as molecular biotechnology, computer-based systems, and the Internet, to enhance plant production systems, assure a safe food supply, and protect the environment. For more information, call 956-8909 or 956-5900. The department offers graduate study leading to the MS (Plan A, Plan B, and Plan C) and PhD degrees. The TPSS graduate program has three options: Plant Science, Horticulture, and Soil Science. All three options emphasize the development of problem-solving skills that integrate molecular, biochemical, physiological, chemical, genetic and ecological approaches to collaborative research in plant and soil sciences. The Horticulture option explores the many facets of tropical food and ornamental crop production and requires the understanding of agricultural systems, plant production, soil fertility, and protection of the environment, as well as supporting disciplines such as crop ecology, plant physiology, and molecular biology. For more information, call 956-5698 or 956-5900. The Plant Science option develops the adaptation and application of biotechnology to tropical crop plant production and requires understanding of fundamental biological processes, molecular and organism biology, genetics, plant physiology, and crop production systems.</p>	Plant and Soil Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs, or individual department offices for more information.</p> <p>*Changes may be made during each academic year. Please call the department chair of each unit for more information.</p>

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<p>"PLANT AND ENVIRONMENTAL PROTECTION SCIENCES": The bachelor of science (BS) degree program offers the opportunity to take courses in environmental issues, pest management, plant protection, entomology, plant pathology and application of biotechnology to applied biological issues. Graduates are prepared for careers in state and federal agricultural and environmental agencies, pest management in the private sector, field and laboratory research, or further graduate study in the biological, agricultural, and environmental sciences. Contact the Department of Plant and Environmental Protection Sciences, College of Tropical Agriculture and Human Resources for program details.</p>	Plant and Soil Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs, or individual department offices for more information. *Changes may be made during each academic year. Please call the department chair of each unit for more information.</p>
<p>"ENTOMOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs. Instruction is offered in insect biology, ecology, pest management, biological control, and a variety of other topics related to agriculture and environmental protection and the study of insects in natural, agricultural, and urban situations. Contact the Department of Plant and Environmental Protection Sciences College of Tropical Agriculture and Human Resources for program details.</p>	Plant and Soil Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs, or individual department offices for more information. *Changes may be made during each academic year. Please call the department chair of each unit for more information.</p>
<p>"TROPICAL PLANT PATHOLOGY": Master of science (MS) and doctor of philosophy (PhD) degree programs offer instruction in the biology, ecology, and management of plant pathogens, including nematodes, fungi, bacteria, and viruses. Contact the Department of Plant and Environmental Protection Sciences, College of Tropical Agriculture and Human Resources for program details.</p>	Plant and Soil Sciences	University of Hawaii - Manoa Campus	HONO-LULU	Oahu	<p>Programs offered by the College of Tropical Agriculture and Human Resources (CTAHR) intend to prepare students for effective service in business, research, government, and the community, and teaching. Contact the CTAHR Office of Academic and Student Affairs, or individual department offices for more information. *Changes may be made during each academic year. Please call the department chair of each unit for more information.</p>
<p>"BIOLOGY": 124-credit bachelor of science degree program. Students may choose from one of two options. Option 1 is the general biology program of study which provides a broad, yet integrated curriculum. It provides the background and preparation for a variety of biological careers and further areas of studies including wildlife biology, conservation ecology, molecular biology, zoology, botany, and physiology. Option 2 is the human and health sciences program of study. This option prepares students for entry into medical, dental, and veterinary schools, pharmacy and health care training programs, and graduate studies in health related fields. It also provides the scientific background for careers in biotechnology, cell and molecular biology, and biomedicine.</p>	Biological Sciences	Hawaii Pacific University	HONO-LULU/ KANEOME	Oahu	
<p>"BIOCHEMISTRY": 124-credit bachelor of science degree program. Graduates of this program will have a deeper understanding of the molecular basis of life that has resulted in the rise of biotechnology companies, the advent of cloning techniques, DNA synthesis and amplification, new drug production, DNA fingerprinting, and a molecular understanding of many diseases.</p>	Chemistry	Hawaii Pacific University	HONO-LULU/ KANEOME	Oahu	
<p>ENVIRONMENTAL SCIENCE: 4-year bachelor of science degree program. Designed to prepare students for careers as environmental scientists.</p>	Natural Resources and Conservation	Hawaii Pacific University	HONO-LULU/ KANEOME	Oahu	
<p>"ENVIRONMENTAL STUDIES": 4-year bachelor of arts degree program. Designed to prepare students for careers with both private and public organizations that have significant environmental concerns or that deal with development and implementation of environmental policies.</p>	Natural Resources and Conservation	Hawaii Pacific University	HONO-LULU/ KANEOME	Oahu	

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"OCEANOGRAPHY" : 4-year bachelor of science degree program. Curriculum emphasizes the physical, chemical, geological, and biological processes governing the functioning of the world's oceans.	Oceanography	Hawaii Pacific University	HONO-LULU/ KANEHOE	Oahu	
"MARINE SCIENCE" : 2-year master of science degree program. This program fosters a broad understanding of marine systems through an interdisciplinary program of study and research-based education in marine science preparing students for careers or entry into Ph.D. programs in related fields.	Oceanography	Hawaii Pacific University	HONO-LULU/ KANEHOE	Oahu	
"BIOLOGY" : 4-year bachelor of arts degree programs. Designed for students planning to pursue a master's, doctorate, or a professional degree. This program allows for more electives within the major and liberal arts areas.	Biological Sciences	Chaminade University of Honolulu	KAIMUKI	Oahu	
"BIOLOGY" : 4-year bachelor of science degree program. Designed for students interested in graduate and professional programs.	Biological Sciences	Chaminade University of Honolulu	KAIMUKI	Oahu	
"ENVIRONMENTAL STUDIES" : 4-year bachelor of science degree program. Intends to prepare students for careers in environmental service, science, business, communications, consulting, ethics, health, law, policy, as well as careers in government and non-profit environmental sectors. Students receive the broad-based knowledge required to fully comprehend and successfully problem-solve environmental challenges, work in the environmental industry, and run environmental businesses and organizations.	Natural Resources and Conservation	Chaminade University of Honolulu	KAIMUKI	Oahu	
AGRICULTURAL TECHNOLOGY : 15-credit certificate of completion. This program is designed for individuals who want entry-level employment or to enhance their skills in the field of plant landscaping (landscape maintenance, turfgrass maintenance, nursery operations, and/or retail plant outlets). All classes are taught with a hands-on, learn-by-doing philosophy.	Applied Horticulture /Horticultural Operations, General	Windward Community College	KANEHOE	Oahu	
"PLANT LANDSCAPING" : 16-credit certificate of completion. This program is designed for individuals who want entry-level employment or to enhance their skills in the field of plant landscaping (landscaping maintenance, turfgrass maintenance, nursery operations, and/or retail plant outlets). Students must complete 12 credits of required courses then select a 4-credit area of specialization (Landscape Maintenance and/or Turfgrass Maintenance).	Applied Horticulture /Horticultural Operations, General	Windward Community College	KANEHOE	Oahu	
"SUBTROPICAL URBAN TREE CARE" : 12-14 credit certificate of completion program. This program is designed for individuals who want to learn more about tree care and get involved in the green industry. Completion of this program will help students prepare for the International Society of Arboriculture certification exams.	Applied Horticulture /Horticultural Operations, General	Windward Community College	KANEHOE	Oahu	
"PLANT BIOTECHNOLOGY" : 26-credit academic subject certificate. This program prepares students for careers in biotechnology and qualifies them to transfer to bachelor of science degree programs with majors in biotechnology, agriculture, horticulture, botany, aquaculture, pharmacy, or pre-medicine.	Plant and Soil Sciences	Windward Community College	KANEHOE	Oahu	
"CULINARY MANAGEMENT" : Bachelor of applied science degree program with a concentration in culinary management. This program is designed to supplement Kapiolani Community College's culinary arts associate's program. It provides culinary students and those already working in the industry the strong business background needed to excel in the workforce. In addition to developing an understanding of the management, marketing, ethical, and legal aspects of running a food service operation, students will also learn valuable communication and leadership skills that are essential for higher level management positions.	Food Services/Culinary Arts	University of Hawaii - West Oahu	KAPOLEI	Oahu	DISTANCE LEARNING: AVAILABLE
"CERTIFICATE IN INTERDISCIPLINARY ENVIRONMENTAL STUDIES" : 18-credit upper division certificate program which provide students with an understanding of the underlying scientific and societal roles to finding solutions. Entry into this certificate program requires admission to UHWO and completion of a minimum of 54 transferable lower division credits.	Natural Resources and Conservation	University of Hawaii - West Oahu	KAPOLEI	Oahu	

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"BIOLOGICAL SCIENCES" : 4-year bachelor of science degree program. Emphasis is on current developments in physiology, ecology, molecular biology, genetics, taxonomy, and anatomy of living organisms. Students may specialize in either general biology or pre-professional biology.	Biological Sciences	Brigham Young University - Hawaii	LAIE	Oahu	
"BIOLOGY EDUCATION" : Bachelor of science degree program. Designed to prepare teachers to teach biology in intermediate and high schools. This is a cooperative program administered by the School of Education. The biology content covers zoology, anatomy, genetics, physiology, and related chemistry and biology. See online catalog at www.byuh.edu .	Biological Sciences	Brigham Young University - Hawaii	LAIE	Oahu	
"BIOCHEMISTRY" : 4-year bachelor of science degree program. The biochemistry major is administered by the Chemistry Department with close coordination with the Biology Department. The degree provides a background for those interested in professional work in biochemistry and those planning to attend a professional or graduate school. A core of courses includes offerings in chemistry and biology which yield a solid background in biochemistry and strong foundations in organic chemistry, analytical chemistry, instrumental analysis, and spectroscopy. Based on his or her professional goals, the student selects a minimum of eight additional elective credits from a selection of courses in chemistry and biology. Those planning to go to graduate schools and professional schools are strongly advised to obtain appropriate backgrounds in mathematics, physics and computers. All students are required to do an undergraduate research project.	Biological Sciences	Brigham Young University - Hawaii	LAIE	Oahu	
"CHEMISTRY EDUCATION" : Bachelor of science degree program. Designed to prepare teachers to teach chemistry in high schools. This is a cooperative program administered by the School of Education. See online catalog at www.byuh.edu .	Chemistry	Brigham Young University - Hawaii	LAIE	Oahu	
"CULINARY ARTS" : 10-credit to 16-credit certificate of completion program offered in prep cook, baking, and dining room supervision.	Food Services/Culinary Arts	Leeward Community College	PEARL CITY	Oahu	
"CULINARY ARTS" : 33-credit certificate of achievement program. Intends to prepare students with basic skills for entry-level food service positions.	Food Services/Culinary Arts	Leeward Community College	PEARL CITY	Oahu	
"CULINARY ARTS" : 67-credit associate in applied science degree program. Includes the certificate of achievement program courses plus general education and additional food service courses.	Food Services/Culinary Arts	Leeward Community College	PEARL CITY	Oahu	
"PLANT BIOSCIENCE TECHNOLOGY" : 27-credit academic subject certificate. This program is designed to provide plant science and laboratory knowledge and skills to facilitate employment to further education in agricultural business.	Plant and Soil Sciences	Leeward Community College	PEARL CITY	Oahu	
"HORTICULTURE /LANDSCAPING" : Estimated 6-month to 24-month certificate program. Provides on-center training and work-based learning off-center in how to care for a variety of turfs, plants, and trees. Students also learn landscaping using a variety of plants, irrigation systems, and planning for drainage.	Applied Horticulture /Horticultural Operations, General	Hawaii Job Corps Center	WAIMANA-LO	Oahu	
"HORTICULTURE/LANDSCAPING" : Estimated 12-month to 24-month certificate program. Provides on-center training and to include but not limited to: General safety, chemical spills, pesticide safety, plant physiology, woody ornamentals, soil preparation and maintenance, installing and maintaining trees, shrubs, groundcover and turf grass, fertilizers, irrigation systems and equipment operations and maintenance. Includes 12 weeks of work-based learning off center.	Applied Horticulture /Horticultural Operations, General	Hawaii Job Corps Center	WAIMANA-LO	Oahu	
"CULINARY ARTS" : Estimated 10-month to 24-month certificate program. Provides on-center training in a variety of skills to include, but not limited to: counter and customer service skills, food safety, ServSafe certification, cleaning and sanitization, nutrition, knife skills, culinary fundamentals, preparing and cooking meat, poultry, and fish/shellfish, preparation of stocks, soups, and sauces, and introduction to pantry, station sauté and panfry cooking and baking. Program includes 12 weeks of work-based learning off-center.	Food Services/Culinary Arts	Hawaii Job Corps Center	WAIMANA-LO	Oahu	