



UNIVERSITY  
OF HAWAII  
HILO

## NATURAL SCIENCES

*For more information,  
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Visit our Web site at  
<http://www.uhh.hawaii.edu/academics>

## Is the Natural Science Major for You?

- Are you interested in all areas of science?
- Do you want to be a generalist, not a specialist?
- Do you want to be a middle-school science teacher?

If you answered *yes* to any of these questions, then the Natural Science major may be for you. Science now transcends the boundaries of single subject. The real world is complicated, and figuring out how it works requires us to understand all aspects of nature. The connections between disciplines are especially apparent to middle school teachers because at this level science is taught in a multidisciplinary framework. Such teachers are generalists—not specialists—and need to have a holistic view of science as well as a solid base in biology, chemistry, physics, and environmental/earth science.

## Careers

The Natural Science major was designed specifically to prepare students for becoming intermediate-level science teachers. Graduates of the program often enroll in the UH Hilo secondary teaching certification program following graduation. Others pursue non-teaching careers in the science arena, or become science educators in non-academic settings.

## What Will I Learn?

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. Students can expect to gain a solid knowledge base in the fundamental sciences of chemistry and physics, and to receive a broad introduction to other disciplines, potentially including astronomy, computer science, geology, meteorology, oceanography, and the philosophy of science. Students choose between a curriculum that stresses biology, or a curriculum that emphasizes the physical sciences with less intense coverage of biology. 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. See the reverse side for the listing of courses required for the major.

## Why UH Hilo?

UH-Hilo is surrounded by unique tropical ecosystems, world-class astronomy observatories, active volcanoes, and tropical reefs. Can you think of a better place to study science? Many courses emphasize field trips that use this fabulous location as a "living laboratory". We also feature small classes and personalized instruction. The plants, animals, volcanoes, ocean, and astronomical observatories of the Big Island are unique, and they bring biology, geology, oceanography, and astronomy to life.

200 W. KAWILI STREET  
HILO, HAWAII 96720-4091

### *Admissions*

PHONE: (808) 974-7414

### *Financial Aid*

PHONE: (808) 974-7324

# Requirements for the Natural Sciences Major

## Contact Information

### 1. Core Requirements (24 credits)

Chem 124-125	General Chemistry I and II
Chem 124 L	One semester Chemistry Lab
Phys 106-107	College Physics I and II
Phys 170L	One semester Physics Lab
Math 115	Applied Calculus
Phil 390	Philosophy of Science
495A-495B	Senior Seminar

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### 2. Breadth Requirements (20 credits)

Students complete either the General Science Option or the Physical Science Option.

#### General Science Option

Biol 150-153	Botany and Zoology
Biol 150L or 153L	Botany or Zoology Lab
Biol 125 or 270	Cellular and Molecular Biology

One additional science laboratory course

Three courses selected from:

Astr 180-181	Principles of Astronomy I & II
CS 102	Microcomputer Applications for the Sciences
Geol 111-112	Understanding the Earth and History of the Earth and Its Life
Mare 201	Oceanography
Phys/Geog 120	Weather and Climate of Hawai'i

#### Physical Science Option

Biol 101	General Biology
Astr 180	Principles of Astronomy I
Geol 111	Understanding the Earth
Chem 125L	Second Semester Chemistry Lab
Phys 171L	Second Semester Physics Labs

Three courses selected from:

Astr 181	Principles of Astronomy II
CS 102	Microcomputer Applications for the Sciences
Geol 112	History of the Earth and Its Life
Mare 201	Oceanography
Phys/Geog 120	Weather and Climate of Hawai'i

### 3. Complete 21 Credits at the Junior and Senior Level

### 4. Complete a minor in one of the following disciplines:

Astronomy	Geology
Biology	Marine Science
Chemistry	Mathematics
Computer Science	Physics
Earth/Space Science	

This publication can be made available in alternate format upon request.  
Please contact the ADA Coordinator at (808) 933-0816.

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