

# Bio-Resources and Technology: Bio-Resource Development and Management

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

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

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

- Integrate basic environmental science concepts with traditional and modern resource management practices in recommending environmental management decisions
- Exhibit best management practices when extracting and utilizing natural resources
- Design and implement an environmental study
- Effectively use laboratory and field instrumentation to collect data
- Analyze and interpret environmental data

Write an objective technical report involving the presentation and analysis of environmental data

**Type:** Academic Subject Certificate

## Required Courses (14 credits)

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

\*GG 101 (Introduction to Geology; 3 credits) may replace GEOG 101.

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

Item #	Title	Credits
BIOL 101	Biology and Society	4
GEOG 101	The Natural Environment	3
IS 201	The Ahupua`a	3
BIOL 124	Environment and Ecology	3
BIOL 124L	Environment and Ecology Lab	1
	<b>Sub-Total Credits</b>	<b>14</b>

## Elective Set 1 (6 credits)

Choose 6 credits from the following

Item #	Title	Credits
AQUA 106	Small Scale Aquaculture	3
AQUA 106L	Small Scale Aquaculture Laboratory	1
AQUA 201	The Hawai'i Fishpond	3
AQUA 201L	The Hawai'i Fishpond Lab	1
BOT 105	Ethnobotany	3
	CHEM 151 & 151L	4
	ENVST 199 or 299	1 - 4
	<b>Sub-Total Credits</b>	<b>16-19</b>

## Elective Set 2 (6 credits)

Environment and Ecology

Choose 6 credits from the following:

\*BIOL 265/265L and GEOG 101L are highly recommended for those students intending to enroll in a baccalaureate-level environmental science program.

Item #	Title	Credits
BIOL 200	Coral Reefs	3
BIOL 200L	Coral Reef Laboratory and Field Studies	1
	BIOL 265 & 265L	4
	BOT 130 & 130L	4
	ENVST 199 or 299	1 - 4
GEOG 101L	The Natural Environment Laboratory	1
GG 103	Geology of Hawaiian Islands	3
HIST 285	Environmental History of Hawai'i	3
OCN 201	Science of the Sea	3
ZOOL 200	Marine Biology	3
ZOOL 200L	Marine Biology Lab	1
	<b>Sub-Total Credits</b>	<b>27-30</b>
	Total credits for degree:	26

## Course Sequencing