



UNIVERSITY of HAWAII®  
**WINDWARD**  
COMMUNITY COLLEGE

**BIOL 200 Coral Reefs - S Focused**  
**3 Credits (CRN 61383)**  
**Online, Asynchronous**

**INSTRUCTOR:** Mackenzie Manning  
**OFFICE HOURS:** Tuesday 12pm - 1pm or by appt. [Zoom Office](#)  
**EMAIL:** [mmanning@hawaii.edu](mailto:mmanning@hawaii.edu)  
**EFFECTIVE DATE:** Fall 2023

**WINDWARD COMMUNITY COLLEGE MISSION STATEMENT**

*Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.*

**CATALOG DESCRIPTION**

Introduction to the biology, ecology and geology of stony corals and the reef structures they build. Topics include, but not limited to, the following: photobiology, biochemistry, physiology, reproduction, ecology, biogeography and evolution of stony corals; contributions made by other members of the coral reef community, such as algae, invertebrates, fish, sea turtles, sea birds, and marine mammals; reef formation and geomorphology; corals as resources for human utilization and the impacts of human activities upon reefs throughout the world. Emphasis will be on Hawai'i's coral reefs, but comparisons will be made among reefs from other areas.

**STUDENT LEARNING OUTCOMES**

As a result of taking this course, students can expect to attain the following outcomes:

1. Explain the process and philosophical basis of scientific inquiry.
2. Distinguish between living things and inanimate objects.
3. Describe the classification of living things, the kinds of criteria used to classify them, and the formal protocol in naming them.
4. Demonstrate an understanding of the biology of corals (e.g., systematics & classification, soft tissue morphology and cytology, skeletal morphology, endosymbiosis with zooxanthellae, modes of feeding, reproduction, environmental factors that influence growth and distribution, and evolution) with an emphasis on Hawaiian corals.
5. Describe the ecological relationships among the living components of coral reef communities and their interactions with the physical environment.
6. Describe the types of reefs and the processes that create and shape them.
7. Describe the resources that coral reefs provide, especially to Pacific island nations and states.

8. Describe the impacts of human activities on coral reefs and the significance of these impacts to Pacific island nations and states.

## COURSE TASKS

BIOL 200 is a 15-week, fully online course. This course will be taught as an asynchronous course delivered through the Lulima Learning Management System (LMS). Each week will consist of watching recorded lectures and/or videos, reading selected materials, posting written reflections, creating video posts, and completing assignments. Please refer to the tentative schedule below for detailed information on the schedule of content and due dates.

## ASSESSMENT TASKS AND GRADING

Each week there will be a variety of assignments, forums and quizzes to help you learn about coral reefs.

All quizzes are open notes. My intention with this course is to foster curiosity about coral reefs. I'm here to support your desire to learn and gain knowledge about these amazing and threatened ecosystems.

We will use ChatGPT in some assignments this semester but when it comes to quizzes...

Please DO NOT copy and paste answers from chat GPT. If I discover that you have done this for any question on a quiz, you will receive a ZERO for that quiz.

Assignments, forums and quizzes will be due on Tuesday at 11:55PM HST.

A final project will be assigned in lieu of a final exam and will be due the last day of regular classes.

*Letter grades will be assigned as follows:*

A 90% or above in total points

B 80-89.9% of total points

C 65-79.9% of total points

D 55-64.9% of total points

F Below 55% of total points or informal or incomplete official withdrawal from course.

I Given at Instructor's discretion. See catalog for detailed description.

W Official withdrawal from the course by MONDAY OCTOBER 30

## LEARNING RESOURCES

There are no required texts for this course as all materials and resources will be made available through our Lulima course site.

Recommended text: Hawaiian Coral Reef Ecology by David Gulko, 1999. Mutual Publishing. ISBN: 987-1566472340

## COURSE POLICIES

### Communication

I will communicate with you frequently through the Announcements and Email tools in Lualima. Please be sure to check your UH email and the Lualima Announcements list daily.

### Participating in our Learning Community

Even though this is an online course, I encourage you to connect with your peers. We will also engage in a number of forums throughout the semester.

### Contacting the Instructor

If you have any questions or concerns about anything, please contact me via email:

Mackenzie Manning I will respond to you as soon as I can within 24-hours. Please also feel free to drop in to my online Zoom office hours Tues 12pm - 1pm HST, or by appt.

## DISABILITIES ACCOMMODATIONS

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Accessibility Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, [royinouy@hawaii.edu](mailto:royinouy@hawaii.edu), or you may stop by Hale Kāko'o 106 for more information.

## SEX DISCRIMINATION AND GENDER-BASED VIOLENCE RESOURCES (TITLE IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Jojo Miller, Confidential Advocate  
 Phone: (808) 348-0663  
 Email: [advocate@hawaii.edu](mailto:advocate@hawaii.edu)  
 Office: Hale Kāko'o 110

Desrae Kahale, Mental Health Counselor & Confidential Resource  
 Phone: (808) 235-7393  
 Email: [dkahale3@hawaii.edu](mailto:dkahale3@hawaii.edu)  
 Office: Hale Kāko'o 101

Karen Cho, Deputy Title IX Coordinator  
 Phone: (808) 235-7404  
 Email: [kcho@hawaii.edu](mailto:kcho@hawaii.edu)  
 Office: Hale 'Alaka'i 120

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how

your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to [manoa.hawaii.edu/titleix/](http://manoa.hawaii.edu/titleix/)

### ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alaka'i 121
- Phone: (808) 235-7422

### TENTATIVE COURSE SCHEDULE

The following schedule is subject to change. Please consult the [Academic Calendar](#) for important dates throughout the fall term.

**\*\*\*ALL ASSIGNMENTS, FORUMS AND QUIZZES ARE DUE TUESDAY 11:55PM HST\*\*\***

#### Week 1 Aug 21

WCC Resources for Success

Marine Option Program and Sustainability Academic Subject Certificate Information

#### Week 2 Aug 28

Growth Mindset and Learning Styles Inventory

DUE: Flip 01: Video Introductions

#### Week 3 Sept 4

The Nature of Science

Hawaiian Perspectives on Science

DUE: Padlet Post 01: Reflections on Growth Mindset and Learning Styles Inventory Results

#### Week 4 Sept 11

The Importance and Hawaiian Cultural Significance of Coral Reefs

DUE: Forum 01: Hawaiian Perspectives on Science

#### Week 5 Sept 18

Coral Reefs Distribution, Types, Zonation and Hawn. Island Formation

DUE: Quiz 01: The Magic of Coral Reefs Toolkit

Forum 02: Hawaiian Cultural Significance of Coral Reefs

#### Week 6 Sept 25

Coral Biology Basics, Nutrition and Growth

DUE: Quiz 02: Coral Reefs Distribution, Types, Zonation and Hawn. Island Formation

#### Week 7 Oct 2

## Coral Reproduction

DUE: Padlet Post 02: Coral Colony Diagram

Quiz 03: Coral Nutrition and Growth

## Week 8 Oct 9

Ecology

DUE: Padlet Post 03: Coral Life Cycle

Quiz 04: Coral Reproduction

## Week 9 Oct 16

Coral Reef Ecology

DUE: Flip 02: Kilo Practice

Quiz 05: Ecology