School of Natural Sciences and Mathematics
Department of Biology

BI-215 Cellular & Organismal Biology I

Kieffer Hall 10 TR 10:00A-11:20A
Credits: 3 Section: 1 Term: Spring 2026

Instructor Information

Instructor: Dr. Chrystie Naeole
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Phone: 808-739-8551
Office Location: Wesselkamper Scinece Center 109
Office Hours: Tuesday and Thursday 11:30pm to 1:00pm or by appointment

Communication

Instructions and updates will be given verbally during lectures and may also be distributed using the "Announcement" feature in Canvas. Questions for this course can be emailed to the instructor. Response to email can be expected within 24 hours but may take longer during the weekends or holidays. Online and in person meetings are avaialble during my office hours.

School & Department Information

School of Natural Sciences and Mathematics

Office Location: Wesselkamper Science Center 115
Phone: (808) 440-4204

If you have questions regarding the Department of Biology, reach out to your Instructor or the School of Natural Sciences and Mathematics.

Course Description & Materials

Catalog Course Description

Introduction to animal and plant diversity, with emphasis on form and function, mechanisms of regulation in biological systems, and how organisms exchange materials and energy with their environment. Co-requisite: BI-100 and BI-215L. Cross listed with BC-215.

Time Allocation

This is a three-credit hour lecture course requiring a *minimum* of 135 clock hours of student engagement per the official CUH Credit Hour Policy. Students enrolled in this course are anticipated to spend 37.5 hours in lecture, 25 hours studying for exams, 15 hours for the final project and 2 hours for the taking of the last exam. There will be an additional 55.5 hours of work required beyond what is listed here (course readings, studying for quizzes, worksheets, discussion posts, group presentations, etc.) averaging approximately 3.7 hours of added work each week.

Required Materials

Urry, Lisa A., Micahel L. Cain, Steven A. Wasserman, Peter V. Minorsky and Rebecca B. Orr. *Campbell Biology*. 12th ed., Pearson, 2021. ISBN 13**:** 9780135188743.

Recommended Items

None

Canvas (https://chaminade.instructure.com)

Course website: https://chaminade.instructure.com/courses/44991

Learning Outcomes

Program Learning Outcomes (PLOs)

Upon completion of the undergraduate B.S. program in Biology, the student will be able to:

1. Explain fundamental biological concepts and their interrelationships across various levels of biological organization, from molecules to ecosystems, including cell biology, genetics, evolution, physiology and ecology.
2. Perform laboratory field and computational techniques relevant to biological research, including accurate data collection, analysis and interpretation.
3. Design and conduct scientific investigations using advanced methodologies, technologies and resources and communicate results effectively to professional and lay audiences.
4. Make ethically informed decisions in biological research and practice, considering bioethics, environmental ethic informed by indigenous and traditional knowledge and practices.
5. Analyze societal challenges related to health and environment through the lens of biological science recognizing how biological knowledge and associated career paths can contribute to studying, addressing and solving these challenges.

Course Learning Outcomes (CLOs)

Upon completion of BI-216 the student will be able to:

Course Learning Outcomes	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5
1. Identify biological structures and body systems, describe how those body systems relate to each other and be able to explain their general anatomy and physiology	X				
2. Use proper anatomy and physiology terminology	X				
3. Describe plant anatomy, organ systems and physiological process as well as identify representative flora and fauna, especially that of Hawaii	X				
4. Understand and explain ecological relationships between organisms and their environment.	X				
5. Describe how evolutionary relationships between diverse organisms are determined	X				

Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith.
2. Provide an integral, quality education.
3. Educate in family spirit.
4. Educate for service, justice and peace, and integrity of creation.
5. Educate for adaptation and change.

Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the ‘Olelo No’eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua (ʻŌlelo Noʻeau 364) May I live by God.
2. Provide an Integral, Quality Education (Na'auao) Lawe i ka maʻalea a kūʻonoʻono (ʻŌlelo Noʻeau 1957) Acquire skill and make it deep.
3. Educate in Family Spirit (ʻOhana) ʻIke aku, ʻike mai, kōkua aku kōkua mai; pela iho la ka nohana ʻohana (ʻŌlelo Noʻeau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship.
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka noʻeau (ʻŌlelo Noʻeau 1430) Education is the standing torch of wisdom.
5. Educate for Adaptation and Change (Aina) ʻAʻohe pau ka ʻike i ka hālau hoʻokahi (ʻŌlelo Noʻeau 203) All knowledge is not taught in the same school

Alignment of Natural Science Courses with Marianist and Hawaiian Values of the University

The Natural Sciences Division provides an *integral, quality education:* sophisticated integrative course content taught by experienced, dedicated, and well-educated instructors.

1. We *educate in family spirit* – every classroom is an *Ohana* and you can expect to be respected yet challenged in an environment that is supportive, inclusively by instructors who take the time to personally get to know and care for you.
2. We *educate for service, justice and peace*, since many of the most pressing global issues (climate change, health inequity, poverty, justice) are those which science and technology investigate, establish ethical parameters for, and offer solutions to.
3. We *educate for adaptation and change*. In science and technology, the only constant is change. Data, techniques, technologies, questions, interpretations and ethical landscapes are constantly evolving, and we teach students to thrive on this dynamic uncertainty.

The study of science and technology can be formative, exploring human creativity and potential in the development of technologies and scientific solutions, the opportunity to engage in the stewardship of the natural world, and the opportunity to promote social justice. We provide opportunities to engage with the problems that face Hawaiʻi and the Pacific region through the Natural Sciences curriculum, in particular, those centered around severe challenges in health, poverty, environmental resilience, and erosion of traditional culture. The Marianist Educational Values relate to Native Hawaiian ideas of *mana, na'auao, ohana*, *aloha* and *aina*. We intend for our Natural Sciences programs to be culturally-sustaining, rooted in our Hawaiian place, and centered on core values of *Maiau,* be neat, prepared, careful in all we do; *Makawalu*, demonstrate foresight and planning; *`Ai,* sustain mind and body; *Pa`a Na`au*, learn deeply.

Alignment of BI215 with Marianist and Hawaiian Values of the University

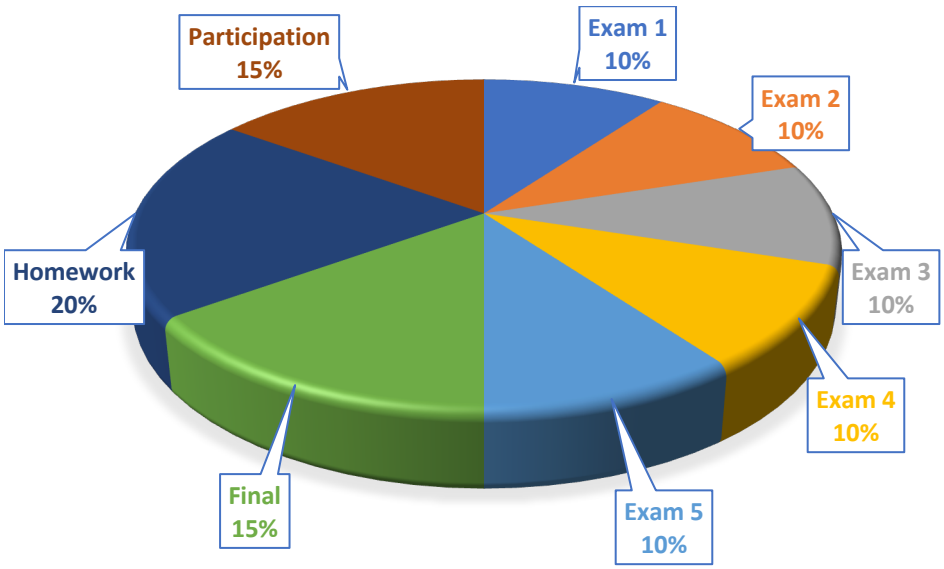
1. BI215 Cellular and Organismal Biology I lecture provides an *integral quality education* as it is an introductory science course which provides students a foundation that will be

necessary to be successful in several upper division science courses, including but not limited to BI216/L BI320/L, BI321/L, BI411L and BI471/L. As each new topic is introduced throughout the semester, a point is made to link the current subject matter with those future biology courses. Additionally, it is highlighted how the subject matter may be integrated with other sciences like chemistry and physics so that students understand that this BI215 course, as well as biology in general, is not a standalone course. To be successful and understand biology one needs to understand how it relates to the bigger scientific community.

2. This course also focuses on *educating in the family spirit*. This is done by emphasizing that science is not done in a vacuum. Throughout the semester there are several small group projects/presentations both within the lecture and the lab. These are designed to not only assist students in learning the subject matter but to encourage them to build relationships within the peer groups. To foster collaborative learning homework assignments are given such that students are instructed to answer in their own words; however, students are strongly encouraged to work with their peers to find and discuss the answers to these questions.

Course Activities

The required reading assignments are listed in the course outline. Exam questions will cover both lecture and reading material. You are responsible for all reading material regardless of whether that particular topic has been covered in lecture. A description of all course activities can be found in the BI215 Canvas.



Participation may include the following:

- Weekly/Biweekly Reflections
- Study Aids
- Discussion – peer posts
- Attendance

Homework may include the following:

- Discussion posts
- Worksheets
- Presentations
- Critical Thinking Questions
- Quizzes

Course Policies

Attendance

Presence in class is mandatory & necessary in order for a student to fully grasp concepts. Students are expected to attend regularly all courses for which they are registered. Students should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course without officially **withdrawing** may receive a failing grade.

If you miss a class, it is **YOUR** responsibility to ask the instructor or your classmates for the information that you missed and to pick up any handouts that may have been distributed.

Missed work, makeup exams and quizzes are not accepted/given unless a student has contacted the instructor within 24 hours of the missed class period to discuss the circumstances surrounding the absence. If absence is due to illness and doctor's written excuse may be required.

Late Work

Any missed work that is turned in late and graded may receive up to a one grade deduction. So, if the assignment was graded as A work, due to being late it may be decreased to a B.

Any missed work that is turned in late without any prior discussion with the instructor will not be accepted and will be given a score of zero.

Extra Credit

Extra credit opportunities may be available during the course of regular lectures or may be written into exams.

Changes to the Syllabus

While the provisions of this syllabus are as accurate and complete as possible, your instructor reserves the right to change any provision herein at any time. Every effort will be made to keep you advised of such changes, and information about such changes will be available from your instructor.

Grades of Incomplete

Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. When submitting a grade the "I" will be accompanied by the alternative grade that will automatically be assigned after 30 days. These include IB, IC, ID, and IF. If only an "I" is submitted the default grade is F. The completion of the work, evaluation, and reporting of the final grade is due within 30 days after the end of the semester or term. This limit may not be extended.

Final Grades

Final grades are submitted to Self-Service:

A = 90% and above
B = 80-89%
C = 70-79%
D = 60-69%
F = 59% and below

Important Information

Academic Honesty

Academic honesty is an essential aspect of all learning, scholarship, and research. It is one of the values regarded most highly by academic communities throughout the world. Violations of the principle of academic honesty are extremely serious and will not be tolerated.

Students are responsible for promoting academic honesty at Chaminade by not participating in any act of dishonesty and by reporting any incidence of academic dishonesty to an instructor or to a University official. Academic dishonesty may include theft of records or examinations, alteration of grades, and plagiarism, in addition to more obvious dishonesty.

Questions of academic dishonesty in a particular class are first reviewed by the instructor, who must make a report with recommendations to the Dean of the Academic Division. Punishment for academic dishonesty will be determined by the instructor and the Dean of Academic Division and may include an "F" grade for the work in question, an "F" grade for the course, suspension, or dismissal from the University.

For the most up to date information, please refer to the Academic Honesty Policy on the Chaminade University Catalog website.

TITLE IX AND NONDISCRIMINATION STATEMENT:

Chaminade University of Honolulu is committed to providing a learning, working and living environment that promotes the dignity of all people, inclusivity 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. 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. For pregnant and parenting students, I am also obligated to provide you with similar resources for support and protections available to you. My goal is to make sure that you are aware of the range of options available to you and have access to the resources and support you need.

Nondiscrimination Policy & Notice of Nondiscrimination

The university is committed to comply with all State and Federal statutes, rules, and regulations which prohibit discrimination. The university is committed to a policy of nondiscrimination on the basis of race, sex, gender identity and expression, age, religion, color, national origin (including shared ancestry and ethnic characteristics), ancestry, citizenship, disability, genetic information, marital status, breastfeeding, arrest and court record (except as permissible under State law), sexual orientation, or status as a covered veteran. Inquiries about Title IX or general Civil Rights concerns may be referred to the University's Title IX Coordinator, the U.S. Department of Education's Office for Civil Rights, or both and contact information may be found HERE. *On-campus Confidential Resources may also be found here at CAMPUS CONFIDENTIAL RESOURCES.*

The University's Nondiscrimination Policy and Grievance Procedures can be located on the University webpage at: https://chaminade.edu/compliance/title-ix-nondiscrimination-policies-procedures/.

To report information about conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please refer to the Campus Incident Report form. Chaminade University of Honolulu prohibits sex discrimination in any education program or activity that it operates.

The NOTICE of NONDISCRIMINATION can be found here: Notice of Nondiscrimination.

Hazing Prevention Resources and Athlete Helpline:

Assists athletes, parents, coaches, and any allies interested in ensuring physical and mental safety for sports communities by offering confidential emotional support, crisis intervention,

informational athlete-focused resources, and guidance related to concerns about any type of abuse—*including hazing*.

Chaminade University's Hazing Policy:
https://catalog.chaminade.edu/studenthandbook/codeofconduct

https://hazingpreventionnetwork.org/athlete-helpline/
https://hazingpreventionnetwork.org/how-to-report-hazing/

Basic Needs Resources: https://chaminade.edu/basic-needs/

Campus Safety/ SafeSwords

A program for students, faculty and staff, who may feel uncomfortable or unsafe walking alone on campus, at any time of the day. Call security, and a security professional will meet you at your location on campus. The security professional will escort you to your residence hall, car, etc. Students may utilize this when walking to and from night classes around campus or after late night events. SafeSwords Webpage

CUH Alert Emergency Notification

To get the latest emergency communication from Chaminade University, students' cell numbers will be connected to Chaminade's emergency notification text system. When you log in to the Chaminade portal, you will be asked to provide some emergency contact information. If you provide a cellphone number, you will receive a text from our emergency notification system asking you to confirm your number. You must respond to that message to complete your registration and get emergency notifications on your phone.

Assessment for Student Work

With the goal of continuing to improve the quality of educational services offered to students, Chaminade University conducts assessments of student achievement of course, program, and institutional learning outcomes. Student work is used anonymously as the basis of these assessments, and the work you do in this course may be used in these assessment efforts.

Student with Disabilities Statement

Chaminade University of Honolulu offers accommodations for all actively enrolled students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act (2008).

Students are responsible for contacting Kokua Ike: Center for Student Learning to schedule an appointment. Verification of their disability will be requested through appropriate documentation and once received it will take up to approximately 2–3 weeks to review them. Appropriate paperwork will be completed by the student before notification will be sent out to their instructors. Accommodation paperwork will not be automatically sent out to instructors each semester, as the student is responsible to notify Kokua Ike via email at ada@chaminade.edu each semester if changes or notifications are needed.

Kōkua ʻIke: Tutoring & Learning Services

Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua ʻIke: Center for Student Learning in a variety of subjects (including, but are not limited to biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua ʻIke's website for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. Tutor Me can be accessed 24/7 from your Canvas account. Simply click on Account > TutorMe. For more information, please contact Kōkua ʻIke at tutoring@chaminade.edu or 808-739-8305.

Course Schedule & Due Dates

Week	Date	Lecture (Topic & Chapter)	Assignments
1	Jan 13	Introduction & Course Overview	See Canvas for due dates
	Jan 15	History of Life on Earth - Chp 25	See Canvas for due dates
2	Jan 20	Phylogeny and the Tree of Life – Chp 26	See Canvas for due dates
	Jan 22	Plant Diversity, Structure Growth & Development - Chp 29 & 30	See Canvas for due dates
3	Jan 27	Plant Diversity - Chp 35	See Canvas for due dates
	Jan 29	**EXAM 1**	See Canvas for due dates
4	Feb 3	Resource Acquisition & Transport in Vascular Plants – Chp 36	See Canvas for due dates
	Feb 5	Soil and Plant Nutrition - Chp 37	See Canvas for due dates
5	Feb 10	Angiosperm Reproduction - Chp 38	See Canvas for due dates
	Feb 12	Angiosperm Reproduction con't - Chp 38	See Canvas for due dates
6	Feb 17	**EXAM 2**	See Canvas for due dates
	Feb 19	Animal Diversity - Chp 32	See Canvas for due dates
7	Feb 24	Chp 33 Group Presentations	See Canvas for due dates
	Feb 26	Origin & Evolution of Vertebrates – Chp 34	See Canvas for due dates
8	Mar 3	Origin & Evolution of Vertebrates con't – Chp 34	See Canvas for due dates
	Mar 5	Basic Principles of Animal Form & Function - Chp 40	See Canvas for due dates
9	Mar 10	Animal Nutrition - Chp 41	See Canvas for due dates
	Mar 12	**EXAM 3**	See Canvas for due dates
10	Mar 17	Spring Break – No Class	See Canvas for due dates
	Mar 19	Spring Break – No Class	See Canvas for due dates
11	Mar 24	Circulation & Gas Exchange - Chp 42	See Canvas for due dates
	Mar 26	Prince Kuhio Holiday – No Class	See Canvas for due dates
12	Mar 31	Circulation & Gas Exchange con't - Chp 42 The Immune System - Chp 43	See Canvas for due dates
	Apr 2	The Immune System con't - Chp 43	See Canvas for due dates
13	Apr 7	Osmoregulation & Excretion - Chp 44	See Canvas for due dates
	Apr 9	Osmoregulation & Excretion con't - Chp 44	See Canvas for due dates
14	Apr 14	**EXAM 4**	See Canvas for due dates
	Apr 16	Hormones & Endocrine System - Chp 45	See Canvas for due dates
15	Apr 21	Animal Reproduction & Development - Chp 46-47	See Canvas for due dates

	Apr 23	Animal Reproduction & Development con't - Chp 46-47	See Canvas for due dates
16	Apr 28	Nervous System - Chp 48-50	See Canvas for due dates
	Apr 30	Nervous System con't - Chp 48-50 **Final Project Due**	See Canvas for due dates
FINAL	May 7	**EXAM 5** - 11:00am to 1:00pm	See Canvas for due dates