Course Syllabus
Chaminade University Honolulu
3140 Waialae Avenue - Honolulu, HI 96816

Course Number: BI 215
Course Title: Cellular and Organismal Biology I
College/School/Division Name: School of Natural Sciences and Mathematics
Term: Fall 2023
Course Credits: 3
Class Meeting Days: Tuesday and Thursday
Class Meeting Hours: 11:30am to 12:50pm
Class Location: Henry Hall 225

Instructor Name: Dr. Chrystie Naeole, PhD
Email: chrystie.naeole@chaminade.edu
Phone: 808.739.8551
Office Location: Wesselkamper Science Center 109
Office Hours: Tuesday & Thursday 1:00pm to 2:30pm or by appointment

University Course Catalog 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.

Course Overview

This course has been designed to:

1. Prepare the students for further education in advanced biology courses, or related fields.
2. Introduce the student to the cellular biology of prokaryotes and eukaryotes.
3. To help the student on their road to becoming a competent and educated professional.
4. To examine and analyze specific content areas, such as molecular or cellular biology, evolution, genetics, physiology, and related areas of biochemistry and biophysics.
5. To study organisms included in the botanical & zoological fields emphasizing Hawaiian flora & fauna.

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
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 ʻOlelo Noʼeau (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 Sciences 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.

- 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.
- 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.
- 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

- BI215/L Cellular and Organismal Biology I lecture, and lab 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.

- 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 student in learning the subject matter but to encourage them to build relationships within the peer groups. In order 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.

Program Learning Outcomes

Upon completion the program in Biology, a graduating student will demonstrate the following competencies:

1. Apply the scientific method in the design and testing of hypotheses
2. Transform and display, statistically evaluate, validate, and interpret scientific data and communicate the results of such analyses effectively both orally and in writing.
3. Acquire and comprehend information from published scientific literature, databases and bioinformatics software to extract and interpret biological data
4. Recognize the chemical and physical principles that underlie all life forms, and the biological organization at the molecular, cellular, tissue, organ, organism, and system levels that emerge from these principles
5. Define the components and processes of genetic and epigenetic information transmission, and their determinant effects on the adaptive and evolutionary processes that they drive
6. Integrate an awareness of bioethical issues to positively influence the application of science to service, justice and peace in the solution of societal problems

Course Learning Outcomes and Linkage to Program Learning Outcomes

Students who successfully complete this course will be able to:

Course Learning Outcomes	**PLO 1**	**PLO 2**	**PLO 3**	**PLO 4**	**PLO 5**	**PLO 6**
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	X	

Course Prerequisites

Concurrent registration BI 100 and BI 215L required. Cross-listed with BC 215

Required Learning Materials

Urry, Lisa, Michael Cain, Steven Wasserman, Peter Minorsky and Jane Reece. Campbell Biology, 11th edition. Pearson Education Inc., 2017

Course Website:

https://chaminade.instructure.com/courses/28854

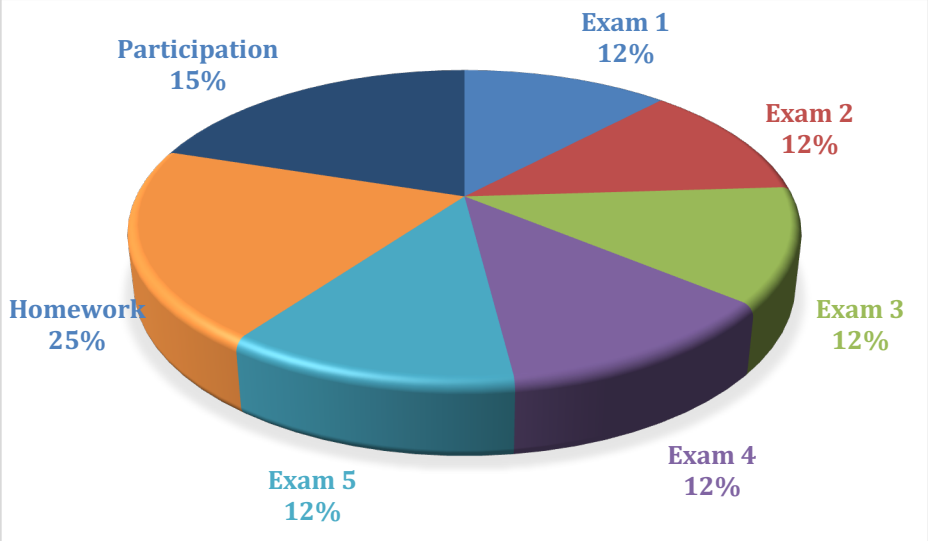
Technical Assistance for Canvas Users:

- Search for help on specific topics or get tips in Canvas Students
- Live chat with Canvas Support for students
- Canvas Support Hotline for students: +1-833-209-6111
- Watch this video to get you started
- Online tutorials: click on "Students" role to access tutorials
- Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu or call (808) 735-4855

Tutoring and Writing 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 'Ike: 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 'Ike'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 Account – Notifications – TutorMe. For more information, please contact Kōkua 'Ike at tutoring@chaminade.edu or 808-739-8305.

Assessment



Participation may include the following:

- Study Aids
- Discussion – Peer Posts
- Attendance
- Chapter Debriefs

Homework may include the following:

- Discussion Posts
- Worksheets
- Presentations
- Quizzes

Grading Scale

Letter grades are given in all courses except those conducted on a credit/no credit basis. They are interpreted as follows:

A 90-100% = Outstanding scholarship and an unusual degree of intellectual initiative
B 80-89% = Superior work done in a consistent and intellectual manner
C 70-79% = Average grade indicating a competent grasp of subject matter
D 60-69% = Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work
F <60% = Failed to grasp the minimum subject matter; no credit given

- **Reading Assignments**
  - The required reading assignments are listed in your course outline.
  - Exam questions will cover both lecture and reading material.
  - You are responsible for all reading material regardless of whether the particular topic has been covered in lecture.

- **Missed work, makeup exams and extra credit**
  - 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, a doctor's written excuse may be required.
  - Extra credit opportunities may be available during the course of regular lectures or may be written into exams.

Course Policies

Late Work Policy

1. Presence in class is mandatory & necessary in order for a student to fully grasp concepts. Students are expected to regularly attend 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.
2. 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.
3. 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.
4. 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.

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.

Writing Policy

If written assignments are given expectations relating to that assignment will be provided at that time. All written work is expected to be done in the student's own voice. Plagiarism is not allowed, and any student suspected of plagiarism will be subject to Chaminade University Policy. Additionally, the plagiarized assignment will be given a score of zero.

Instructor and Student Communication

Questions for this course can be emailed to the instructor at chrystie.naeole@chaminade.edu. Online, in-person and phone conferences can be arranged. Response time will take place up to 3 days of receiving your initial correspondence.

Cell phones, tablets, and laptops

Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

Disability Access

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from Kōkua 'Ike: Center for Student Learning by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Kōkua 'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

Title IX Compliance

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Attendance Policy

The following attendance policy is from the 2019-2020 Academic Catalog (p. 54-55). Faculty members should also check with their divisions for division-specific guidelines.

Students are expected to attend regularly all courses for which they are registered. Student should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. 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.

Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any unexcused absence of two consecutive weeks or more may result in being withdrawn from the course by the instructor, although the instructor is not required to withdraw students in that scenario. Repeated absences put students at risk of failing grades.

Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu Tutor Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes.
Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

Student Conduct Policy
Campus life is a unique situation requiring the full cooperation of each individual. For many, Chaminade is not only a school, but a home and a place of work as well. That makes it a community environment in which the actions of one student may directly affect other students. Therefore, each person must exercise a high degree of responsibility. Any community must have standards of conduct and rules by which it operates. At Chaminade, these standards are outlined so as to reflect both the Catholic, Marianist values of the institution and to honor and respect students as responsible adults. All alleged violations of the community standards are handled through an established student conduct process, outlined in the Student Handbook, and operated within the guidelines set to honor both students' rights and campus values.

Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's jurisdiction from the time of their admission until their enrollment has been formally terminated. Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website under Student Life.

For further information, please refer to the Chaminade Catalogue.

Schedule

Course Schedule (subject to change as instructor deems necessary)

Week	Date	Lecture (Topic & Chapter)	Assignments
1	Aug 22	Introduction & Course Overview	Review Syllabus & Welcome Module
	Aug 24	History of Life on Earth - Chp 25	See Canvas for due dates
2	Aug 29	Phylogeny and the Tree of Life – Chp 26	See Canvas for due dates
	Aug 31	Plant Diversity, Structure Growth & Develop. - Chp 29 & 30	See Canvas for due dates
3	Sept 5	Plant Diversity - Chp 35	See Canvas for due dates
	Sept 7	**EXAM 1**	
4	Sept 12	Resource Acquisition & Transport in Vascular Plants – Chp 36	See Canvas for due dates
	Sept 14	Soil and Plant Nutrition - Chp 37	See Canvas for due dates
5	Sept 19	Angiosperm Reproduction - Chp 38	See Canvas for due dates

	Sept 21	Angiosperm Reproduction con't - Chp 38	See Canvas for due dates
6	Sept 26	**EXAM 2**	
	Sept 28	Animal Diversity - Chp 32	See Canvas for due dates
7	Oct 3	Work on Invertebrates Presentation – Chp 33	See Canvas for due dates
	Oct 5	Chp 33 Presentations	See Canvas for due dates
8	Oct 10	Origin & Evolution of Vertebrates – Chp 34	See Canvas for due dates
	Oct 12	Origin & Evolution of Vertebrates con't – Chp 34	See Canvas for due dates
9	Oct 17	Basic Principles of Animal Form & Function - Chp 40	See Canvas for due dates
	Oct 19	Animal Nutrition - Chp 41	See Canvas for due dates
10	Oct 24	**Exam 3**	
	Oct 26	Circulation & Gas Exchange - Chp 42	See Canvas for due dates
11	Oct 31	Circulation & Gas Exchange con't - Chp 42 The Immune System - Chp 43	See Canvas for due dates
	Nov 2	The Immune System con't - Chp 43	See Canvas for due dates
12	Nov 7	Osmoregulation & Excretion - Chp 44	See Canvas for due dates
	Nov 9	Osmoregulation & Excretion con't - Chp 44	See Canvas for due dates
13	Nov 14	**EXAM 4**	
	Nov 16	Hormones & Endocrine System - Chp 45	See Canvas for due dates
14	Nov 21	Animal Reproduction & Development - Chp 46-47	See Canvas for due dates
	Nov 23	**Thanksgiving Holiday**	See Canvas for due dates
15	Nov 28	Animal Reproduction & Development con't - Chp 46-47	See Canvas for due dates
	Nov 30	Nervous System - Chp 48-49	See Canvas for due dates
FINAL	Dec 5	Tuesday, 8:30am to 10:30am	

Note: Every effort has been made to ensure that the material in this syllabus is accurate and complete. However, occasionally changes must be made in the printed schedule. Thus, the instructor reserves the right to make any changes in the contents of this syllabus that she deems necessary or desirable. These changes, if any, will be announced as soon as the need for them becomes apparent.

Credit Hour Policy

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in a minimum of 45 hours of engagement, regardless of varying credits, duration, modality, or degree level. This equates to one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester. Terms that have alternative lengths, such as 10-week terms, should have an equivalent amount of faculty instruction and out-of-class student work to meet each credit hour. Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for one credit. The number of engagement hours may be higher, as needed to meet specific learning outcomes.

Specific Credit Situations

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through several means, including (a) regular online instruction or interaction with the faculty

member and fellow students and (b) academic engagement through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practica, studio work, and preparation of papers, presentations, or other forms of assessment. This policy is in accordance with federal regulations and regional accrediting agencies.

How This Course Meets the Credit Hour Policy

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, 40 hours studying for exams 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.