



School of Natural Sciences and Mathematics

Department of Biology

## BI-216 Cellular and Organismal Biology II

Asynchronous Online

Credits: 3

Section: 90-1 Term: Summer Semester II 2025

### Instructor Information



**Instructor:** Michael Weichhaus  
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**Phone:** 808.440.4286  
**Office Location:** Wesselkamper Science Center room 107  
**Virtual Office:** Zoom, Teams, or Google Meet  
**Virtual Office Hours:** use this calendar [link](#) to view and sign-up for virtual office hours  
**Signal Messenger:** For quick questions, message me on Signal.

### Communication

Additional instructions or changes to the schedule that may become necessary during the class will 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 24h but may take longer during weekends or holidays. Online and in person meetings are available during office hours and can be scheduled using this [link](#) to my calendar. Calendar Sign-up is required for scheduling purposes. For quick questions, message me on Signal. Scan the QR code below or click this [link](#) to add me. If you don’t have Signal, it will prompt you to download it. Before adding me, make sure you go to Settings > Privacy and under "Phone Number," set "Who can see my phone number" to "Nobody". This will ensure your privacy and comply with university regulations. Responses may be delayed outside working hours.



## School & Department Information

### School of Natural Sciences and Mathematics

Office Location: Wesselkamper Science Center, room 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 the cell and molecular biology of prokaryotic and eukaryotic organisms, with particular reference to the relationships between structure and functions. Cell cycle and mitosis. Organization of cells, roles of cell signaling and extracellular environment in establishing structures in animals and plants. *Prerequisite for Biology Majors: BI215/215L, BI 210L must be taken either prior or concurrently with BI 216. Cross-listed with BC 216.*

### Time Allocation

*How This Course (3 credits) Meets the Credit Hour Policy*

- Instructional time
  - Reading: 38h
  - Instructional videos: 12.5h
  - Discussion: 4.5h
  - Additional Instructional Resources: 2h
- Key assessments, including study time:
  - Mid-term exams: 20h
  - Final exam: 15h
  - Essays: 20h (4x5h)
  - Mastering Biology Quizzes: 19h
- Additional time
  - Introductions and Wrap-Ups: 3h
- Total: 136.5h

## Required Materials

Mastering Biology with Pearson eText for Becker's World of the Cell

ISBN-13: 9780135891322

Use these [instructions](#) to gain access to the material from canvas

## LockDown Browser + Webcam Requirement

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable. Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature.

<https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

### Download Instructions

- Select a quiz from the course
- If you have not already installed LockDown Browser, select the link to download the application and follow the installation instructions
- Return to the quiz page in a standard browser
- LockDown Browser will launch and the quiz will begin

Note: LockDown Browser only needs to be installed once per computer or device. It will start automatically from that point forward when a test requires it.

### Guidelines

When taking an online exam, follow these guidelines:

- Select a location where you are comfortable having a video recording taken of yourself and your workspace environment. This area should be free of distractions and interruptions.
- Turn off all other devices (e.g. tablets, phones, second computers) and place them outside of your reach
- Before starting the test, know how much time is available for it, and also that you've allotted sufficient time to complete it
- Clear your desk or workspace of all external materials not permitted - books, papers, other devices
- Remain at your computer for the duration of the test
- If the computer, Wi-Fi, or location is different than what was used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again prior to the exam
- To produce a good webcam video, do the following:
  - Avoid wearing baseball caps or hats with brims

- Ensure your computer or device is on a firm surface (a desk or table). Do NOT have the computer on your lap, a bed, or other surface where the device (or you) are likely to move
- If using a built-in webcam, avoid readjusting the tilt of the screen after the webcam setup is complete
- Take the exam in a well-lit room, but avoid backlighting (such as sitting with your back to a window)
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

### Getting Help

Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If an exam requires you to use a webcam, also run the "Webcam Check" from this area
- 24/7/365 Live Chat Support is also available from the Help Center, or from within the "it's not working" troubleshooter.
- Respondus has a Knowledge Base available from [support.respondus.com](https://support.respondus.com). Select "LockDown Browser & Respondus Monitor" as the product to view helpful articles.
- If you're still unable to resolve a technical issue with LockDown Browser, go to [support.respondus.com](https://support.respondus.com) and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it

## Learning Outcomes

### Program Learning Outcomes (PLOs)

Upon completion of the Biology Program, 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 ethics informed by indigenous and traditional knowledge and practices.
5. Analyze societal challenges related to health and the 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 Cellular and Organismal Biology II, the student will be able to:

1. Identify the cell as the basic unit of life and describe the structure and function of prokaryotic and eukaryotic cellular components and organelles.
2. Explain transmembrane and cellular transport mechanisms.
3. Compare and contrast bioenergetic pathways in energy conversion in plant and animal cells.
4. List and describe each phase of the cell cycle and how it is regulated.
5. Identify the main biological macromolecules and describe their function in cellular processes.

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

Cellular and Organismal Biology II reflects the Marianist Educational Values of providing an integral, quality education and educating for adaptation and change. By offering a well-structured curriculum with diverse instructional materials—ranging from foundational readings to advanced multimedia content and interactive discussions—it ensures students gain a comprehensive understanding of cell biology. The integration of hands-on activities, peer-led sessions, and adaptive technologies like interactive worksheets and online discussions prepares students to adapt to scientific advancements and technological developments, equipping them to navigate a rapidly evolving world. The course's design emphasizes critical thinking,

collaboration, and active engagement, fostering a robust academic experience that aligns with Marianist values of holistic and forward-thinking education.

### 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 (‘Olelo No’eau 364) May I live by God.
2. Provide an Integral, Quality Education (Na’auao) Lawe i ka ma’alea a kū’ono’ono (‘Olelo No’eau 1957) Acquire skill and make it deep.
3. Educate in Family Spirit (‘Ohana) ‘Ike aku, ‘ike mai, kōkua aku kōkua mai; pela iho la ka nohana ‘ohana (‘Olelo No’eau 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 no’eau (‘Olelo No’eau 1430) Education is the standing torch of wisdom.
5. Educate for Adaptation and Change (Aina) ‘A’ohe pau ka ‘ike i ka hālau ho’okahi (‘Olelo No’eau 203) All knowledge is not taught in the same school

### Alignment of Course Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
<b>Marianist Values</b>	2	2	5	2	2
<b>PLOs</b>	1	1	1	1	1
<b>Native Hawaiian Values</b>	2	2	5	2	2

### Course Activities

Cellular and Organismal Biology II includes the following activities:

1. **Readings and Multimedia Resources:** Assigned textbook chapters, PowerPoint slides, and instructional videos covering cellular and molecular biology concepts.
2. **Discussions:** Online and peer-led discussions to encourage critical thinking and collaborative learning.
3. **Assignments:**

- Chapter-based Mastering Biology Assignments
  - Essays to summarize scientific literature using generative AI and how to use it in understanding scientific writing
  - Periodic exams using Lockdown Monitoring for remote online exams
4. **Additional Resources:** Supplemental materials like handouts, study sessions, and music videos for concept reinforcement.

## Course Policies

### Attendance

Students are expected to attend regularly all courses for which they are registered. Students should notify their instructors when illness or other extenuating circumstances prevent 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.

For this asynchronous online exam that doesn't require physical attendance at specific dates, reasonable progress through the content of the course is expected to fulfill the above attendance policy.

## Late Work

**Quizzes:** Mastering Biology Quizzes have a one-week grace period to complete for full credit.

**Exams:** Make-up exams will only be permitted if a valid physician's note demonstrates the student's illness during the period of the exam. Please provide this note promptly to make the necessary arrangements. Online exams can be accessed several days before the due date and can be completed at any time, allowing you to complete the exams before the due date.

### Discussions:

- *Up to 24 Hours Late: A 10% grade reduction will be applied.*
- *Up to 48 Hours Late: A 20% grade reduction will be applied.*
- *Beyond 48 Hours: Submissions will not be accepted beyond this extension*

### Essays:

- If you submit an essay up to 24 hours late, your grade will be lowered by half a letter grade (e.g., from a B to a B-).
- If your essay is late by more than 24 hours but less than 7 days, it will be lowered by a full letter grade (e.g., from a B to a C).
- Essays more than 7 days late will not be accepted.

**Important:** Please note that this late work policy **does not apply** where the late-work would extend beyond the end of the semester on August 17th 2025.

### Additional Guidelines regarding timeliness:

- *Communication:* If you anticipate needing an extension, it is your responsibility to communicate this need as soon as possible. Failure to communicate will result in the late penalties being applied.
- *Responsibility:* Meeting deadlines is an essential skill and a professional expectation. Planning and time management are critical to your success in this course.
- *Exceptions:* In extraordinary circumstances, additional considerations may be made at the discretion of the instructor. Please communicate your situation honestly and promptly.

## Extra Credit

No extra credit is available for this course.

## 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. An Incomplete Contract (available from the Divisional Secretary and the Portal) must be completed. When submitting a grade, the “I” will be accompanied by the alternative grade that will automatically be assigned after 90 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 90 days after the end of the semester or term. This limit is unlikely to be extended.

## Final Grades

Final grades are submitted to [Self-Service](#):

Summaries	20 percent
1 <sup>st</sup> Exam	20 percent
2 <sup>nd</sup> Exam	20 percent
Mastering Assignments	15 percent
Final exam	<u>25 percent</u>
	100 percent

## Grading Scale

- A: Outstanding Scholarship and an Unusual Degree of Intellectual Initiative**  
Reflects a mastery of the course material and an exceptional ability to synthesize and apply knowledge creatively. Demonstrates critical thinking, originality, and precision in argument and interpretation. Work at this level goes beyond mere accuracy and skillfulness, exhibiting intellectual curiosity and insight.
- B: Superior Work Done in a Consistent and Intellectual Manner**  
Represents strong understanding and application of course concepts, theories, and principles. Work is consistently thorough and well-organized, demonstrating analytical abilities and clear communication. Although not as inventive or insightful as an 'A' grade, 'B' level work shows commitment, engagement, and clear mastery of complex ideas.
- C: Average Grade Indicating a Competent Grasp of Subject Matter**  
Denotes a satisfactory comprehension of the material with the ability to apply key concepts but may lack depth in understanding or application. Work at this level meets the basic course requirements and demonstrates a reasonable effort, but may lack creativity, precision, or engagement with more complex ideas.
- D: Inferior Work of the Lowest Passing Grade, Not Satisfactory for Fulfillment of Prerequisite Course Work**

Reflects limited understanding of the course material and minimal engagement with the key concepts. Work is often incomplete, superficial, or lacks cohesion. While it may meet the minimum criteria for passing, it falls short of the standards required for progression in sequential or related courses.

**F: Failed to Grasp the Minimum Subject Matter; No Credit Given**

Signifies a lack of basic comprehension of the course content and an inability to apply or articulate fundamental concepts. Work at this level is characterized by significant inaccuracies, misconceptions, or omissions, and does not meet the minimum requirements for passing the course. Students receiving an 'F' must re-take the course or an equivalent to obtain credit.

## 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.

### **Nondiscrimination Policy & Notice of Nondiscrimination**

Chaminade University of Honolulu does not discriminate on the basis of sex and prohibits sex discrimination in any education program or activity that it operates, as required by Title IX and its regulations, including in admission and employment. Inquiries about Title IX 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 at the [Chaminade University Title IX Office Contact Information and Confidential Resources website](#). 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](#).

### **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](mailto:ada@chaminade.edu) each semester if changes or notifications are needed.

### Kōkua 'Ike: 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 '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 on Account > TutorMe. For more information, please contact Kōkua 'Ike at [tutoring@chaminade.edu](mailto:tutoring@chaminade.edu) or 808-739-8305.

## Schedule

Module	Topic	Readings Quizzes	Assignments
1	Chemistry of the cell; The macromolecules of the cell	Chapter 2,3	Welcome Discussion
2	Overview of cell compartments; Bioenergetics	Chapter 4,5	First Article Summary; Bioenergetics Discussion
3	Enzymes; Membranes	Chapter 6,7	Enzymes Discussion; Exam 1
4	Transport across Membranes; Glycolysis and Fermentation	Chapter 8,9	Transport through cell membranes Discussion
5	Cellular Respiration; Photosynthesis	Chapter 10,11	Second Article Summary; Cellular Respiration Discussion
6	Endomembrane system; Cytoskeletal Systems	Chapter 12, 13	Endomembrane System Discussion; Exam 2
7	Cellular Movement; Cell Adhesions/Junctions and ECM	Chapter 14, 15	Third Article Summary; Cellular Movement Discussion
8	Structural Basis of Information: DNA; DNA Replication	Chapter 16, 17	Fourth Article Summary; DNA Replication Discussion
9	Cell Signaling; Cell Cycle	Chapter 23, 24	Cell Cycle Discussion; Final Exam

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