

BI216 -- Cellular Biology

Spring 2019

Syllabus

Instructor: Dr. Michael Weichhaus
Address: Wesselkamper, Room 107
Phone: 440-4286
Email Address: michael.weichhaus@chaminade.edu
Office Hours: Wed: 11:30 - 14:00 and Mon: 12:00 - 15:00
Class Hours: Section 1: TTh 10:00 - 11:20; Clarence T.C. Ching Hall, Room 253
Section 2: MWF 10:30 - 11:20; Clarence T.C. Ching Hall, Room 254

Texts:

- Reece, J., "Campbell Biology", Tenth edition (2014), Pearson Education Inc
- Hardin, J., "Becker's World of the cell", Ninth Edition (2016), Pearson Education Inc

Concurrent/Previous enrollment in BI100 recommended. Concurrent/Previous enrollment in BI210L and BI216L required.

Aims of the course: This course prepares the student for further education in advanced biology courses or related fields by demonstrating the fundamental principles of cellular biology. It introduces the student to the cell as the basic unit of life and details its essential functions, while distinguishing between prokaryotic and eukaryotic cell types. The student will further have an opportunity to develop skills in critical thinking and reading scientific literature.

<u>Course Learning Outcome</u>	<u>Program Learning Outcome</u>	<u>Level</u>
1. Understanding of the cell as the basic unit of life	4	I
2. Description of the physiological processes of the cell	4	I
3. Understanding scientific writing	1, 2, 3, 7	I
4. Understand and present knowledge gained outside of lecture content	1, 2, 3, 7	I

Lecture Assignments

1. Lecture topics are listed on the attached outline. Additional readings and assignments may be given.
2. Each student will be expected to complete 4 summaries of **biological research** articles published in scientific journals. These articles will be provided by the instructor **TWO** weeks before the assignment is due. Each will consist of a 250-500 word summary based on the criteria listed below.
3. Attendance is expected in lecture sessions. A sign in sheet will be passed around during each class and unexcused absences (more than 3) may result in a decrease in grade by one grade level. If you know that you will be unable to attend a class then please let me know by e-mail. Unexcused absence for two consecutive weeks may result in the student being withdrawn from the course without notice. The student is responsible to catch-up on all topics/material covered during their absence.

Evaluation of Student Performance

1. Separate grades are given for lecture and laboratory. It is possible to receive different grades for lecture and laboratory.

2. Lecture exams may be curved, if class average falls below 70%. There is no curve for individual assignments.
3. There will be four lecture exams and one final exam for this course. Exam schedule is attached.
4. The final examination is a two-hour comprehensive examination including topics from the beginning of the course.
5. Extra credit work is available on canvas.
6. Missed exams can only be made up for valid excuses (to be determined by the instructor). In cases of illness, a physician's note is necessary.
7. The lecture grade will be determined in the following manner:

Summaries	10 percent
1 st Lecture Exam	12.5 percent
2 nd Lecture Exam	12.5 percent
3 rd Lecture Exam	12.5 percent
4 th Lecture Exam	12.5 percent
Weekly canvas quizzes	10 percent
Presentation	10 percent
Final exam	<u>20 percent</u>
	100 percent

Strict scale:	90% = A
	80% = B
	70% = C
	60% = D
	Below 60% = F

Class standing:

The instructor, prior to the withdrawal deadline, will notify students with grades of D or lower. Students receiving deficiency notices are required to arrange a conference with instructor.

Departmental and University Policies:

1. Disability Access

Pursuant to several federal and state laws, including the Americans with Disabilities Act of 1990, as amended by the ADA Amendments Act of 2008, and Section 504 of the Rehabilitation Act of 1973, all qualified students with disabilities are protected from discrimination on basis of disability and are eligible for reasonable accommodations or modifications in the academic environment to enable them to enjoy equal access to academic programs, services, or activities. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center at 808-735-4845 for further information.

2. 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. Should you want to speak to a confidential source you may contact the following:

- a. Chaminade Counseling Center 808 735-4845.
- b. Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.

3. Attendance Policy

Students are expected to attend regularly all courses for which they are registered. You are responsible to familiarize yourself on all topics/material covered during your absence. 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.

4. Academic Conduct Policy

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.

Detailed policies on Academic Conduct can be found in the Student [Handbook](#) and University [catalogue](#). The success of the Honor Code is made possible only with the acceptance and cooperation of every student. Each student is expected to maintain the principles of the Code.

Violations of Academic Honesty: Violations of the principle include, but are not limited to:

- Cheating: Intentionally using or attempting to use unauthorized materials, information, notes, study aids, or other devices in any academic exercise.
- Fabrication and Falsification: Intentional and unauthorized alteration or invention of any information or citation in an academic exercise. Falsification is a matter of inventing or counterfeiting information for use in any academic exercise.
- Multiple Submissions: The submission of substantial portions of the same academic work for credit (including oral reports) more than once without authorization.
- Abuse of Academic Materials: Intentionally or knowingly destroying, stealing, or making inaccessible library or other academic resource materials.
- Complicity in Academic Dishonesty: Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.
- Plagiarism: Intentionally or knowingly presenting the work of another as one's own (i.e., without proper acknowledgment of the source) Examples include, but are not limited to:
 - Copying or borrowing liberally from someone else's work without his/her knowledge or permission; or with his/her knowledge or permission and turning it in as your own work.
 - Copying off someone else's exam or paper.
 - Allowing someone to turn in your work as his or her own. DO NOT provide your work to someone else for reference.
 - Not providing adequate references for cited work.
 - Copying and pasting large quotes or passages without properly citing them.

On-Campus Tutoring

- Retention, Advising, and Career Preparation offers free, one-on-one tutoring for all undergraduate students at Chaminade. Subjects tutored include, but are not limited to: biology, chemistry, math, nursing, English, etc. The tutoring corps consists of trained Peer and Professional Tutors.

- Tutoring is available by appointment only. Tutoring takes place in either the Student Support Services building during the hours of 8:30 a.m. to 4:30 p.m., Monday to Friday.
- In order to receive tutoring, a student can visit the Student Support Services building and complete an information form. After submitting this form, a staff member will assist the student in creating
- an online account that allows him/her to book a tutoring appointment through the online system.
- All appointments must be made two days prior to the desired appointment. Cancellations must be made 24 hours in advance.

Online Tutoring through Smarthinking

- All CUH students are eligible to use Smarthinking, an online tutoring system. Students are able to access Smarthinking via their canvas account.
- Through Smarthinking, students are able to connect in real-time with an expert educator in a variety of subjects using a virtual whiteboard technology. Students also have an option to schedule a 30-minute appointment with a tutor of their choice. The Online Writing Lab provides students with the ability to receive a detailed, personalized critique of any written assignment through a formal critique process.
- All sessions are archived and available for students to review at any time for studying or test preparation.

For any questions related to tutoring services, please contact Amanda Lunday, Tutor Coordinator, at amanda.lunday@chaminade.edu

Appropriate Technology

1. Please have a mobile device (e.g. cell phone, tablet, laptop) with you in class. Lecture slides will be available to you prior to class through google slides. These are provided to you as an additional learning tool.
2. Participation in in class polling is encouraged through PollEverywhere. Instructions will be provided during class. (pollev.com/weichhaus).
3. Extra credit assignments require access to kahoot.it

Cell Biology Research Article Summaries

1. Each student is to submit a summary of scientific article pertinent to biology. The principle objective of the summary is to expose and engage the student in reading and understanding scientific literature. Another objective is to increase the student's ability to concisely summarize scientific information.
2. The research articles to be summarized will be provided by the instructor **TWO** weeks before the summary due date below. Students are expected to submit individually written summaries. Group work, interaction with the instructor and seeking help online is desired.
3. There will be four summaries due during the semester. The summaries will count as a total of 10% of your grade (2.5% each).
4. Summaries must be typed or word processed (use 12 point font). University writing standards are expected. Summaries should be between **250-500 words**.
5. Submission must be by uploading your work to canvas. Submission dates are outlined below, the time of submission is 11:59pm.
6. Late submission policy: Late submission of up to 24h will result in one letter grade reduction in your grade, submissions less than 48h late will result in two letter grades deduction. Submission more than 48h late will result in a 0 for the assignment.

Canvas Quizzes

In order to enhance your learning and understanding of cell biology, you will be quizzed weekly on the topics that are being discussed in class. The canvas quizzes will be due on Mondays and based on the previous week's content. If you are unsatisfied with your initial result, you have the option to repeat the quiz once. The highest score will be used for your grade. The cumulative grade of all quizzes will count as 10% of your grade

Presentations

CLO #4 requires learning outside the classroom. As such you will be assigned a portion of the lecture content to study on your own and present to the class. Assignments will be made during the first weeks of class. The instructor will provide you with specific guideline pertinent to your specific area. As presenter you will take on the role of instructor for your specific topic. Extensive preparations for your assigned area are therefore paramount. Your instruction will be graded on 1) content, 2) presentation style, 3) interaction with other students. The grade for this presentation will count 10% toward your final grade.

Extra credit Kahoots

Prior to each exam you will have to possibility to earn extra credit toward your exam grade. There will be a study session in class with instructor-provided learning objectives passed out at the beginning of class. You will need to find answers to the problems on your own and then be quizzed. Your final score on the quiz will increase your grade on the following exam, according to this formula:

$$\text{New Exam Score [\%]} = (100 - \text{actual exam score [\%]}) \times (\text{kahoot score [\%]} / 1000) + \text{actual exam score [\%]}$$

The number of these study sessions during the semester is discretionary to the instructor.

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Week	Lecture	Chapter	Comments
1	Chemistry of the cell	Chapter 2	
2	The macromolecules of the cell	Chapter 3	1 st research article handout
3	Cell and Organelles	Chapter 4	EXAM #1
4	Bioenergetics	Chapter 5	Summary 1 due
5	Enzymes	Chapter 6	
5	Membranes	Chapter 7	
6	Transport across membranes	Chapter 8	2 nd research article handout
7	Glycolysis and Fermentation	Chapter 9	EXAM #2
8			Summary 2 due
9	Cellular Respiration	Chapter 10	
10	Photosynthesis	Chapter 11	EXAM #3 3 rd research article handout
	Spring Recess		
11	Endomembrane system	Chapter 12	
12	Cytoskeletal Systems	Chapter 13	Summary 3 due
13	Cellular Movement	Chapter 14	
13	Cell Adhesions/Junctions and ECM	Chapter 15	4 th research article handout
14	Structural Basis of Information: DNA	Chapter 16	EXAM #4
15	Cell Cycle	Chapter 24	Summary 4 due
16	Final Exam: 11am - 1pm		

Every effort has been made to insure 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.