

BI216L -- Cell Biology Lab

Spring 2018

Syllabus

Instructor: Dr. Michael Weichhaus
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Email Address: michael.weichhaus@chaminade.edu
Office Hours: Wed: 15:00 - 17:00 and Thu: 10:00 - 12:00
Lab Hours: Tue 14:30 - 17:20; Henry Hall, Lab 3

Texts:

There is no required text for this lab. All necessary protocols and reading will be provided to you either as handouts or will be posted on canvas.

Concurrent or previous enrollment in BI216 required.

Aims of the course: This laboratory course accompanies BI216 Cellular and Organismal Biology lecture which is an introduction to the cell biology of prokaryotic and eukaryotic organisms, with particular reference to relationships between structure & functions, the cell cycle & mitosis, organization of cells, roles of cell signaling & extracellular environment in establishing structures in animals & plants

Specific Student Learning Outcomes:

At the end of the course, you will be able to:

Student Learning Outcomes	Linkage to Biology Program Learning Outcomes
Describe and apply the Scientific Method to observable phenomenon including being able to recognize and synthesize proper scientific questions and hypotheses	1; 2; 3; 7
Analyze and graph scientific data appropriately	2; 3; 7
Perform & understand experimental methodology of PCR, gel electrophoresis, DNA extraction, DNA sequencing, and bioinformatics.	1; 2; 3; 4; 7
Write a comprehensive scientific paper	1; 2; 3; 4; 7

Lab Assignments

1. The outline of the lab is below.
2. Laboratory notebook:
 - All students will be required to maintain a bound laboratory notebook into which ALL laboratory information and data is to be entered. Lab notebooks will be graded twice and are to be handed in on exam days.
 - Notebooks must be bound with non-tear out pages. No spiral notebooks, as are three holed folder paper.
 - Additional formatting information will be available on the lab's canvas page.

3. Attendance is mandatory in lab sessions. A sign in sheet will be passed around during each class and unexcused absences may result in a decrease in grade. 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 Unexcused absence for two consecutive weeks may result in the student being withdrawn from the course without notice.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. Exam grades may be curved, if class average falls below 70%. There is no curve for other assignments.
3. The final examination is a two-hour comprehensive examination including topics from the beginning of the course.
4. Extra credit work may become available at the instructor's discretion.
5. 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.
6. Homework and Quizzes will be assigned on canvas. It is essential to check the course's canvas page frequently for new assignment.
7. The lab grade will be determined in the following manner:

Strict scale:	90%-100% = A
	80%-90% = B
	70%-80% = C
	60%-70% = D
	Below 60% = F

Lab notebook	5 percent
Presentation	5 percent
Attendance	10 percent
Quizzes	10 percent
Homework	20 percent
Methods Paper	25 percent
Final exam	<u>25 percent</u>
	100 percent

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. **Policy on Communication :**

The University provides a Chaminade email address for all students. Official Chaminade communications will be sent to the students' Chaminade email address and instructors will use only this email to communicate with students. It is the responsibility of the student to check their email frequently. Report email-related problems to the Helpdesk at 808-735-4855 or helpdesk@chaminade.edu.

4. **Academic Conduct Policy**

The success of the Honor Code is made possible only with the acceptance and cooperation of every student. Detailed policies on Academic Conduct can be found in the Student [Handbook](#). Each student is expected to maintain the principles of the Code. Example of Honor Code violations include, but are not limited to:

- Giving or receiving information from another student during an examination;
- Using unauthorized sources for answers during an examination;
- Illegally obtained test questions before the test;
- Any and all forms of plagiarism – submit all or part of someone else's work or ideas as your own;
- The destruction and/or confiscation of school and/or personal property.
- Violations of the Honor Code are serious. They harm other students, your professor, and the integrity of the University. Alleged violations will be referred to the Office of Judicial Affairs. If found guilty of plagiarism, a student might receive a range of penalties, including failure of an assignment, failure of an assignment and withholding of the final course grade until a paper is turned in on the topic of plagiarism, failure of the course, or suspension from the University.

Violations of Academic Integrity: 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.
- Plagiarism: Intentionally or knowingly presenting the work of another as one's own (i.e., without proper acknowledgment of the source).
- 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 includes, but is 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 of 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 Nicolle Bekers, Tutor Coordinator, at nicolle.bekers@chaminade.edu.

Appropriate Technology

1. Please have a mobile device (e.g. cell phone, tablet, laptop) with you in lab. Lab handouts and instructor slides will be available to you prior to class through the course's canvas account. You will need to be able to access these during class and in preparation for
2. Participation in in class polling is encouraged through PollEverywhere. Instructions will be provided during class. (pollev.com/weichhaus)

Biology 216L / Spring 2017

Week	Date	Lab topic	Assignment
1	1/19	Scientific Method Review Prediction vs Hypothesis	Mythbuster Scientific Review
2	1/26	Scientific Method Review Methods Writing	Read journal article on canvas
3	2/2	Journal Article Discussion Overview of the semester	Collect soil sample for next week
4	2/9	PRACTICE: DNA Extraction & Gel Electrophoresis	Write DNA extraction methods
5	2/16	PRACTICE: PCR & Gel Electrophoresis	
6	2/23	Microbiomes	Write PCR methods
7	3/2	Soil DNA Extraction & Spec	
8	3/9	16S rRNA PCR & Gel Electrophoresis	
9	3/16	TOPO Cloning	Write cloning methods
	3/23	Spring Recess	
10	3/30	Miniprep & Sequencing rxn set up	Write miniprep methods
11	4/6	Sequence Analysis	
12	4/13	Good Friday Holiday - No Lab	
13	4/20	Analysis Presentation	
14	4/27	TBD	
15	5/4	EXAM	

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.