

Spring 2019 Syllabus

Course Code: BI-250L-02-1



I. Instructor Information

Dr. Frederique Kandel
Assistant Professor
Office: Henry 123B
Office hours: W 3-5pm and by appointment
frederique.kandel@chaminade.edu

II. Course Information

Thursday
9:30AM - 12:20AM,
Henry Hall lab 3

III. You do not need to buy a text for this lab, should you wish to do so, the following one is useful

Text: ISBN-13: 978-259-29386-3

Laboratory Manual-Microbiology Fundamentals: A Clinical Approach - 2nd Edition
by Steven Obenauf (Author), Susan Finasso (Author)

Most material will be supplied as needed using canvas PDF posts or hard copies.

IV. Course Title: BI-250-01-1 Microbiology & Cellular Biology Laboratory for Nurses.

V. Course Description: Introduction to microbiology laboratory with an emphasis on clinical approach relevant to health professionals BI 250L is the laboratory corresponding to the BI 250 course. The laboratory is designed to experience hands-on applications of the concepts explored in class.

VI. Learning Outcomes.

Departmental learning outcomes:

1. An understanding of the scientific method and the ability to design and test a hypothesis;
2. The ability to visualize, statistically evaluate, validate and interpret scientific data, and to communicate science effectively both orally and in writing;
3. The ability to acquire and comprehend information from published scientific literature and to employ computational resources in the resolution of biological problems;
4. An understanding of the chemical and physical principles that unite all life forms, and of biological organization at the molecular, cellular, tissue, organ, organism and system levels;
5. The ability to 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. An understanding of the etiology of major human disease burdens in terms of pathophysiological mechanisms, epidemiology within populations and possible therapeutic approaches
7. An understanding of the entry requirements, career pathways and progression for the major post-graduate fields of research, education and the health professions.

BI 250L learning outcomes:

| <i>Upon Completion of this course, students will be able to:</i> | | Program outcome link. |
|--|---|-----------------------|
| 1 | Apply safe laboratory practices | 1, 2 |
| 2 | List, explain and experience the steps of the scientific method | 1, 2, 3, |
| 3 | Use microscopy techniques to observe the main types of microorganisms discussed in class. | 1, 2, 4, 6 |
| 4 | Experiment with various methods of microbial culture | 1, 2, 4, 5, 6 |
| 5 | Make use of various techniques to identify microorganisms | 1, 2, 4, 5, 6 |
| 6 | Apply laboratory techniques to quantify microorganisms | 1, 2, 3, 4, 6 |
| 7 | Write clear reports of experimental findings | 1, 2, 3, 4, 5, 6 |

VIII. Grading Scale

| | | |
|---|---------------|-----------|
| A | Excellent | >90% |
| B | Good | ≥80% <90% |
| C | Average | ≥70% <80% |
| D | Below Average | ≥60% <70% |
| F | Failure | <60% |

IX. Assignments and Grading

| | <u>Points</u> | <u>% Of Grade</u> | <u>Due Date</u> |
|--------------------------|---------------|-------------------|----------------------------|
| Homework/Quizzes | 40 | 10 | Weekly |
| Midterm | 160 | 40 | 3/14/2019 (tentative date) |
| Final | 160 | 40 | 5/02/2019 (tentative date) |
| Attendance/participation | 40 | 10 | Ongoing evaluation |
| Total | 400 | 100 | |

XI. Additional Departmental and University Policies

1. Electronic Devices

Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. Use of cellphones and music devices in laboratories is a safety issue. In addition, use of cellphones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. You will be asked to leave class and marked absent if you do not comply. This will negatively affect your grade. Please refer any questions to the Dean of Natural Sciences and Mathematics.

2. ADA Statement

2.1 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.

3. Attendance

3.1 Students are expected to attend regularly all courses for which they are registered but this is particularly crucial for laboratory courses. Generally there are no make-up laboratory sessions but in certain exceptional circumstances it might be possible for a student to attend one of the other lab sessions that week, with permission of the instructor(s). Students should notify their instructors when illness or other extenuating circumstances prevents them from attending lab and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address. 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.

3.2 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. Policy on Make-Up Tests

Generally there are no make-up laboratory Tests but in certain exceptional circumstances it might be possible for a student to attend one of the other examination that week, with permission of the instructor.

5. Policy on Communication

5.1 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.

6. Laboratory Safety Information

The following guidelines are established to provide instructions in maintaining safety for students, staff, and faculty while using any of the science laboratories at Chaminade University. The Division of Natural Sciences and Mathematics (NSM), along with the University Environmental Safety Office are responsible for enforcing the regulations set forth in the current Student Handbook. Queries should be addressed to: Dean of Natural Sciences and Mathematics (808) 440-4204; Environmental Safety Officer (808) 739-4811

7. Title IX Declaration

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:

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

8. Academic Honesty

Students are expected to have read and to abide by the “Student Rules of Conduct” which are available in your copy of Chaminade University’s Student Handbook. Cheating in the form of plagiarism, collusion, deception and will not be tolerated and will negatively affect your grade.

9. The instructor may modify elements of this syllabus according to the operational needs of the class.

10. Tentative schedule:

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| Thursday | 1/17/2019 | Safety briefing and Use of the microscope. |
| Thursday | 1/24/2019 | No lab, week of Martin Luther King/Father Chaminade |
| Thursday | 1/31/2019 | Culturing bacteria. Yogurt experiment and plate pouring |
| Thursday | 2/7/2019 | Yogurt experiment results and analysis. Simple staining and Surface testing experiment |
| Thursday | 2/14/2019 | Surface testing results and analysis. Gram Staining |
| Thursday | 2/21/2019 | No lab, week of President day |
| Thursday | 2/28/2019 | Differential and selective culture, <i>Penicillium</i> culture, |
| Thursday | 3/7/2019 | Previous week culture results and analysis. Helminthes and protozoans. |
| Thursday | 3/14/2019 | MIDTERM |
| Thursday | 3/21/2019 | No lab, Spring recess |
| Thursday | 3/28/2019 | Control of microbial growth - Hand-washing experiment/ <i>vibrio fisheri</i> |
| Thursday | 4/4/2019 | Control of microbial growth results and analysis. Antimicrobial susceptibility and bacteria concentration/enumeration. |
| Thursday | 4/11/2019 | Antimicrobial susceptibility and bacterial enumeration results and analysis. |
| Thursday | 4/18/2019 | Biochemical testing/ Bacteria identification |
| Thursday | 4/25/2019 | Biochemical testing/ Bacteria identification and Review |
| Thursday | 5/2/2019 | LAB FINAL EXAM |

