Spring 2019 Syllabus

Course Code: BI-250-02-1

I. Instructor Information

Dr. Frederique Kandel
Assistant Professor
Office: Henry 123B
Office hours: W3-5pm and by appointment
frederique.kandel@chaminade.edu

II. Course Information

W 01:30PM - 02:50PM,
TH 03:30PM - 04:50PM
Hale Hoaloha, Room 302

III. Text: ISBN-13: 978-0078021046- ISBN-10: 0078021049
Microbiology Fundamentals: A Clinical Approach - Standalone book 2nd Edition
by Marjorie Kelly Cowan (Author), Jennifer Bunn (Author). The book comes with an access to "Connect" a website you will use for homework after each chapter.
Supplemental material will be supplied as needed using canvas posts or hard copies.

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

V. Course Description: Introduction to microbiology with an emphasis on clinical approach relevant to health professionals. As nursing students, the material studied in BI 250 is directly relevant to your professional goals.
In class we will use lecture, guest speakers, group discussions, examination of scientific papers and popular articles, student presentations, and mini-quizzes to support your learning.
You are expected to spend <u>at least</u> three hours studying outside of class for each hour you spend in class. The homework assignments will help you review, clarify and sometime expand on the material discussed in class.
Note: This class is paired with a laboratory course: BI 250L where you will experience hands-on applications of 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 250 class learning outcomes:

Upon Completion of this course, students will be able to:		Program outcome link.
1	List and explain the steps of the scientific method	1, 2, 3
2	Compare and contrast prokaryotes, eukaryotic microbes and viruses.	1, 2, 4, 6
3	Classify microorganisms according to current understanding of taxonomy.	1, 4, 6
4	Discuss the importance of microorganisms both in term of benefit and threat to humans and other animals' health.	1, 2, 3, 4, 5, 6
5	Explain the basic principles microbial metabolism and microbial genetics and assess the benefit and risks of genetic engineering.	1, 3, 4, 5, 6
6	Summarize the structure and function of the immune system and compare and contrast nonspecific and acquired immunity.	1, 5 , 6
7	List and explain current strategies used to diagnose infections	1, 2, 3, 4, 5, 6
8	Organize infectious diseases by affected system.	1, 3, 4, 5, 6
9	Illustrate how human health and environmental conditions interact.	1, 3, 4, 5, 6

VII. Course Elements/schedule (instructor may modify the schedule as needed).

Wednesday	1/16/2019	Introduction to course and to Microbes and Their Building Blocks.	1
Thursday	1/17/2019	Introduction to Microbes and Their Building Blocks.	1
Wednesday	1/23/2019	Tools/Methods for the Culturing and observation of Microorganisms	2
Thursday	1/24/2019	Tools/Methods for the Culturing and observation of Microorganisms	2
Wednesday	1/30/2019	Tools/Methods for the Culturing and observation of Microorganisms	2
Thursday	1/31/2019	Bacteria and Archaea Eukaryotic Cells and Microorganisms	3
Wednesday	2/6/2019	Bacteria and Archaea Eukaryotic Cells and Microorganisms	3
Thursday	2/7/2019	Bacteria and Archaea Eukaryotic Cells and Microorganisms	3
Wednesday	2/13/2019	Viral Structure and Life Cycles	5
Thursday	2/14/2019	Viral Structure and Life Cycles	5
Wednesday	2/20/2019	Microbial Nutrition and Growth	6
Thursday	2/21/2019	Microbial Nutrition and Growth	6
Wednesday	2/27/2019	Microbial Metabolism	7
Thursday	2/28/2019	**EXAM1**	7
Wednesday	3/6/2019	Microbial Metabolism	7
Thursday	3/7/2019	Microbial Genetics and Genetic Engineering	8
Wednesday	3/13/2019	Microbial Genetics and Genetic Engineering	8
Thursday	3/14/2019	Physical and Chemical Control of Microbes/Antimicrobial Treatment	9 & 10
Wednesday	3/20/2019	Antimicrobial Treatment/Interactions Between Microbes and Humans	10 & 11
Thursday	3/21/2019	Interactions Between Microbes and Humans	11
Wednesday	3/27/2019	Spring break NO CLASS	
Thursday	3/28/2019	Spring break NO CLASS	
Wednesday	4/3/2019	Host Defenses I: Overview and Nonspecific Defenses	12
Thursday	4/4/2019	Host Defenses II: Specific Immunity and Immunization	13
Wednesday	4/10/2019	Host Defenses II: Specific Immunity and Immunization	13
Thursday	4/11/2019	Guest speakers (tentative date depending on guests availability)	
Wednesday	4/17/2019	Disorders in Immunity	14
Thursday	4/18/2019	Diagnosing Infections	15
Wednesday	4/24/2019	**EXAM 2**	
Thursday	4/25/2019	Infectious Diseases Affecting various body Systems (some examples)	16 to 21
Wednesday	5/1/2019	Infectious Diseases Affecting various body Systems (some examples)	16 to 21
Thursday	5/2/2019	Infectious Diseases Affecting various body Systems (some examples)	16 to 21

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

	Points	% Of Grade	Due Date
Homework	100	20	as Assigned
Exam 1	100	20	2/28/2019 (tentative date)
Exam 2	100	20	4/24/2019 (tentative date)
Exam 3/Presentation	75	15	4/24/2019 (various dates)
Final (comprehensive)	100	20	Date to be announced
Attendance/participation	25	5	Ongoing evaluation including mini-quizzes
Total	**500**	**100**	

XI. Additional Departmental and University Polices

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. ADAA 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. Students 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 or by leaving a message with the instructor's division office (Natural Science and Math 1 (808) 440-4204).

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

Make-Up test will be granted **only in case of excused absence.**

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.