SOUTHERN CALIFORNIA UNIVERSITY OF HEALTH SCIENCES
Accelerated Sciences Division

Syllabus Table of Contents

COURSE INFORMATION

Course Number (Prefix Code): BIO231

Course Name: Microbiology Lecture

Course Description:

This course is designed to convey the general concepts, methods, and applications of microbiology for the health sciences. The role of microorganisms in the environment and in human disease is primarily discussed. Topics include: immunology, bacteriology, virology, and mycology; the morphology, biochemistry, and physiology of microorganisms including bacteria, viruses, and fungi; the diseases caused by these microorganisms and their treatments.

Course Delivery Model(s): Online - Interactive, Online Self-Paced

Time Requirement:

Lecture Hours per term:	45
Laboratory Hours per term:	0
Total Hours per term:	45
Course Duration (weeks):	5
Credits:	3

Credit Hour Verification:

This list represents the average amount of time a student is expected to spend to successfully complete this course.

	Activity Type	Online Interactive Hrs/wk	Online Self-Paced Hrs/wk
Course Time	Lecture time	9	0
	Video Lectures	0	0.5

	Activity Type	Online Interactive Hrs/wk	Online Self-Paced Hrs/wk
Academic Engagement	Supplemental Videos	2	2
	Adaptive Reading Assignment	3	6
	Homework quiz	3	4
	Exam (Mid-term and Final)	1	1
Preparation and Study	Study time (assessment prep)	5	7
	Reading (chapter readings, materials research)	4	6.5
Total	**For the Course per week**	**27**	**27**
	For the Term	**135**	**135**

Prerequisites: None
Co-requisites: None
Recommended Prerequisites or Co-requisites: BIO231L corequisite

This course may be taken again for credit the following number of times (repeatable): 5

LEARNING OUTCOMES, OBJECTIVES, & ALIGNMENT

Student/Course Learning Outcomes
In successfully completing this course, students will be able to:

SLO/CLO
1. Describe the structure and functions of microorganisms.
2. Compare metabolic and replicative processes in microorganisms.
3. Identify and explain in detail the structure and function of the human immune system.
4. Define and explain the concepts of pathogenicity and epidemiology.
5. Describe major microorganisms that result in human disease and disorders.
6. Compare and contrast various physical and chemical methods of controlling microbial growth.
7. Explain the differences between the modes of action of drugs that target microorganisms.

TEXTBOOKS & MATERIALS

Required Textbook(s): Talaro's Foundations in Microbiology, 11th edition, Barry Chess

Required Materials: Working computer with a strong internet connection, camera, and a microphone. Scientific calculator.

Scientific Calculator*

*** Graphics or text-memory calculators are not allowed for use during quizzes or exams. If a student brings one, they will have to take the quiz without a calculator! Students are encouraged to obtain a scientific calculator with exponents and logarithms immediately, rather than the day before a quiz or an exam. It is important to be comfortable with the calculator being used, rather than to be struggling to locate the keys for certain mathematical operations. For example, a TI-30X IIS is acceptable.*

Provided Materials: The following materials will be provided:

Homework and quizzes platform (McGraw-Hill).

Technology Requirements

External resources: McGraw-Hill

Learning Management System: Canvas. If a student is unfamiliar with the Canvas learning management system, please visit the manuals and learning guides available in the Canvas Student Guide. It is important that students are comfortable and competent in using this system, as all course material and communication will be done via Canvas.

Navigating Canvas – the Canvas site has a large set of Canvas tutorials and videos for students.

Browser and Computer Requirements for Canvas: This course requires that students have access to Google Chrome or Microsoft Edge.

Examination System: We will be using the Proctorio Online Exam Proctoring Service in this course. Proctorio is a software extension in Chrome that uses your computer's screen, web cam, and microphone to create a remote proctored environment, and enables you to take exams via Canvas in the location of your choice. You must have a strong and stable internet connection for Proctorio to work well. During the exam, you, your computer, and the environment you are taking the exam in may all be recorded.

In addition to the instructor(s) and Teaching Assistants(s) of this course, Proctorio and SCU Proctorio administrators are the only ones who will have access to the recordings. The Chrome browser extension must be installed before students can take any exam, and it can be removed once an exam is complete.

There will be a practice exam to become familiar with using Proctorio, and surface any issues you may encounter with Proctorio.

Suggestions for completing online coursework: Save work often; this includes backing it up on multiple devices or cloud applications. When submitting final papers on the Canvas learning management system (LMS), ensure that all files have been uploaded properly. Also make sure to keep a hard copy of all papers/projects in case of an unforeseen technological failure or outage.

EVALUATION OF STUDENT LEARNING

Grading scale:

Letter grade

A = 90% - 100%
B = 80% - 89.99%
C = 70% - 79.99%
D = 60% - 69.99%
F = 0.0% - 59.99%

Assessments:

Assessment Name	#	Point Each	Weight	SLO Linkage
Homework Assignment	5	50-60	15%	1 - 7
Discussions/participation	5	10	15%	1 - 7
Module Quiz	5	10	20%	1 - 7
Reading Assignments (optional)	15	-	-	1 -7
Case Studies	3	20	10%	1 - 7
Exams	2	120	40%	1 - 7
Total			100%	

Course Topics:

Module	Module Title	Topic	Assessment Activity	SLOc
1	Introduction to Microbiology	Ch. 1: The Main Themes of Microbiology Ch. 2: The chemistry of Biology Ch.3: Methods of Studying Microorganism	Homework assignment Discussion/Participation Module Quiz Case Study	1, 3 & 5
2	Types of Microorganism	Ch. 4: The survey of Prokaryotic Cells and Microorganism Ch. 5: A survey of Eukaryotic Cells and Microorganism Ch. 6: An Introduction to Viruses, Viroids and Prions	Homework assignment Discussion/Participation Module Quiz Case Study	1,2,6,7
MID-TERM EXAM				
3	Microbial Growth and Genetics	Ch. 7: Microbial Nutrition, Ecology, and Growth Ch. 9: An Introduction to Microbial Genetics	Homework assignment Discussion/Participation Module Quiz	4,5,6,7
4	Controlling Microbial Growth	Ch. 11: Physical and Chemical Agents of microbial control Ch. 12 Drugs, Microbes, Host-The Elements of Chemotherapy Ch. 13 Microbe–Human Interactions: Infection, Disease, and Epidemiology	Homework assignment Discussion/Participation Module Quiz Case Study	5,6,7

Module	Module Title	Topic	Assessment Activity	SLOc
5	Host Immunity and Immunization	Ch. 14: An Introduction to Host Defenses and Innate Immunities Ch. 15 Adaptive, Specific Immunity and Immunization Review	Homework assignment Discussion/Participation Module Quiz	5,6,7
FINAL EXAM				

UNIVERSITY POLICIES

All university policies apply to this course and all others. For full policy information please consult the SCU Catalog. Additionally, program policies apply to students in each program as described in the Catalog and in SCU Health Handbook for clinical courses.

Drop Date: It is a student's responsibility to understand when to consider unenrolling from a course. Refer to the SCU Academic Calendar for dates and deadlines for registration. Also refer to SCU Academic Policies for information about the drop period.

Incomplete Policy: Under emergency/special circumstances, students may petition for an incomplete grade. See the SCU Catalog for Policies about Incomplete Grades

Academic Integrity: Students at this university are expected to maintain the highest degrees of professionalism, a commitment to active learning, and display integrity both in and out of the classroom. See the SCU SCU Academic Integrity Code.

Accessibility Services and Accommodations: The Office of Student Services provides support to students with disabilities requiring accommodation in concert with the lead faculty for this course. All students are encouraged to request accommodation as far in advance of when the accommodation will be required to allow the University to process the request and provide approved accommodation. To begin the process please request a consultation with the designated Accessibility Services Officer as soon as possible. Once the Office of Student Services approves the request, the letter of accommodation will be provided to the student and lead faculty member via email. The student should be certain to follow-up with the lead faculty member to plan for the specific accommodation needs for the course. Program requirements cannot be modified to accommodate a disability. Please see the catalog for details regarding Accessibility Services and Accommodations.

A complete list of University Services is available through MySCU, including:

- Tech Support information
- Veterans Support Services
- Resources for Title IX support though the Campus Safety tab
- Student Advocacy and Accountability resources

Learning Resource Center: Students can use the library's resources which provide students with an excellent collection of books, journals, electronic databases, and websites as well as consult with the librarian to help with the course.

Online Etiquette: In general, behavior in an online classroom should emulate the professional behavior expected in an on-ground classroom with a few additional requirements:

- Avoid using text slang and abbreviations such as "u" (instead of "you"), "TLDR" (Too Long, Didn't Read) or "TBH" (To Be Honest) - not everyone knows what they are. Do not use ALL CAPS for entire sentences or posts - this is seen as yelling at someone.
- Any form of personal attack or inappropriate response with other students or faculty is unacceptable. We will remove any discussion posts showing this and warn the author.
- If a student disagrees with someone's comments, they should do so respectfully and collegially and provide legitimate examples to support their side.
- Before pressing the submit button review comments, making sure nothing is coming across as defensive, too "know-it-all" or critical, or academically inappropriate. It is easy for someone to misinterpret the meaning when they cannot see facial expressions or hear the tone of voice.
- Avoid short, generic replies such as "I agree!", "I like it!" or "Funny!" – explain why, add another point in support of the idea, or raise a question to continue constructive dialogue.

Attendance: SCU policy defines attendance for all courses and specifies online courses as active, weekly participation in the course as described in the syllabus. Examples of activities could include, but are not limited to:

- Participating in weekly online chats or discussions
- Submitting or completing assignments
- Commenting on other student contributions
- Actively logged on and participating in class at least three times per week

See the Academic Policies page in the SCU Catalog for more details on Attendance Policy.

Accelerated Sciences Course Recommendations

- Read before and after each class. Skim the chapter before it is covered in lecture to become comfortable with some of the terms associated with each topic. Review each chapter after it is covered in class to enhance understanding of the material.
- Do not wait until the night before homework is due to start the assignment. Understanding of concepts will be enhanced if the time is taken to learn them beforehand and later review the material without being rushed.
- Stay focused by finding an environment to study with few distractions.
- Participate during class by taking notes and looking over them afterwards.
- Any topics covered in the course could be presented in subsequent examinations, so it is critical to prepare and learn all presented material.
- Remember that procrastination in an accelerated course can quickly prove disastrous! Failure to learn foundational principles can make all future material seem nearly incomprehensible, so make sure to budget time wisely over the next five weeks.

Specifically for synchronous courses:

- Ask questions for clarification when not understanding the material being covered.
- *Do not skip class, arrive late, or leave early.* Given the accelerated nature of our courses, every minute of class missed can have a real impact on student success in a course.
- Work on assigned problems as close to the time as when the topic is covered in class to increase understanding of specific concepts.
- Find a group of students to study with. This makes studying more fun and helps learning of the material by teaching to and learning from peers. Explaining these concepts to other students aids in mastery of what is covered.

Teaching Methods & Instruction

In classes with scheduled class time, lectures will be delivered in real time/live by the instructor. Students must adhere to the attendance policy set out by the instructor for the class. In asynchronous classes, students will review lecture content on their own time. Due to the individualized nature of learning, students should expect to spend as much time as needed based on individual attainment of prerequisite knowledge.

- **Class Time:** Class time will be spent reviewing the topics as outlined in this document. It is the student's responsibility to use the resources provided to prepare yourself prior to class. This includes reading the textbook and viewing other supplemental resources. Feel free to ask questions, whether it be live in class, or through the message tool in canvas for asynchronous sections.

- **Discussions:** Discussions will reflect on lecture content covered each week. Discussions will open at the beginning of the week and will close at the completion of the week's content. Each topic will cover emerging issues in nutrition. The instructor will participate in the discussion and students are expected to monitor the board for probing questions and comments from their peers.

- **Homework Assignments:** Upon completion of each lecture, a homework assignment will be provided. The activities will be on McGraw Hill and will combine the topics covered during the class week along with current events in Health Sciences. Activities will assess the knowledge students have acquired that week and help increase critical thinking of complex topics.

- **Module Quizzes:** Quizzes will be based on textbook reading and lecture experiences and will be multiple choice, matching, fill in the blank questions and diagram labeling (with word bank). The goal of the quizzes is to make sure students are keeping up on the reading and lay a foundation for the more difficult questions found on the exams.

- **Case Studies:** Students will have three case studies that focus on a real-life health science scenario. The case studies will be based on the lecture content that week and content from previous weeks. Case studies will incorporate multiple aspects of microbiology including microbe identification, prediction of microbe pathogenicity, treatment, and control mechanisms.

- **Exams:** Exams are intended to evaluate and assess materials covered in modules previous chapters. A study guide will be provided to narrow the scope of possible topics to be covered.