

MARIAN UNIVERSITY

Indianapolis

Students are responsible for reading and understanding the contents of this syllabus before the first day of class.

Course Description

This course provides the basic requirements for a working knowledge of viruses, bacteria, fungi, protozoa, algae, and helminths (parasitic worms), with emphasis on structure, metabolism, role in disease, role in the natural world, and the immune responses to infection.

Semester: 4 Credit Hours: 4

Required Textbook(s) and Additional Resources

Textbook and Lab:

Refer to the MAP website (www.marian.edu/MAP) for specific textbook and lab kit requirements.

Course Outcomes

At the completion of this course, students will be able to:

1. Demonstrate facility with the techniques necessary to safely handle specimens for microbiological analysis.
2. Clearly explain the appropriate techniques for disinfection, pasteurization and/or sterilization of equipment, food, and other potentially contaminated materials.
3. Demonstrate an understanding of the basic principles underlying isolation and identification of potentially pathogenic microorganisms.
4. Clearly identify the association between microorganisms, the disease process, and portals of entry and exit of disease organisms.
5. Demonstrate an understanding of the importance of normal microbiota to human health, and the circumstances that permit normal microbiota to cause diseases.
6. Describe the components and functions of the immune system, the role it plays in protecting the host, and methods that organisms use to evade or defeat the immune system.
7. Demonstrate the ability to control microorganisms in the environment.
8. Identify the global impact of microbes in human health.

Teaching Strategy

Teaching Strategies:

Audios, discussion, assigned readings, web-based activities, assignments.

Methods of Evaluation

The student is expected to demonstrate competence through class participation, written exams, homework assignments, laboratory exercises, and written and oral presentations.

Performance assessment:	Total Points
4 lecture exams	400 points
4 lecture quizzes	100 points
6 homework assignments	125 points
Discussion board	25 points
Viral Presentation	50 points
<u>Lab Reports</u>	<u>120 points</u>
Total	820 points

GRADE	PERCENTAGE
A	94-100%
A-	90-93.9%
B+	87-89.9%
B	83-86.9%
B-	80-82.9%
*C+	77-79.9%
C	73-76.9%
C-	70-72.9%
D+	65-69.9%
D	60-64%
F	<60%

Course Sequence

Lecture and Exams:

Module 1

- Chapter 1 Themes of Microbiology
- Chapter 4 Prokaryotes and Biofilms
- Chapter 5 Eukaryotic Infections
- Chapter 18 Cocci of Medicinal Importance

Module 2

- Chapter 7 Microbial Nutrition
- Chapter 13 Human – Microbe Interactions
- Chapter 19 Gram Positive Bacilli of Medicinal Importance
- Chapter 21 Miscellaneous Bacterial Agents of Disease

Module 3

- Chapter 14 Innate Immunity
- Chapter 15 Adaptive Immunity
- Chapter 20 Gram Negative Bacilli of Medicinal Importance

Module 4

- Chapter 6 Introduction to Viruses
- Chapter 24/25 or Student selected DNA or RNA Viruses
- Chapter 11 Physical and Chemical Agents of Control
- Chapter 12 Drugs, Microbes and Host

Laboratory:

Please sign and submit the laboratory safety agreement right away. This agreement is scored and counts as a lab.

Lab. 1: Observing Bacterial and Blood

Lab. 2: Bacterial Morphology

- Lab. 3: Aseptic Technique & Culturing Microbes
- Lab. 4: Isolation of Individual Colonies
- Lab. 5: Differential Staining
- Lab. 6: Methyl Red Voges-Proskauer Test
- Lab. 7: Motility Testing
- Lab. 8: Carbohydrate Fermentation Testing
- Lab. 9: Osmosis
- Lab. 10: Antibiotic Sensitivity
- Lab. 11: Fomite Transmission
- Lab. 12: Microbes in the Environment

All lab reports are due before 11:59PM EST, as indicated in the calendar.

Policies

Student Code of Rights and Responsibilities:

The student is responsible for reading and abiding by the policies, philosophies of conduct, and expectations of MAP and Marian University as stated in the MAP Student Handbook and the Student Code of Rights and Responsibilities Handbook. The Handbook can be found on the MAP website at www.marian.edu/MAP ([Links to an external site.](#)). The Student Code of Rights and Responsibilities is also available at the Office of Student Life.

Academic Integrity:

The search for truth, the transmission of knowledge, and the facilitation of moral development are the avowed goals of institutions of higher education around the world. Members of the Marian University community are expected to maintain the highest level of honesty in every phase of their academic lives and to help create and promote an ethical atmosphere in which the goals of the University can be fully realized. All Marian University students are responsible for knowing and avoiding academically dishonest behaviors. If you are not familiar with the guidelines, please refer to the University Code of Students' Rights and Responsibilities. <http://www.marian.edu/map/documents/studentcodebook.pdf>

Plagiarism (using the ideas and/or words of someone else without proper reference) and other forms of cheating are not tolerated. *Students guilty of plagiarism or other forms of cheating are subject to disciplinary action that may include failure in the course or expulsion from the University.* For more details on plagiarism, see reference materials posted in the Introduction module, or refer to the Student Handbook. All assignments will be scanned with TurnItIn, which will successfully detect plagiarism. Thus, be sure to properly cite and reference all sources used.

Academic Misconduct:

The Marian University guidelines for penalties and procedures will be strictly adhered to. If you are not familiar with the guidelines, please refer to the University Code of Students' Rights and Responsibilities. <http://www.marian.edu/map/documents/studentcodebook.pdf>

Withdrawal:

It is the responsibility of the student to know and follow the University policies on academic integrity and class withdrawal.

Students with Disabilities:

Students with disabilities who have proper documentation must contact the Director of Academic Support Services in the Counseling and Consultation Services office to set up a documentation review. If after the review, accommodations are deemed appropriate, an accommodation plan will be developed. As per the ADA (Americans with Disabilities Act) no accommodations can be provided until this process is complete. Contact Marj Batic, Director of Academic Support Services (mbatic@marian.edu ; 317.955.6150; or stop by the office in Clare Hall). Note: Students who may require assistance in emergency evacuations should consult with the instructor as to the most appropriate procedure to follow. If there are questions regarding such a procedure, contact Ruth Rodgers, Vice President, Student Success and Engagement/Dean of Students @ rrogers@marian.edu or the Director of Academic Support Services for additional information.

All Policies and Procedures:

Refer to MAP Student Handbook.

Please be advised that all dates and times in Canvas are Eastern Time (ET) by default. Unless you as the student have changed your personal settings due dates and times will appear as ET. Please plan accordingly.