

BIOL 2250: MICROBIOLOGY FOR HEALTH SCIENCES (C)

Fall 2016

Lecture: M, W 12:30-1:45pm, IC 321
Laboratory: F 9:00-11:50am, IC 317
Instructor: Dr. Sarah Rosario
Email: srosario@gordonstate.edu ***preferred***
Office: IC 226
Phone #: (678) 359-5842
Office Hrs: M 9:30-11:00am
W 9:30-11:00am
R 11:00am-4:00pm

Course Description:

This course focuses on the principles of microbiology and health care applications for students pursuing careers in nursing and other allied health fields. Topics will include microorganisms, epidemiology, pathogenicity and immunology with emphasis on human disease.

Course Objective:

To give students interested in health professions an introduction to microbiology, emphasizing the concepts that will provide the basis for subjects they will encounter throughout their professional career.

Student Learning Outcomes:

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

- Demonstrate knowledge of the classification, cellular anatomy and physiology, metabolism, genetics, growth characteristics, and ecological niches of microorganisms.
- Use standard microbiology laboratory techniques to safely handle, culture, identify, and observe microorganisms.
- Describe the role of microorganisms in human health and disease, and discuss selected aspects of immunity, epidemiology, and pharmacology as they relate to infectious disease.
- Describe selected infectious diseases in terms of clinical, pathological, and epidemiological, and ecological factors.
- Discuss microbiology as a field of study grounded in the process of science.

Required Course Materials

- 1) Todar's Online Textbook of Bacteriology (<http://www.textbookofbacteriology.net/>)
- 2) OpenStax Biology Online Textbook (<http://www.openstaxcollege.org>)
- 3) Lab Goggles
- 4) Additional articles and course materials can be found on Desire2Learn Brightspace.

Course Grading:

A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = below 60%

Grades will be calculated as follows:

	Percentage
Unit Exams	50%
Cumulative Final Exam	10%
Lab Exams	10%
Lab Quizzes	10%
In Class Assignments	20%

The lowest unit exam grade will be dropped. **There will be no make-up assignments for missed exams, laboratory activities, class exercises or quizzes.**

Attendance:

Students are expected to attend all labs. Students are responsible for all announcements, information and material presented in class. If you must miss a period due to serious illness or other emergency, documentation is required for validation. Students are required to be on time for laboratory. Students who are more than 10 minutes late to laboratory classes or an exam WILL NOT be admitted. Students who miss more than 2 labs may be assigned a failing grade for the entire course at the discretion of the instructor.

Academic Integrity:

Academic dishonesty will not be tolerated. All work, exams, labs is expected to be your own. Plagiarism and cheating are serious academic offenses, which may result in a grade of zero (and potentially a failure of the course); the incident will be reported to the Division Chair and the Dean. Please review the Student Code of Conduct (particularly the sections on Academic Dishonesty and Classroom Behavior) in the Gordon College Academic Catalog.

Cell Phone and Other Disruptions Policy

Please turn off all cell phones and electronic devices before entering the classroom. During an exam, if your phone rings or if you are caught with any electronic device, you will receive a zero and will be asked to leave the testing area immediately.

***This syllabus may change at the discretion of the instructor and announcements/changes will be made in class, by email, or on Desire2Learn Brightspace. Students are responsible for checking your email account and Desire2Learn Brightspace in addition to any in-class announcements. Additional course materials, revised due dates and schedules, assignment grades, etc. will be posted on Desire2Learn Brightspace.

Availability of Services by the Americans with Disabilities Act (ADA)

Gordon State College is committed to making reasonable efforts to assist individuals with disabilities in their efforts to access a high quality post-secondary education. Gordon State College will provide reasonable accommodations for persons with documented qualifying disabilities in accordance with the policies of the University System of Georgia and Gordon State College. If you have a disability and feel you need accommodations in this course, you must present a current letter to me from Accessibility Services, indicating the existence of a disability and the approved accommodations. To register a disability contact Accessibility Services, Student Center, Room 212, 678-359-5585 under the direction of Mrs. Laura Bowen. Call for an appointment with Mrs. Bowen for documentation review and assessment for an accommodation. Upon approval, you will be given a letter stating the accommodations allowed, which your professor will sign and you return to Mrs. Bowen. Make sure to apply early in the semester for these accommodations since they begin upon date of approval from Student Counseling and Disability Services office and not beforehand.

Title IX

Gordon State College is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. All faculty members at Gordon State College are mandated reporters. Any student reporting any type of sexual harassment, sexual assault, dating violence, domestic violence or stalking must be made aware that any report made to a faculty member under the provisions of Title IX will be reported to the Title IX Coordinator or a Title IX Deputy Coordinator. If you wish to speak with someone confidentially, you must contact the Counseling and Accessibility Services office, Room 212, Student Life Center. The licensed counselors in the Counseling Office are able to provide confidential support.

Gordon State College does not discriminate against any student on the basis of pregnancy, parenting or related conditions. Students seeking accommodations on the basis of pregnancy, parenting or related conditions should contact Counseling and Accessibility Services regarding the process of documenting pregnancy related issues and being approved for accommodations, including pregnancy related absences as defined under Title IX.

Important Dates

September 2- Exam I
September 9- NO LAB
September 23- Exam II
October 7- Exam III
October 21- Lab Skills Exam
October 28- Exam IV
November 11- Exam V
November 18- Lab Final
November 25- Thanksgiving Holiday- NO LAB
December 6- Exam VI, Final Exam, 10:15am – 12:15pm

Tentative Course Schedule

Unit I- Introduction to Microorganisms
Introduction to Microbiology
History of Microbiology
Prokaryotic Cells
Eukaryotic Cells
Viruses and Prions
EXAM I 9/2/16
Unit II- Microbial Growth
Microbial Metabolism
Microbial Growth
Culturing Microorganisms
Measuring Microbial Growth
EXAM II 9/23/16
Unit III- Microbial Genetics
Introduction to Microbial Genetics
Transcription and Translation
Genetic Regulation
Mutation and Recombination
EXAM III 10/7/16

Unit IV- Immunity
Innate Immunity
Adaptive Immunity
EXAM IV 10/28/16
Unit V- Disease and Disease Control
Principles of Disease and Epidemiology
Bacterial Pathogenesis
Physical Control of Microbial Growth
Chemical Methods of Microbial Control
Antibiotics
EXAM V 11/11/16
Unit VI- Survey of Human Disease
Bacterial Diseases
Viral Diseases
12/6/16 EXAM VI, FINAL EXAM, 10:15AM – 12:15PM

Lab Schedule

Date	Lab Activity
8/12/16	No LAB
08/19/16	Lab Safety, Lab 1: Microscopy
08/26/16	Lab 2: Aseptic Transfer, Cultivation of Microbes, Streak Plate
09/02/16	Exam I, Lab 3: Growth characteristics
09/09/16	NO LAB, Lab 4: Counting Microbes (Online)
09/16/16	Lab 5: Microbial Growth, Counting Microbes
09/23/16	Exam II, Lab 6: Smear prep, simple stain, streak plate practice
09/30/16	Lab 7: Gram stain
10/07/16	Exam III, Lab 8: HHMI PCR Diagnosis (online)
10/14/16	Lab 9: Differential stains, Differential Media
10/21/16	Lab 10: Biochemical Tests, Skills Exam
10/28/16	Exam IV, Lab 11: UV Light/Disinfectants
11/04/16	Lab 12: Antibiotics
11/11/16	Exam V, Lab 13: Epidemiology
11/18/16	Lab Exam
11/25/16	NO LAB
12/06/16	EXAM VI, FINAL EXAM, 10:15AM – 12:15PM