

NSG 309 section 1 Syllabus

Microbiology & Application to Health

Course Information

Course Information:

NSG 309 1 : Microbiology & Application to Health

(3.0 Credits)



Summer Semester 2023



Center for Lifelong Learning



School of Nursing

This online course focuses on principles of general microbiology and health care applications for students pursuing careers in nursing and other allied health fields. Emphasis is on microbiological fundamentals and control of microorganisms pertinent to the health care arena. Considerable attention is devoted to microorganisms and human disease, specifically principles of disease and epidemiology, pathogenicity, and immunology. Various diseases are presented according to the host organ system most affected. Emerging topics in microbiology are addressed along with their clinical application to health care. Open to nonmatriculated students. Permission required for RN to BS students. (Most have already had this course previously)

Pre-Requisite(s):

None, although a course in general biology or related course will be helpful

Co-Requisite(s):

None

Instructors:

Faculty Name: Brenton Pettersson PPCNP-BC, NNP, RN, MSN
Title: Instructor of Clinical Nursing
Office Location: 4W155
Office Hours: by appointment only
Email: SON-NSG309@URMC.Rochester.edu

Delivery Mode:



Online









Fast Track/Self Paced (Correspondence)

- ☐ Hybrid
- ☐ In-Person

Meeting Days, Times and Locations,:

Fully online. No required in-class sessions. This course runs from **May 15, 2023 - August 20, 2023**

Course Learning Outcomes (CLO):

-  1. Discuss the concepts of microbiology including fundamentals of microbial anatomy, metabolism, growth, and genetics.
-  2. Differentiate the various antimicrobial methods and agents used to control microbial growth including techniques of sterilization, disinfection, and antisepsis as well as chemotherapeutic agents.
-  3. Examine principles of human disease, epidemiology, pathogenicity, and non-specific and specific immune responses.
-  4. Discuss the impact of microorganisms on the human biological system focusing on the host organ system most affected by various microorganisms.
-  5. Apply microbiological concepts to clinical scenarios in patient care.
-  6. Appraise current and emerging topics in microbiology and their relevance to health care.

Assignments & Assessments

Teaching Methods/Activities:

This course uses a combination of methods to facilitate learning/mastery of content:

- Online lectures
- Online activities
- Required readings
- Selected web and literature searches
- Video streaming
- Practice questions

- Online testing
- The Mastering Microbiology website at www.masteringmicrobiology.com (optional)

Online Activities and Expectations

1. **Budget your time wisely!** Typically you will spend 9 hours per module on class activities for this online class. For a 3-credit class you are expected to:
 - review the online lecture notes
 - complete all assigned readings in the required text
 - access and review online web resources
 - submit the online test for each session
2. Online sessions will include lecture notes (supplemented with your readings in the required text), images, web resources, activities, and a test to be completed for each module.
3. The activities are not turned in to the instructor, nor graded. However, you are strongly urged to complete the activities to enhance your understanding of the material. Choose the activities that relate to the way you like to learn.
4. You are encouraged to complete the questions at the end of each chapter. Answers to the multiple-choice questions can be found in the back of your textbook. All of the answers to the questions can be found under the 'learning activities' folder in each session in the course. Although these exercises will not be submitted or graded, they will help you evaluate your understanding of the information in the text.
5. Online tests, although taken a place and time convenient for you, should be treated as a classroom-based examination experience. This means you should study prior to taking the examination and refrain from using study and lecture material during the test. You are strongly encouraged to use the study outline at the end of each required chapter for your studies.
6. All online tests include multiple-choice, true/false, and matching questions and must be submitted prior to the end of the course. Please NOTE: The online tests are timed according to the corresponding number of questions asked. The time limit will be clearly posted before you begin testing. You may access the test only once. Looking through your textbook while taking the test is cheating. As an adult learner you must realize that you will ultimately only be cheating yourself!
7. Questions about the course or content should be emailed to the course facilitator, **Brenton Pettersson, at SON-NSG309@URMC.Rochester.edu**

Evaluation Measures/Learning Outcomes:

The Center for Lifelong Learning wants to make sure you have the time you need to do your best work in this course. It is your responsibility to reach out to course faculty to ask for more time if you need it, and to sign the contract that is sent to you and return it before the end of the semester. Failure to do so will result in zero points posted for any outstanding work and a final grade being calculated and posted.

Course Requirement	Percent of Total Grade	Alignment with Student Learning Outcome(s)
1. Online tests	100%	SLO 1, 2, 3, 4, 5, & 6

The final grade entered is based on School of Nursing grading system. See *Student Handbook page 22* (<https://www.son.rochester.edu/assets/pdf/studenthandbook.pdf>).

Online tests are 100% of final grade. Each test is worth 7.14% of your grade

This course is entirely online, so the only way course faculty have to contact you is through the email you used to sign up for this course. You should be checking your email at least 3-4 times per week in case course faculty are trying to contact you. This is extremely important. Please feel free to contact course faculty with any questions.

Grading System:

A	93-100	C	73-76	
A-	90-92	C-	70-72	"C-" is considered unsatisfactory work for undergraduate students; see <i>Student Handbook</i> for implications.
B+	87-89	D+	67-69	
B	83-86	D	63-66	
B-	80-82	D-	60-62	
C+	77-79	E	<60	Failing grade; see <i>Student Handbook</i> for implications.

Final course grades will be converted to a letter grade. Final grades will not be rounded up; a minimum of 73.0% would be required to satisfactorily complete a course.

Required Textbook(s):

Tortora, G., Funke, B., & Case, C. (2018). *Microbiology: An Introduction – Modified Mastering Microbiology with Pearson eText Access Code*. (13th ed.). San Francisco, CA: Pearson Benjamin Cummings.

Recommended Textbook(s):

The textbook can be purchased with or without access to the publisher's website. Access to "masteringmicrobiology.com" is an extra cost, whether purchased with the textbook or as an additional purchase from <http://www.masteringmicrobiology.com/site/register/new-students.html>. It is your choice whether to purchase this access or not. There are no course assignments or tests that require you to have access to this website, and there are many educational resources included in this course. However, there are additional, useful resources included at Mastering Microbiology that can help reinforce your understanding of the material. You can also purchase the e-text along with access to the "masteringmicrobiology.com" web site from <http://www.pearsonmylabandmastering.com/northamerica/masteringmicrobiology/students/get-registered/index.html>

Course Outline:

Module One: Introduction to Microbiology & Classification

Module Two: Microscopy Prokaryotic Cell Structure & Function

Module Three: Prokaryotic Cell Structure & Function

Module Four: Microbial Metabolism

Module Five: Microbial Growth

Module Six: Microbial Genetics

Module Seven: Control of Microorganisms and Antimicrobial Drugs

Module Eight: Principles of Disease and Epidemiology, Microbial Mechanisms of Pathogenicity, Focus on Antimicrobial Resistance and Emerging Resistant Microorganisms

Module Nine: Non-Specific Host Defenses and Specific Host Defenses

Module Ten: Practical Applications of Immunology, Focus on Immunological Modifying Agents, and Disorders of the Immune System

Module Eleven: Viruses, Focus on Anti-viral agents, Microbial Diseases of the Skin and Eyes

Module Twelve: Infectious Diseases of the Nervous System, Focus on Biological Agents in the Public Health Arena

Module Thirteen: Microbial Diseases of the Cardiovascular and Lymphatic System, Microbial Diseases of the Respiratory System

Module Fourteen: Microbial Diseases of the Digestive System, Microbial Diseases of the Urinary and Reproductive System, Focus on Vaccinations for Sexually Transmitted Microbes

Academic Policies

Academic Policies:



Disability Statement

If you have a disability for which you may be requesting an academic accommodation, you are encouraged to contact both your instructor and the access coordinator for your school to establish eligibility for academic accommodations.



Academic Honesty Statement

Students are responsible for their own work. Students are expected to have read and to practice principles of academic honesty. See [Student Handbook](#).

Student attestation is completed on Blackboard for each course.



Professional Behavior / Civility Statement

The University of Rochester, School of Nursing (SON) seeks to provide an environment for learning and teaching that is respectful of diverse persons and points of view in all classroom, electronic, and clinical settings. Consistent with this goal, it is expected that diverse perspectives and opinions will be expressed and received in a respectful and professional manner. Incivility, intolerance, hate speech, and abusive behaviors are considered professional misconduct and will be acted upon in accordance with the statement in the Student Handbook. (<https://www.son.rochester.edu/assets/pdf/studenthandbook.pdf>)



Title IX/Sexual Harassment Policy

All members of the University community have the right to learn and work in a safe environment free from all forms of harassment, including harassment on the basis of sex or gender. Students who have been subjected to sexual harassment, including sexual assault, dating/domestic violence or stalking, have the right to receive academic, housing, transportation or other accommodations, to receive counseling and health services and to make a report about such behavior to the University and to law enforcement. For more information please visit www.rochester.edu/sexualmisconduct.



HIPAA Compliance

Students are to abide by the University of Rochester HIPAA Compliance Guidelines which can be found on the SON website (<http://son.rochester.edu/r/HIPAA-Video>).



ADA Statement

The University of Rochester welcomes students, faculty, staff and visitors with disabilities to our campus. We strive to meet the needs of all qualified participants in our programs and services by providing reasonable accommodations for individuals with disabilities and connection to resources within the University. Students seeking accommodations on the basis of a disability should follow the steps outlined on the [University's Disability Services website](#). The School of Nursing has designated an access coordinator to assist with implementing approved academic accommodations through an interactive process. Contact information for access coordinators can be found on the [Disability Services website](#).

See Student Handbook (<https://www.son.rochester.edu/assets/pdf/studenthandbook.pdf>)



Holidays

See page 51 in the [University of Rochester School of Nursing Handbook](#).