

**Tentative Course Syllabus**  
**Microbiology for the Health Sciences**

**01:119:131:02**

**Fall 2023**

**Instructor:** Dr. Haiyang Lu  
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**Lecture Schedule:** TBA  
**Lecture location:** TBA  
**Office hours:** TBA

**Course Description and Learning Goals:**

The course presents an introduction to microbes with emphasis on the nature and behavior of microorganisms, the interrelationships between microbes and the human host in health and disease, and the principles of prevention and control of infectious disease.

By the end of the course, successful students will be able to:

1. Explain cell morphology, structure, and function of various types of microorganisms.
2. Describe the principles of microbial growth and control of microbial growth.
3. Understand the genetic principles of microorganisms with an emphasis on those mechanisms that enable microbes to become pathogenic or resistant to antimicrobials.
4. Discuss aspects of antimicrobial therapy and the impact of resistance to antibiotics.
5. Recognize how the underlying principles of the epidemiology of disease and pathogenicity of specific microbes affect human health.
6. Describe the defensive mechanisms of the human body, including both innate and adaptive responses, and principles of immunization.
7. Understand how genetic information is maintained and transferred, and how gene expression is regulated. Describe the causes and consequences of mutation.

**Textbook:**

Microbiology: An Introduction, 14/e, Tortora, Funke, and Case. 2023, Pearson. ISBN-13: 9780137941674 (The First Day Course Materials Link can be found on the Canvas site.)

**Assessments:**

The grades will be based on four exams. Each exam (100 pts) will consist of multiple-choice, matching, True/False, and short answers. Each exam contributes 25% toward the final grade.

Absence from exams: Absences from an exam will only be excused under very special circumstances. The instructor must be notified prior to the exam time. Then and only then will you be allowed to make up the exam. Without valid excuses, absences from an exam will result in a grade of zero. If you forget to take the exam at the scheduled time, you will not be allowed to make it up.

The final grade is based on the following scale:

A = 89.5 – 100%	358 - 400
B+ = 85.25 – 89.25%	341 - 357
B = 79.5 – 85%	318 - 340
C+ = 75.5 – 79.25%	302 - 317
C = 69.5 – 75.25%	278 - 301

D = 59.5 – 69.25%      238 - 277  
 F = < 59.5%              < 238

There will be opportunities to earn extra credit points throughout the semester. However, the course grades won't be curved. No additional work for extra-credit will be given to selected individuals at the end of the semester to bump them to the next letter grade. Any requests for extra credit will be ignored.

All grades will be made available on the course Canvas site under "Gradebook". Any questions related to the grading must be brought to the instructor no later than 1 week after the grade has been posted (except for the final exam which is 24 h). Appeals must be clearly stated and emailed to the instructor directly. The instructor will not address appeals at the end of the semester related to material covered at the beginning or middle of the semester.

### Tentative Lecture Schedule for Section 2:

Unit	Lecture	Date	Day	Topic	Chapters
I	1	9/6	W	Microbiology Scope and History, Taxonomy	1,10
I	2	9/11	M	Chemistry, Microscopy, Staining	2, 3
I	3	9/13	W	Cell Characteristics	4
I	4	9/18	M	Cell Characteristics, Microbial Metabolism	4, 5
I	5	9/20	W	Microbial Metabolism	5
I	6	9/25	M	Microbial Growth	6
		<b>9/27</b>	<b>W</b>	<b>EXAM 1 (Unit I)</b>	
II	7	10/2	M	Microbial Genetics	8
II	8	10/4	W	Microbial Genetics	8
II	9	10/9	M	Biotechnology and DNA Technology	9
II	10	10/11	W	Biotechnology and DNA Technology	9
II	11	10/16	M	Viruses, Viroids, and Prions	13
II	12	10/18	W	Viral Diseases	13, 21-26*
		<b>10/23</b>	<b>M</b>	<b>EXAM 2 (Unit II)</b>	
III	13	10/25	W	The Control of Microbial Growth	7
III	14	10/30	M	Antimicrobial Drugs	20
III	15	11/1	W	Microbial Mechanisms of Pathogenicity	15
III	16	11/6	M	Medical Bacteriology	21-26*
III	17	11/8	W	Medical Bacteriology	21-26*
III	18	11/13	M	Medical Bacteriology	21-26*
		<b>11/15</b>	<b>W</b>	<b>EXAM 3 (Unit III)</b>	
IV	19	11/20	M	Clinically Important Fungi, Protozoa	21-26*
IV	20	11/27	M	Innate Immunity	16
IV	21	11/29	W	Adaptive Immunity	17
IV	22	12/4	M	Practical Applications of Immunology	18

IV	23	12/6	W	Immunology Disorders	19
IV	24	12/11	M	Principles of disease and Epidemiology	14
		<b>TBA</b>	<b>EXAM 4 (Unit IV)</b>		

\*Selected topics only

**IMPORTANT DATES:**

- Spring Semester Begins: Tue, January 17
- Last Day to DROP a class without a "W" grade: Thu, January 26
- Spring Recess—No Classes: Sat, March 11 - Sun, March 19
- Last day to WITHDRAW from an individual class with a W grade. Deadline 5:00 pm, Mon, April 3
- Final Exam Period: Thu, May 4 - Wed, May 10
- Reading Days: Tue, May 2 & Wed, May 3

**Attendance and In-Class Behavior**

Students will be expected to attend all lectures. Students who have been told to isolate, or are experiencing symptoms of any transmittable disease, are encouraged to remain at home and not attend in-person class meetings. In such case, please fill out the Self-Reporting Absence Application:

<https://sims.rutgers.edu/ssra/>

Students are also expected to conduct themselves with the appropriate scholarly and professional attitude in class when interacting with the instructor and peers.

**COVID and Facemask**

The Centers for Disease Control offers an interactive Quarantine and Isolation Calculator that provides guidance on face coverings, testing, and isolation.

[https://www.cdc.gov/coronavirus/2019-ncov/your-health/isolation.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fyour-health%2Fquarantine-isolation.html](https://www.cdc.gov/coronavirus/2019-ncov/your-health/isolation.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fyour-health%2Fquarantine-isolation.html)

**Academic Integrity Policy:**

**Summary:**

<http://nbacademicintegrity.rutgers.edu/home-2/academic-integrity-policy/>

**Resources for Students:**

<http://nbacademicintegrity.rutgers.edu/home-2/for-students/>

**Cheating and plagiarizing, in any form, will not be tolerated. The consequences of scholastic dishonesty are very serious. Students must adhere to the University Policy on Academic Integrity which can be found at <http://academicintegrity.rutgers.edu/academic-integrity-policy>.**

**Honor pledge:**

All students will need to sign the Rutgers Honor Pledge on every major exam/quiz, assignment, or other assessment as follows:

**On my honor, I have neither received nor given any unauthorized assistance on this examination (assignment, paper, quiz, etc.).**

Rutgers University takes academic dishonesty very seriously. By enrolling in this course, you assume responsibility for familiarizing yourself with the Academic Integrity Policy and the possible penalties (including suspension and expulsion) for violating the policy. As per the policy, all suspected violations will be reported to the Office of Student Conduct. Academic dishonesty includes (but is not limited to):

- Cheating
- Plagiarism
- Aiding others in committing a violation or allowing others to use your work
- Failure to cite sources correctly
- Fabrication
- Using another person's ideas or words without attribution—re-using a previous assignment
- Unauthorized collaboration
- Sabotaging another student's work in doubt, please consult the instructor.

All students are expected to review the [Academic Integrity Policy](#) or the [Academic Integrity Resources for Students](#).

All original work is the intellectual property of its authors. These works may include syllabi, lecture slides, recorded lectures, homework problems, quizzes, and other materials, in either printed or electronic form. The authors may hold copyrights in these works, which are protected by U.S. statutes. Copying this work or posting it online without the permission of the author may violate the author's rights. More importantly, these works are the product of the author's efforts; respect for these efforts and for the author's intellectual property rights is an important value that members of the university community take seriously.

For more instructions on copyright protections at Rutgers University, please refer to the Rutgers Libraries.

**Learning Centers:** <https://rlc.rutgers.edu/>

Academic Advising for SAS students: <https://sasundergrad.rutgers.edu/advising/advising>

**Online Learning Tools from Rutgers University Libraries including Rutgers RIOT, Searchpath and RefWorks** <http://www.libraries.rutgers.edu/tutorials>

## **STUDENT-WELLNESS SERVICES:**

**Resources for Student Success (<https://success.rutgers.edu/>)**

The faculty and staff at Rutgers are committed to your success. Students who are successful tend to seek out resources that enable them to excel academically, maintain their health and wellness, prepare for future careers, navigate college life and finances, and connect with the RU community. Resources that can help you succeed and connect with the Rutgers community can be found at the above website and nearly all services and resources that are typically provided in-person are now available remotely.

**Counseling, ADAP & Psychiatric Services (CAPS)**

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ <http://health.rutgers.edu/medical-counseling-services/counseling/>

CAPS is a university mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professionals within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community, and consultation and collaboration with campus partners.

**Crisis Intervention**

<http://health.rutgers.edu/medical-counseling-services/counseling/crisis-intervention/>

**Report a Concern**

<http://health.rutgers.edu/do-something-to-help/>

**Violence Prevention & Victim Assistance (VPVA)**

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

**Report a Bias Incident** If you experience or witness an act of bias or hate, report it to someone in authority. You may file a report online and you will be contacted within 24 hours. The bias reporting page is [here](#).

Bias is defined by the University as an act, verbal, written, physical, psychological, that threatens, or harms a person or group on the basis of race, religion, color, sex, age, sexual orientation, gender identity or expression, national origin, ancestry, disability, marital status, civil union status, domestic partnership status, atypical heredity or cellular blood trait, military service or veteran status.

**Disability Services**

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at:

<https://ods.rutgers.edu/students/registration-form>.