

BROOKLYN COLLEGE
Of The City University of New York
Biology 4012
3 hours; 3 credits

Instructor contact information: TBA
E-mail: TBA
Class meetings: TBA Room: TBA
Office hours: TBA

Course Summary:

This course will focus on microbes as disease agents and their impact on society and civilizations. It will include examination of host-microbe interactions, the immune response, nature and mechanisms of infectious diseases, chemotherapy, drug resistance, societal impacts of infectious diseases and epidemiology.

Objectives of Course:

- To identify the major groups of bacteria, viruses, fungi and protozoa with an emphasis on pathogenesis.
- To understand the mechanisms which enable infectious agents to colonize its host and cause disease and critically analyze current endeavors to prevent microbes from causing disease.
- To describe both the innate and adaptive immune response to microbial infections.
- To appreciate microbes and humans co-evolve and the importance of human practices on microbial evolution.
- To describe and discuss the impact selected pathogens had on geopolitical history, religion, human practices and the arts.

Course Requirements and Policies

Textbook

Microbiology: A Human Perspective Nester et al 7th, 8th, 9th or 10th edition, McGraw Hill

**Please note, the textbook is an option. If you have access to any other micro textbook, you may use it. Alternatively, the following is available through OpenStax (at no cost) Microbiology by Parker, Schneegurt, Tu, Forster and Lister*

Grading:

<i>Exams (3)</i>	50%	Exam Dates
<i>Concept maps</i>	10%	Exam 1: TBA
<i>Homework</i>	10%	Exam 2: TBA
<i>Final Presentation</i>	20%	Exam 3: TBA
<i>Participation</i>	10%	

Grade distribution (Please note: There is no curving of grades at the end of the semester)

97.45–100	= A+	79.45–82.44	= B-
92.45–97.44	= A	77.45–79.44	= C+
89.45–92.44	= A-	72.45–77.44	= C
87.45–89.44	= B+	64.45–72.44	= C-
82.45–87.44	= B	<64.45	= F

Attendance and Policies

- There are no makeup exams. If you miss an exam you will have to take a cumulative final. If you miss 2 exams you fail the course.
- Late assignments are not accepted.
- It is expected that students will attend every lecture.
- Tardiness is not a socially acceptable practice. You should be in your seat and set up before the instructor begins.
- If you miss a lecture, you are responsible for the material covered.
- You are responsible for all the announcements made in the lecture. If you miss a class or come late, be sure you obtain missed information from a classmate.
- You are expected to turn off your cell phone before class starts. Points will be deducted from your participation grade if you are on your phone. Taking pictures of lecture slides is not permitted. You are expected to take notes!

As an educator, I support the rights of undocumented students to an education. If you have any concerns in that regard, feel free to discuss them with me, and I will respect your wishes concerning confidentiality. For resources and support, please visit Brooklyn College's Immigrant Student Support Office located at 117 Roosevelt Hall. You can also contact them via email

at ISSO@brooklyn.cuny.edu or via phone at 718-951-5023.

Center for Disability Notice:

The Center for Disability Services (CSDS) is committed to ensuring students with disabilities enjoy an equal opportunity to participate at Brooklyn College. To receive disability-related academic accommodations, students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment by calling (718) 951-5538 or emailing Josephine.Patterson@brooklyn.cuny.edu. If you have already registered with the Center for Student Disability Services, email Josephine.Paterson@brooklyn.cuny.edu to ensure accommodation emails are sent to your professor.

Bereavement Policy:

If you have a death in the family, please consult the Brooklyn College Student Bereavement Policy which can be found at:

www.brooklyn.cuny.edu/web/about/initiatives/policies/bereavement.php

University's policy on Academic Integrity:

The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for policy implementation can be found at www.brooklyn.cuny.edu/bc/policies. If a faculty member suspects a violation of academic integrity and, upon investigation, confirms that violation, or if the student admits the violation, the faculty member MUST report the violation. Students should be aware that faculty may use plagiarism detection software.

Link to the library website: <http://www.brooklyn.cuny.edu/web/academics/library.php>

Course Lecture Outline*

Week 1: Introduction

- Magic, Religion, Medicine and Science 500-1700
- The birth of the germ theory of disease
- Readings: Chapter 1

Week 2: The Cast of Characters

- Bacteria, viruses, fungi and protozoans
- Readings: Chapters 3.2-3.13, 12.1, 12.3, 12.5 and 13.1

Week 3: Microbial Genetics

- Readings: Chapter 8

Week 4: Host-parasite Relationships and Epidemiology

- Readings: Chapters 16 and 19

Week 5: Immunology I: Innate and Adaptive Immunity

- Readings: Chapters 14 and 15

Week 6: Immunology II: Applications of Immune Responses and Antimicrobial Therapy

- Readings: Chapters 18 and 20

Week 7: Microbial Diseases of the Skin and Eyes

- Readings: Chapter 22

Week 8: Microbial Diseases of the Respiratory System

- Readings: Chapter 21

Week 9: Microbial Diseases of the Cardiovascular System

- Readings: Chapter 27

Week 10: Microbial Diseases of the Nervous System

- Readings: 26

Week 11: Microbial Diseases of Digestive System

- Readings: Chapter 24

Week 12: Microbial Diseases of the Urinary/Reproductive Systems

- Readings: Chapter 25

Week 13: The Plague, SARS-Cov-2 and the Human Experience

- Readings: TBD
- *Subject to changes