

# Microbiology 291 Syllabus Spring 2013

**Instructor:** Jason Rauceo PhD

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**Office:** 05.61.07-NB, 646-557-4893

**Office hours:** Mondays noon-1pm and by appointment

**Meeting Time:** Wednesdays, 2:50pm – 5:30pm, Room. NB 3.64

**Course Description:** This course is focused on the fundamental principles of Microbiology. Lecture topics include: Microbial Cell Structure and Function, Microbial Genetics, and Host-Microbe Relationships. Special topics will explore the role of forensic analysis in bioterrorism and current issues in technology and medical research, such as genetic engineering, synthetic biology, and emerging infectious diseases.

**Textbook:** *Microbiology: A Human Perspective* Nester et al., 6th edition, McGraw-Hill, ISBN number. 9780077250416

**Knowledge and Performance Objectives:** Students will understand the following basic concepts and techniques of Microbiology:

- Microbial Life Cycles
- Microbial Growth Dynamics & Control of Microbial Growth
- Mechanisms of Microbial Infectious Diseases and Anti-Microbial Medications
- Mechanisms of Biological Weapons
- Techniques used in Forensic Analysis of Biological Weapons
- Genetic Engineering Techniques

**Grading:** Grades are derived from exams, in-class quizzes, homework essay writing assignments, and attendance.

- **EXAMS (25 points):** Two (2) lecture exams will be given. There are no make-up exams. If you miss an exam and do not have a *valid written excuse*, you will receive a score of zero (0).
- **HOMEWORK (25 points):** Writing assignments will be given in advance and consist of five short essays (2-3 pages each) based on current relevant literature (i.e. journal and newspaper articles). Homework submitted must be typed and is due one week after the initial assignment date.
- **QUIZZES (10 points):** Throughout the semester in-classes quizzes will be given at the beginning of class. Quizzes will be based on material previously covered or scheduled to be covered on the day of the quiz.
- **ORAL PRESENTATIONS (30 points):** An oral presentation is required. The presentation will be based on material from the primary literature (journal club). Articles will be given in advance. Presentations must be prepared using Microsoft Power Point and limited to approximately 10 – 15 minutes.
- **ATTENDANCE AND PARTICIPATION (10 points):** You are required to attend and participate in class. An attendance sheet will be circulated during class. It is your responsibility to sign the sheet *during* class. You will not be permitted to sign the attendance sheet after the class has been dismissed. More than four (4) unexcused absences are considered excessive and you will receive a grade of "F".

**Accommodations for Students with Disabilities:** Students with hearing, visual, or mobility impairments; learning disabilities and attention deficit disorders; chronic illnesses and psychological impairments may be entitled to special accommodation under the Americans with Disabilities Act (ADA). In order to receive accommodation, students must register with the **Office of Accessibility Services (O.A.S., 212-237-8031, <http://www.jjay.cuny.edu/2023.php>)**

which will define, for both students and faculty, the appropriate accommodations. Faculty members are not allowed to work directly with students to attempt to accommodate disabilities and accommodations cannot be applied retroactively (after-the-fact).

## CLASS PROTOCOL:

All electronic devices, except for laptop computers, must be turned off in class. Recording is not permitted except with the specific permission of the DSS office.

CUNY John Jay College expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people.

ANYONE disrupting the class will be removed.

Disruptive behavior will result in **5 points** being taken from **your final grade**.

**Grading Scale:** The grading scale here (→) is the official grading scale for this course. There will be no exceptions to this scale and grades will not be rounded or truncated, except as explained here. Following all computations, the grade will be rounded to the nearest tenth of a point in Microsoft Excel (one decimal place, e.g., 97.2). This is the final grade and no further manipulations will be made. The scale here (→) will then be strictly used. This means that a 72.9499 is a “C-“and a 72.9500 is a “C.” These calculations are done by the computer so there are no judgment calls or “leniency.

93.0 and above	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
63.0 - 66.9	D
60.0 - 62.9	D-
below 60.0	F

## Important Policies

**Statement of the College Policy on Plagiarism:** Plagiarism is the presentation of someone else’s ideas, words, or artistic, scientific, or technical work as one’s own creation. Using the ideas or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

It is the student’s responsibility to recognize the difference between statements that are common knowledge (which do not require documentations) and restatements of the ideas of others. Paraphrase, summary, and direct quotation are acceptable forms of restatement, as long as the source is cited.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has free guides designed to help students with problems of documentation.

**Resources:** Students have access to computers and tutors in the Science/Mathematics Learning Center (Room. 4300- N). The library resources for this course are extensive, including general periodicals and access to pertinent databases such as CQ Researcher, EBSCO Host Academic Search Premier, EBSCO Host Master FILE Premier, and science/forensic science holdings such as General Science Abstracts, InfoTrac Health Reference Center Academic, Science Direct, ACS Journals, PubMed, and the Forensic Bibliographic Database.

**Blackboard:** Important course announcements, lecture notes, suggested homework assignments, review questions, a discussion forum for Q and A, and other resources will be posted to the course on Blackboard. Furthermore, **students are responsible** for checking their **John Jay e-mail account** regularly for important announcements. Contact DoIT, **not** your Bio instructor, for help with e-mail or Blackboard.

## LECTURE SCHEDULE

LECTURE	DATE		TOPICS	TEXT ASSIGNMENTS
1	Jan 30	Wed	Introduction & Survey of the Microbial World Introduction to Microscopy: Techniques & Limitations. <b>(Quiz 1)</b>	Chapters 1, 3 Handouts
2	Feb 06	Wed	Prokaryotic and Eukaryotic Cell Structure Dynamics of Prokaryotic Growth <b>(Quiz 2)</b>	Chapters 3, 4 Handouts
3	Feb 13	Wed	Dynamics of Prokaryotic Growth (2) Control of Microbial Growth (1) <b>Lab Exercise 1 (Quiz 3)</b>	Chapters 4 and 5 Handouts
	Feb 20	Wed	<b>No Class (Monday Schedule)</b>	
4	Feb 27	Wed	Dynamics of Prokaryotic Growth(3) Control of Microbial Growth (2) <b>Lab Exercise 2 (Quiz 4)</b>	Chapters 4 and 5 Handouts
5	Mar 06	Wed	Taxonomy and Identification of Prokaryotes <b>Journal Club 1 (Quiz 5) (Homework 1 Due)</b>	Handouts
6	Mar 13	Wed	Virology and Immunology (1) <b>(Quiz 6)</b>	Chapters 16 - 17 Handouts
7	Mar 20	Wed	<b>Journal Club 2 (Quiz 7) (Homework 2 Due)</b>	Handouts
<b>Mar 25 – Apr 02: Spring Recess. NO CLASS!!!</b>				
8	Apr 03	Wed	<b>Midterm Exam</b>	Chapters 1, 3-5, 10, 13-17 Handouts
9	Apr 10	Wed	Microbial Genetics I : Central Dogma & Gene Regulation <b>Lab Exercise 3 (Quiz 8)</b>	Chapter 7-9
<b>Friday, April 12- Last day to resign Without Academic Penalty</b>				
10	Apr 17	Wed	Biotechnology I: Genetic Engineering (cont) <b>Lab Exercise 4 (Quiz 9)</b>	Chapter 7-9
11	Apr 24	Wed	Biotechnology II: Genetic Engineering (cont) <b>Lab Exercise 5 (Quiz 10) (Homework 3 Due)</b>	Chapter 7-9,
12	May 01	Wed	Mycology	Chapter 12.3 Handouts
13	May 08	Wed	<b>Food Microbiology Journal Club 3 (Homework 4 Due)</b>	Chapters 7-9 & 31.4, Handouts
14	<b>May 15</b>	<b>Wed</b>	<b>Special Topic: The Microbiome Journal Club 4</b>	Handouts
15	<b>May 22</b>	<b>Wed</b>	<b>Final Exam</b>	Chapters 7-9,11- 12, 31.4 Handouts