University of Illinois at Chicago  
BIOS 350-General Microbiology  
Syllabus

2017 General Microbiology  
BIOS 350 Fall Semester  
Section 33790: 10:00 am to 10:50 am in LC F6  
Section 23048: 11:00 am to 11:50 am in LC A1

Faculty Information

- Instructor: Sandra Gibbons
- Office: 3466 SES
- Office Hour: MWF 8:30 am to 9:30 am in 3466 SES
- Office Phone: 312-996-0961 (do not leave a message if I do not answer please email instead)
- E-mail: Gibbons@uic.edu

Course Identification

- 3 credit hours
- Prerequisite: BIOS 100 (BIOS 101 is also recommended) or the equivalent; and credit or concurrent registration in either CHEM 130 or CHEM 232.
- Catalog description: Ultrastructure, genetics, molecular biology, physiology and metabolism of microorganisms; role of microorganisms in food, water, agriculture, biotechnology, infectious diseases, and immunobiology.

Textbooks/Reading List

Required:


Packback subscription. Go to packback.co/questions to register. The access code for our community is: 2CE432F9-3ECD-1990-B795-9E8D10F26D36

This package cannot be substituted with other materials.

Students are required to have their materials on the first day of class and will not be granted extended time to complete assignments due to a failure to purchase materials in a timely fashion.

Course Goals:

- The student shall demonstrate knowledge of common microbiological terms, facts and principles through exams, discussion, and written assignments.
- The student shall demonstrate an understanding of the "scientific approach" by its application in class discussions, written responses to problems and interpretations of data presented during class.
Career Development Skills:

a. Follow instructions.

b. Organize notes and ideas for formal, semiformal, and informal presentation.

c. Estimate, apply, and solve problems involving fractions, decimals, percentages, and real numbers.

d. Check, edit, and revise for correct information, appropriate emphasis, grammar, spelling and punctuation.

e. Compile and maintain records, logs, notebooks, and other documents.

f. Access, navigate and use on-line services.

g. Utilize problem-solving skills.

h. Participate in team tasks.

i. Maintain openness to life-long learning.

Course End Competencies:

a. The student shall demonstrate competence in:

1. the history, evolution, and ecology of microbial life,

2. the ultrastructure of various microbes,

3. the chemical and molecular basis of life,

4. the relationship between microbial growth and control of microbial growth,

5. epidemiology and the disease process,

6. the innate and adaptive immune response,

7. immune system hypersensitivity and immunodeficiency.

b. The student shall develop an appreciation of the use of science and the role of microbiology in everyday life.
STUDENT SUCCESS:
The following list includes methods you can use to improve your chances of success in the microbiology course you are taking this semester.

- Come to every class.
- Complete all work on time.
- Read the textbook and complete the guided reading assignments
- Form a study partnership with a classmate or two.
- Use the student resources available at the study area of our Blackboard site.
- Search the web using key words and concepts from the readings.
- Make study flash cards and use them.
- Meet with myself or the TAs during office hours.
- View a video associated with a difficult objective topic.
- Ask questions in class, at packback, and through email.
- **Study early and often, no cramming.**

Course Websites

a. [http://uic.blackboard.com](http://uic.blackboard.com)
   and if you need to access modified mastering and blackboard is down use
   [https://www.packback.co/questions](https://www.packback.co/questions)

b. Please contact me if you need to be added to the blackboard course site. Please note that you must be registered for the course to be added to the web site.

c. Please check the course website or your UIC email often for important announcements.

Classroom Policies/Procedures:

a. **Student Conduct:**
   Each student is responsible for adhering to the Code of Student Conduct as stated in the college catalog. Students are expected to demonstrate mature and appropriate behavior when interacting with each other, with the professor, and with the teaching assistants. Any student being disruptive during class or during an office hour will be asked to leave.

**Notice of Copyright**

Materials in this course—unless otherwise indicated—are protected by United States copyright law [Title 17, U.S. Code]. Materials are presented in an educational context for personal use and study and should not be shared, distributed, or sold in print—or digitally—outside the course without permission.

As a student your ability to post or link to copyrighted material is also governed by United States copyright law. The law allows for students to post or link to copyrighted materials within the course environment when the materials are pertinent to course work. Instructors—or other staff of the institution—reserve the right to delete or disable your post or link if in their judgment it would involve violation of copyright law.
b. **Attendance:**
The lecture meetings are mandatory. During class meeting you may be using the learning catalytics (LC) system that is worth points toward your grade. If you cannot attend class due to a religious holiday, student athletic event, or professional school interview you must alert me one week before the event. I will then provide you with an alternative assignment to make up the missing LC points from the date you missed. This alternative assignment is due the following class period. **Late registration, studying for another class, being stuck in traffic, etc. will not excuse missed assignments or LC. All late penalties will still apply to mastering assignments.**

c. **Withdrawal:**
A student who does not withdraw officially from a course may receive a grade of "F", depending on course progress or course attendance, which will become a part of the student’s permanent record. **March 17, 2017** is the last day to drop a course(s) offered by all colleges.

d. **Cheating and Plagiarism:**
Any student caught cheating on an exam, modified mastering microbiology assignment, or any other class assignment may be immediately dismissed from the course and given a final grade of "F" regardless of the student’s total points in the course. Failure to return your exam question booklet will be considered cheating and will result in a zero for the exam. **Writing your answers on the exam question booklet large enough for others to see will be considered cheating and will result in a zero for the exam.** Only registered students are able to take the exam. **Your UIC photo ID will be checked on exam dates.** You will be given an **assigned seat to take your exam** in so please take care to study the exam-seating chart that will be made available soon after the last day to add classes in the semester. Students who are not registered for the course and who attempt to take the exam will be considered in breach of academic integrity and dealt with accordingly.

e. **Cellular Phones and Computers:**
Students and college visitors may not use and must silence cell phones, pagers, and other communication devices in all instructional areas that include: all labs and classrooms during instructional sessions unless using the learning catalytics program. Continued disruption of the course will result in a cessation of the lecture and students will be required to learn the missed content on their own. Computers must be used for note taking and learning catalytics only.

f. **E-mail Policy:**
Due to the large number of students that I teach (over 600 this semester) it is important that you follow this email policy or you may not receive an answer to your question. I will only read and respond to email send through your **UIC email** account. You must have your **course and section number in the subject line** of the email so that I know exactly which class you are in. You must have your **full name as it appears in blackboard** in your email message. Failure to follow this policy may lead to your email and questions being deleted and not answered. Additionally, do not expect and immediate reply to your email. The fastest way to get help with your questions / concerns is to attend office hour.

g. **Disability statement:**
Students with disabilities must inform the instructor of the need for accommodations. Those who require accommodations for access and participation in this course must be registered with the Disability Resource Center and present the instructor with their written accommodation request
before accommodations can be granted. Please contact ODS at 312/413-2183 (voice) or 312/413-0123 (TTY).

Grading Policies / Procedures

a. Exams:

There are four exams for the course worth 100 points each consisting of 50 multiple-choice questions. There is no cumulative final exam for the course. You are required to bring several sharpened number 2 pencils to each exam and are not allowed to leave the classroom once the exam begins. The date for each exam is posted in the course schedule at the end of the syllabus. Students who arrive late for an exam will not be given additional time to complete the exam. Failure to fill in your name on the computer sheet properly may result in a 5-point deduction from your exam score. This includes a failure to fill in the bubbles for your name properly. Failure to sit in your assigned seat on exam day may result in a five-point deduction from your exam score.

Exams cannot be made up nor can they be taken early. If I am contacted before the exam and the student has a valid emergency or reason for missing (car accident with police report turned in, hospitalization with documentation, death in the family with documentation, professional exam interview with documentation) I will average the three exams that you did complete and use that score to replace the missing exam. This can only be done one time; a second missing exam will be counted as a zero.

b. Guided Reading Assignments

There are 14 guided reading assignments that should be completed as you read the textbook. They are due by 11:59pm on the dates indicated on the course schedule at the end of the syllabus. They will be turned in through blackboard and screened with the safe assign tool that can detect plagiarism. You must turn them in with a valid format that will allow them to be screened with safe assign. While a typed PDF will work hand-written and then scanned PDF files do not work. The format “pages” does not work either. These assignments are designed to help you think about course content to help you better prepare for the exam. By preparing quality answers in your own words you will demonstrate an understanding of the material. They are worth 5 points each. They are scored on the quality of your work. If you are late you will lose 1 point and all late guided reading assignments must be turned in before the exam or they will be worth zero points.

c. Modified Mastering Microbiology Assignments

There will be a modified mastering microbiology assignment for each of the fourteen chapters we cover in this class. They are designed to help you better understand the material that we will be working with as you prepare for the exams. You must complete them by 11:59pm on their due date as listed in the course schedule at the end of the syllabus. You get two attempts to answer the question correctly so consider the assignment as a tutorial and not a quiz.

The assignments must be completed by the due date and late modified mastering assignments will be reduced by 10% per day and must be completed before the exam that covers the assignment. All the questions for each assignment do not need to be completed at the same time, however this is not something that can easily be completed in a half hour so plan accordingly.
If you have never used the modified mastering feature in another class and need help learning how to access and complete the assignments please contact the instructor for help as soon as possible.

d. **Learning Catalytics**

We will be using the learning catalytics system where you will work alone or in groups to complete questions pertaining to specific textbook chapters. You should bring your completed guided reading assignments and textbook to class to help you with completing these assignments. Students will need to bring their own Internet accessing device (smart phone, iPod, tablet, or laptop computer) to answer questions using the learning catalytics program. **The learning catalytics program access comes with your purchase of modified mastering access if you have the textbook or the etext.** Learning catalytics is worth 50 points. Half of the score is obtained by answering correctly and half is participation.

e. **Packback questions / answers**

Participation is a requirement for this course, and the Packback Questions platform will be used for online discussion about class topics. Packback Questions is an online curiosity community where you can *curious*, and ask the BIG questions about how what we’re studying relates to life and the real world.

**5 points per week** will go towards your participation in the community. You must participate in 12 weeks of discussion out of our 15 week semester. In order to receive these points, you must post **1 Question and 2 Answers per week relevant to our class subject matter** that week. You grade is determined based half on participation and half on length, sources, and presentation (grammar, etc.). Additionally, **I will develop three exam questions based on student’s questions / answers that appear in the PackBack Featured posts section.**

There will be a **Sunday 11:59 PM deadline** for submissions in your community each week. Each week is treated as an assignment and you must participate twelve weeks - consistency is important for us to foster a great community for learning and curiosity. You may ask and answer more than the required amount, however these will not count for future week’s requirements. Additionally, there is no way to post and have something count late so make sure to complete your work each week or you will lose points. **Late registration or a failure to sign up for the PackBack community will not exempt you from PackBack posting requirements.** To start posting on Packback Questions:

1. **Navigate to Packback.co/Questions** and click “Register as a new student”.
   Note: If you already have an account on Packback Books (our rental site) you can log in with your login credentials.

2. **Make sure to register with your SCHOOL email address and real first name and last name, or I won’t be able to grade your participation and you won’t receive your participation points**.
3. Enter our class community’s access code into the “Join a new Community” module on your dashboard.

Our Community access code: 2CE432F9-3ECD-1990-B795-9E8D10F26D36

4. Follow the instructions on your screen to finish registration, and then click into our class Curiosity Community. You can make your first post by clicking the gold “Ask a Question” button

For a brief introduction to Packback Questions and why we are using it in class, watch this video: vimeo.com/packback/Welcome-to-Packback-Questions

d. **Service Learning Project:**
There is a service-learning project that you will present to the class through Blackboard. Students may form teams to conduct their service, however each student must turn in their own summary paragraph, rough draft, and final presentation. Detailed directions along with the rubric by which you will be graded can be found in Blackboard. You will prepare a presentation followed with a Q & A session associated with the blackboard discussion board. This entire project will be worth 50 points. Review and participation in other student’s discussion is mandatory, as you will be assessing their presentations. For all of the details see the service learning area of Blackboard.

Point structure:
5 points – paragraph length summary of your service-learning project due week 3.
5 points – rough draft of your service-learning project due in week 6.
10 points – evidence of completion of service associated with your service-learning project due as soon as completed but no later than week 15.
30 points – service-learning presentation due week 10.

g. **Grading Policy:**
Grade determination is based on the number of points earned compared to the maximum number of points possible which is 700 points. The breakdown of points is as follows:

Unit Lecture exams 400 points total
Modified Mastering Microbiology assignments 70 points total
Learning catalytics assignments 50 points total
Guided Reading assignments 70 points total
Service Learning Project 50 points total
Packback questions / answers 60 points

Determination of the final grade will be based on accumulation of total points. The following grading scale will be used:
90% or above of Points = A Final Grade
80% to 89.9% of Points = B Final Grade
70% to 79.9% of Points = C Final Grade
60% to 69.9% of Points = D Final Grade
59.9% of Points and below = F Final Grade.
The course will **not** be curved and grades are **NOT** negotiable.

h. **Incomplete:**
   An incomplete grade will be given only in cases of documented prolonged illness or an accident/death in the family during the last few weeks of the semester that prevents a student from completing their work. Students must have been making **satisfactory progress** (a C or higher) in the course prior to requesting an incomplete. A request for an incomplete must be made **before** the end of the semester. An incomplete grade **will not** be given due to missing exam or homework scores or to prevent a low grade.

**Course Schedule**
The course calendar with all due dates is found here. You will be advised of any changes made during the semester in class and through a blackboard announcement if they need to take place.

**GR= Guided Reading found in blackboard**

<table>
<thead>
<tr>
<th>Date</th>
<th>Chapter</th>
<th>Topic</th>
<th>Homework</th>
<th>Mastering / Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>M Jan 9</td>
<td>1</td>
<td>Introduction to the course</td>
<td>Register for Modified Mastering Microbiology, Learning Catalytics, and Packback. Post your welcome message to the Service Learning Discussion in Blackboard.</td>
<td></td>
</tr>
<tr>
<td>W Jan 11</td>
<td>1</td>
<td>Major Themes of Microbiology</td>
<td></td>
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<tr>
<td>F Jan 13</td>
<td>1</td>
<td>Microbiology in Historical Context</td>
<td></td>
<td>Mastering Microbiology Chapter 1</td>
</tr>
<tr>
<td>M Jan 16</td>
<td>NO CLASSES</td>
<td>MARTIN LUTHER KING Jr.</td>
<td>HOLIDAY</td>
<td></td>
</tr>
<tr>
<td>W Jan 18</td>
<td>2</td>
<td>Microscopy, Cells of Bacteria and Archaea</td>
<td><strong>GR chapter 1</strong></td>
<td></td>
</tr>
<tr>
<td>F Jan 20</td>
<td>2</td>
<td>Cytoplasmic Membrane and Transport Cell Walls of Bacteria and Archaea</td>
<td></td>
<td>Mastering Microbiology Chapter 2</td>
</tr>
<tr>
<td>M Jan 23</td>
<td>2</td>
<td>Other Cell Surface Structures and Inclusions, and Microbial Locomotion</td>
<td><strong>GR chapter 2</strong></td>
<td></td>
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<tr>
<td>Date</td>
<td>Week</td>
<td>Topic</td>
<td>Chapter</td>
<td>Notes</td>
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<tr>
<td>W Jan 25</td>
<td>8</td>
<td>The Nature of Viruses</td>
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<tr>
<td>F Jan 27</td>
<td>8</td>
<td>Bacteriophage Life cycles, and Viral Diversity and Ecology</td>
<td>GR chapter 8</td>
<td>Mastering Microbiology Chapter 8</td>
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<td></td>
<td></td>
<td></td>
<td>Service Learning</td>
<td>Paragraph Summary Due</td>
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<tr>
<td>M Jan 30</td>
<td></td>
<td></td>
<td></td>
<td>EXAM 1</td>
</tr>
</tbody>
</table>
| W Feb 1  | 3 and 5 | Laboratory Culture of Microorganisms  
Energy Classes of Microorganisms |         | Mastering Microbiology Chapter 3 |
| F Feb 3  | 5    | Bacterial Cell Division  
Population Growth and Measuring Microbial Growth | GR chapter 3 |         |
<p>| M Feb 6  | 5    | Effect of Temperature on Microbial Growth and Other Environmental Effects on Microbial Growth | GR chapter 5 |         |
| W Feb 8  | 5    | Control of Microbial Growth                                         |         | Mastering Microbiology Chapter 5 |
| F Feb 10 | 27   | Healthcare Associated Infections, Antimicrobial Drugs, and Antimicrobial Drug Resistance | GR chapter 27 | Mastering Microbiology Chapter 27 |
| M Feb 13 | 23   | Normal Human-Microbial Interactions                                 |         |                                           |
| W Feb 15 | 23   | Pathogenesis and Host Factors in Infection and Disease             | GR chapter 23 |         |
| F Feb 17 | 23   | Pathogenesis and Host Factors in Infection and Disease             | Service Learning | Rough Draft Due |
|         |      |                                                                     |         | Mastering Microbiology Chapter 23 |
| M Feb 20 |      |                                                                     |         | EXAM 2                                   |
| W Feb 22 | 24   | Immunity and Host Defense                                           |         |                                           |
| F Feb 24 | 24   | Immunity and Host Defense                                           |         |                                           |</p>
<table>
<thead>
<tr>
<th>M Feb 27</th>
<th>24</th>
<th>Immune Disease</th>
<th>Mastering Microbiology Chapter 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>W Mar 1</td>
<td>25</td>
<td>Basic Immune Mechanisms</td>
<td>GR Ch 24</td>
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<tr>
<td>F Mar 3</td>
<td>25</td>
<td>Antigens and Antigen Presentation</td>
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<tr>
<td>M Mar 6</td>
<td>25</td>
<td>T lymphocytes and Immunity</td>
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<tr>
<td>W Mar 8</td>
<td>25</td>
<td>Antibodies and Immunity</td>
<td>Mastering Microbiology Chapter 25</td>
</tr>
<tr>
<td>F Mar 10</td>
<td>28</td>
<td>Principles of Epidemiology and Epidemiology and Public Health</td>
<td>GR Ch 25</td>
</tr>
<tr>
<td>M Mar 13</td>
<td>28</td>
<td>Emerging Infectious Disease and Current Pandemics</td>
<td>GR Ch 28</td>
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<tr>
<td>W Mar 15</td>
<td></td>
<td></td>
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<tr>
<td>F Mar 17</td>
<td>NO BIOS</td>
<td>350 CLASS</td>
<td>Service Learning Project Due</td>
</tr>
<tr>
<td>SPRING BREAK</td>
<td>MARCH 20 to MARCH 24</td>
<td>NO</td>
<td>CLASSES</td>
</tr>
<tr>
<td>M Mar 27</td>
<td>29</td>
<td>Airborne Bacterial Diseases</td>
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<tr>
<td>W Mar 29</td>
<td>29</td>
<td>Airborne Viral Diseases</td>
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<tr>
<td>F Mar 31</td>
<td>29</td>
<td>Direct-Contact Diseases</td>
<td>Mastering Microbiology Chapter 29</td>
</tr>
<tr>
<td>M Apr 3</td>
<td>29</td>
<td>Sexually Transmitted Infections</td>
<td>GR Ch 29</td>
</tr>
<tr>
<td>W Apr 5</td>
<td>30</td>
<td>Animal-Transmitted Viral Diseases</td>
<td></td>
</tr>
<tr>
<td>F Apr 7</td>
<td>30</td>
<td>On the Trail of a Killer Virus Video</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Page</td>
<td>Topic</td>
<td>Reading Material</td>
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<tr>
<td>M Apr 10</td>
<td>30</td>
<td>Arthropod-Transmitted Bacterial and Viral Diseases</td>
<td>GR Ch 30</td>
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<tr>
<td>W Apr 12</td>
<td>30</td>
<td>Soilborne Bacterial Diseases</td>
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<tr>
<td>F Apr 14</td>
<td>31</td>
<td>Water as a Vehicle for Disease and Waterborne Diseases</td>
<td>Mastering Microbiology Chapter 30</td>
</tr>
<tr>
<td>M Apr 17</td>
<td>31</td>
<td>Food as a Vehicle for Disease and Food Poisoning / Food Infection</td>
<td>Mastering Microbiology Chapter 31</td>
</tr>
<tr>
<td>W Apr 19</td>
<td>32</td>
<td>Fungal Infections and Visceral Parasitic Infections</td>
<td>GR Ch 31</td>
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<tr>
<td>F Apr 21</td>
<td>32</td>
<td>Blood and Tissue Parasitic Infections</td>
<td>Mastering Microbiology Chapter 32</td>
</tr>
<tr>
<td>M Apr 24</td>
<td>29-32</td>
<td>Disease Review Day</td>
<td>GR Ch 32</td>
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<tr>
<td>W Apr 26</td>
<td></td>
<td></td>
<td>Exam 4</td>
</tr>
<tr>
<td>Fri Apr 28</td>
<td>FREE DAY</td>
<td>NO BIOS 350 CLASS</td>
<td>Last chance to post evidence of service completion</td>
</tr>
</tbody>
</table>