

## Microbiology BIOSC 1850 Fall Semester 2012

**You are responsible for the information contained in this syllabus, so please read it carefully!**

If you are unclear about any part of this syllabus, it is your responsibility to clarify it with Dr. Newman before the add-drop period ends.

### **Instructor: Dr. Jacalyn Newman**

Office: L14 Clapp

Phone: 412-648-7654

Email: [jsnewman@pitt.edu](mailto:jsnewman@pitt.edu)

### **Student Hours:**

Monday 10:00-10:50 AM & 2-2:50 PM in L14 Clapp

Take your chances by stopping by...

or by appointment <http://tungle.me/drnewman>

### **Prerequisites**

You must have passed the following classes with a C or better before taking BIOSC 1850:

1. Foundations of Biology 2 (BIOSC 0160) or equivalent
2. General Chemistry 2 (CHEM 0120) or equivalent

**Lectures:** All students

**Monday, Wednesday, Friday 1:00 PM—1:50 PM** A224 Langley

### **Required Text and Materials:**

1. *Prescott's Microbiology* 8th edition by Willey Sherwood, and Woolverton
2. *i>clicker* (available at student bookstore). This will be used every class meeting.

### **Email:**

This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to read their e-mail via other service providers (e.g., Hotmail, AOL, Yahoo). Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address. To forward e-mail sent to your University account, go to <http://accounts.pitt.edu>, log into your account, click on **Edit Forwarding Addresses**, and follow the instructions on the page. Be sure to log out of your account when you have finished. (For the full E-mail Communication Policy, go to [www.bc.pitt.edu/policies/policy/09/09-10-01.html](http://www.bc.pitt.edu/policies/policy/09/09-10-01.html).)

Dr. Newman attempts to reply to all appropriate email messages within one *business* day (24 hours).

**Student Hours:** I welcome meetings with students and have an open door policy, meaning that if I am in my office and the door is open, you are *welcome* to stop by. If I am unable to give you my full attention at that time, I will tell you and we will arrange another time to meet. My student hours are when I have *dedicated* time when I will be present and available. There is a mailbox on my door, as well as a supply of notepaper. You may leave me a note if I am not present. Appointments can also be made via email.

**Course Objectives:** This course is a general survey of microbiology that will introduce students to the basic biology of bacteria, archaea, eucaryotic microorganisms, and viruses, with a concentration on bacteria. The diversity within the microbial world will be emphasized, as well as the relevance to the environment and human disease. The course will help students be able to make knowledgeable decisions when microbiology impacts everyday life (for example food poisoning, water contamination, infections, and vaccinations). In addition, the course will prepare students for advance study in microbiology and the health sciences.

*For the first half of geological time our ancestors were bacteria. Most creatures still are bacteria, and each one of our trillions of cells is a colony of bacteria.*  
--Richard Dawkins

**Lecture:** Three 50-minute sessions per week. It is expected that you will skim the assigned chapters *before* each period as well as read and take notes on the chapters after they have been discussed in class. Be prepared to answer questions when asked in class!

**i>Clicker Questions:** You will be asked questions in class and in recitation that require you to enter an answer using your i>Clicker. Points are awarded for participation (1 point per question) as well as additional points for correct answers (0.25 points per question). At the end of the term, the percentage of points earned out of total i>clicker points possible will be applied to the 7.5 points allotted to clicker questions. For example, if you earned 185 points out of 200 possible clicker points, you have earned 92.5% of 7.5, or 6.48 points towards your final grade.

The i>clicker frequency code is AA. Starting with the first class meeting after the end of add/drop, i>clicker points will begin to count towards your grade. Prior to that time, the grades will be recorded and loaded to courseweb for you to verify the system is working properly, but will not count towards your final grade. It is up to you to verify that your clicker points are being recorded. You can do this by checking the gradebook on courseweb.

In the event you have low batteries, a broken i>clicker, or are missing your i>clicker, it is up to you to secure and register a replacement. Hand written responses will not be accepted in class! **If you register a new i>clicker after the end of the add/drop period, you MUST notify Dr. Newman.** Otherwise, I won't know to update the software to reflect the change in your clicker ID.

Please put your name on your i>clicker. An address label or a piece of masking tape will both work. Many students (and an occasional instructor!) misplace their i>clickers and the only way we have of returning them to you is through identification you place on the i>clicker itself.

**Cheating with i>clickers will not be tolerated.** In the past, some students have tried to use clickers on the behalf of absent classmates. In the event you are discovered possessing or using more than one clicker, they will be all be confiscated. You and the absent clicker owners will all

receive a ZERO out of the 7.5 possible i>clicker points available for the term and be reported to the Dean's office for a violation of academic integrity.

**Be sure to register your first name, last name, and student ID.** You must use your USER ID, a.k.a. your email ID before the @ sign. **DO NOT USE PEOPLE SOFT OR PITT CARD ID NUMBERS.** If you don't register your i>clicker correctly, you don't get the points. You can always view your points via the "my grades option" on courseweb. A string of zeroes of empty entries is a sign that you are not properly registered. I will begin posting results immediately, but points earned will only be counted after add/drop until the end of the term.

You can use one i>clicker for your entire career at Pitt. They are available at the campus bookstore.

**Courseweb/Blackboard** Rather than sending course content questions to Dr. Newman you are to post them to the discussion board of blackboard. Other students are encouraged to answer these questions. I will monitor these boards to ensure the replies are accurate and to answer questions that lack replies. **You are always welcome to send email Dr. Newman to set up an appointment or for communications that are confidential, such as a family emergency.**

**Recordings:** To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use. There is a form on courseweb for you to use to request permission to record classes.

**Laptop Computers:** Tablet notebooks may be used anywhere in the lecture hall in **tablet** form only. Other laptops must be used in the back **5** rows of class to minimize the distractions the screens pose to other students. This policy is for lectures and recitations both.

**Reserves:**

- A copy of the textbook is on reserve in Langley Library.

**Website:** Pitt's Courseweb site: <http://courseweb.pitt.edu> Supplemental materials, homework assignments, citations for papers in the primary literature, and case studies will be posted to this website as the term progresses.

**Exams:** The exams will be **primarily** multiple choice using Accuscan cards. There will **also** be fill in the blank questions and a short answer or open-ended problem for you to solve.

	Length	Points
Exam 1	50 minutes	100
Exam 2	50 minutes	100
Exam 3	50 minutes	100
Exam 4	50 minutes	100
Final	110 minutes	100

**You are required to bring your student ID card and a No. 2 pencil to all examinations. MUST memorize your PeopleSoft ID Number. Failure to bring photo identification to an exam will result in an automatic 10 point reduction in your exam score.**

**Exam time *includes* time for recording your answers on the Accuscan and answer sheets** You will *not* be given extra time to transfer answers from your exam book. When the time is up, you are expected to put your pencil away. If you have not turned in your exam book and Accuscan sheet before the final call, you will earn a **zero**.

**Missed Exams: There are no make-up mid-term exams or extra credit opportunities in this course.** If you miss more than one mid-term exam you should discuss the options available to you with your advisor or the SAS Dean's Office. Students who miss the final exam due to an emergency should pursue the G grade option as detailed below. Please note that you are expected to show up to each exam on time. Late arrivals will be given the exam during the time that remains for the designated examination period. Transportation problems and weather issues are not considered an adequate excuse. If you have to travel to reach campus, please allow sufficient time to ensure that you arrive by the time the exam begins.

**Exam Regrades and Challenges:** If you believe that the answer you gave for a multiple choice question is more correct than the answer listed on the answer key, you may challenge the question. The challenge must be *in writing* using the form provided on courseweb. You must include a detailed, **factual** justification for the correctness of your answer, including references to either the lecture notes (by date) or to the text used in the course (page, paragraph). You should refer to the color of your exam, the question number, and then present your case. All challenges must be received no later than 5 days after the exam is given. Challenges will be kept on file and considered when calculating the final course grades if your final grade is close to or on the borderline between two grades.

You may request a regrade of any non-Accuscan portion of an exam by submitting your request in writing and explaining why you think the grading was in error. This request must be submitted to me within one week after the date that the graded exams are returned to the class. Please consult the answer key and your textbook prior to submitting your request. Unless the regrade request is simply due to an addition error, please be aware that your entire exam may be evaluated and any question that was graded incorrectly (in your favor) may also be regraded resulting in points deducted from your total.

**Participation Points:** During the course of the term, there will be in-class exercises you are asked to do. As long as you participate fully and make an effort, you will be graded for completion and not accuracy or content. There will also be occasional homework problems assigned ahead of class (via courseweb) and those will be graded in two ways. First for overall completion, and secondly for the answer to a randomly chosen question. As long as you are making a good faith effort, you will earn almost all of the points even if your answers are wrong. LATE homework assignments will NOT be accepted. If the homework is not turned in at the *start* of the class, it is late. This is not negotiable.

**What if I miss class?** It is your responsibility to obtain the material, notes, announcements, homework assignments and any other relevant information about the class or recitation *from classmates*.

Dr. Newman will not deliver parts of lectures, entire lectures, repeat announcements or distribute material already delivered or made available during the normal class or recitation session to individual students or groups of students. When assigning final grades for participation/clicker points, I ensure that missing three class periods during the term will have no affect on the final grade. (I do this by determining the average number of participation/ clicker points possible per week and using that average as the number of points that will not affect a grade)

**G Grades:** Students who wish to petition for a G grade must submit to Dr. Newman, in writing, a specific request for this grade change and documentation for your reason(s). You will be required to make arrangements in person for the specific tasks you must complete to remove the G grade. You will be expected to sign documentation that will include the date by which work must be completed. Failure to complete work by the date specified could result in a zero recorded for the missed exam and your final grade will be calculated based on this score. Remember that G grades, according to CAS guidelines, are to be given only when students who have been attending a course and have been making regular progress are prevented by circumstances beyond their control from completing the course after it is too late to withdraw. If you miss the final and have a valid excuse, you may receive a G grade, but only after the excuse is documented and arrangements to finish the course work are finalized with Dr. Newman.

**Grading: I cannot predict your performance; I can only assess it.** It is *impossible* to predict exactly what letter grade a student will earn until the curve has been calculated. Therefore, the best way to chart one's progress in the course is to determine how close one's score is to the class mean for each exam. *Students scoring consistently above the mean are certain to obtain at least a C.* **Grades, means, and grading curves are not available by phone or email.** Requests for this information will be ignored. Your final grade in the course will be available online approximately 24 hours after grades are turned in to the Registrar's office. Grades are **earned** on the basis of **performance** in this course, not given on the basis of need or effort.

*You do not really understand something unless you can explain it to your grandmother.*  
—Albert Einstein

Your final grade will be based on the points earned on the three highest mid-term examinations, the comprehensive final examination, participation points, and the i>clicker questions.

Exam 1	100 pts
Exam 2	100 pts
Exam 3	100 pts
Exam 4	100 pts
<i>Minus lowest midterm score or missed exam</i>	<i>-100 pts</i>
i>clicker questions	20 pts
Participation Points	30 pts
Cumulative Final	100 pts
<b>Total</b>	<b>450 possible points</b>

For participation points and i>clicker questions, I keep a running total for points possible. I then generate a percentage of points earned/points possible and apply that to the 30 or 20 points possible for those items, respectively. For example, you at the end of the term we may have 200 possible clicker points, of which you earned 180. That means you earn  $180/200 \times 20 = 18$  i>clicker points out of the 20 that were possible. Raw points earned for exams, participation points, and i>clicker questions will be uploaded to courseweb for you to view and track your own grade in the class.

**Final letter grades** will be determined from the cumulative scores of all counted examinations, participation points, and i>clicker questions. Your final grade is based on your total numerical points for the semester, using a curve method, and not on averaged letter grades for any single exam. Your score position relative to the class mean will be important, not the actual numerical score. Therefore, you should make every effort to do your best work and earn as many points as possible on each exam and assignment. **The curve will never penalize you compared to the following straight grading**

**scale:** at a minimum 90% and above will be an A- or better, 80% and above will be a B- or better, 72% and above will be a C or better, and 70% and above will be a C- or better. **Note: You are not permitted to skip the final exam, even if you have an A+ in the course up to that point.**

**WARNING:** If you get below a C on the first exam, you need to change your study habits *immediately*. Don't assume the first exam will be your lowest score and the one you drop. The first exam is generally one of the higher scores and not the score that is dropped. If you wait and seek help only in the week or two before the final exam, it will be too late. The course is cumulative and requires a sustained effort. The first exam is generally the easiest exam of the term, so a poor performance should be a wake-up call.

I will not provide customized reports on how many points you need to earn in order to earn a certain grade in the course. You should be able to calculate that yourself. If you are unsure of the mathematics involved, please seek help from a math tutor.

**Religious observances:** Unfortunately, it is impossible for the University to design a calendar that respects all calendars of all faiths. However, I am quite willing to work with you on an individual basis if an exam presents a conflict for you. Please contact me privately well ahead of the date and we'll work something out.

**Disabilities:** If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and the Office of Disability Resources and Services. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (voice or TDD) to schedule an appointment. The office is located in 216 William Pitt Union.

**Note:** If you will be taking your exams at the Office of Disability Resources and Services, the supporting letter of documentation must be provided to Dr. Newman at least **one week prior** to the scheduled date of the examination. In addition, they can diagnose learning disabilities (you may have one and not know it!).

**Academic Integrity** Students in this course are expected to comply with the University of Pittsburgh Dietrich School of Arts and Sciences Academic Integrity Code available here:

(<http://www.as.pitt.edu/faculty/policy/integrity.html>). Any student suspected of failing to meet the student obligations of the code for any reason during the semester will be required to participate in the procedures for adjudication, initiated at the instructor level. This may include, but is not limited to, the confiscation of the examination or homework paper of any individual suspected of violating the code.

**You may not use unauthorized materials during an exam, including notes, dictionaries, calculators, pagers, telephones, PDAs, and any device that can connect to the internet.** *You must submit for grading only material that is written exclusively in your own words.*

A violation of the Academic Integrity Code requires the instructor to submit an Academic Integrity Violation Report to the Dean. The CAS Dean keeps it in the student's file for the remainder of that student's residence in the degree-granting program. At graduation, should no other violation have occurred, the document is removed from the student's file. This policy was intended to provide privacy for students who were learning about academic integrity the hard way, but it turns out that some medical schools are now asking for copies of such documents before students have graduated, and the deans are prepared to provide them. Please protect your future by doing your own work! It is far better to earn a low grade honestly than cheat your way to "success." Remember that you are in this class to master information and skills, not just get a grade on a transcript.

**Lecture Schedule** The topic schedule is subject to revision as the term progresses. If we finish a chapter in class before the period ends, we will immediately move into the next topic area. You will be notified during lecture of any changes. Please note the dates and times of the exams to avoid any scheduling conflicts! Exam dates will not change!

**Each exam focuses on the material introduced after the last exam up through the last lecture period before the next exam. The order in which we will discuss the chapters will not change. So even if we are "behind" schedule according to the syllabus, there should be no confusion about what we will talk about next.** There is *no* correlation between where the break points in the left column and the chapters listed in the right column

Week(s)	Dates of interest	Topics & Chapter order
1-4	9/3 Labor day, no class. 9/7 Add/drop ends  <b>9/21 Exam 1</b>	1 Introduction 3 Bacteria and Archaea 4 Eukaryotic Cell Structure & Function 5 Viruses & Other Acellular Infectious Agents 6 Microbial Nutrition
5-8	<b>10/9 Tuesday will follow the Monday Schedule</b>  <b>10/19 Exam 2</b>	7 Microbial Growth 9 Introduction to Metabolism 10 Catabolism 40.5 Microbiology of Fermented Foods 11 Anabolism
9-12	10/26 Monitored Withdrawal ends  <b>11/16 Exam 3</b>	12 Genes: Structure and Expression 13 Regulation of Gene Expression 14 Mechanisms of Genetic Variation 17 Microbial Taxonomy & the Evolution of Diversity 30 Microbial Interactions
13-15	11/21- 11/23 Thanksgiving Recess, No class. We <i>will</i> have lecture on 11/19!  <b>12/7 Exam 4</b>	31 Infection and Pathogenicity 34 Antimicrobial Chemotherapy 36 Epidemiology & Public Health Microbiology 37 Human Diseases Caused by Viruses & Prions 38 Human Disease Caused by Bacteria 39 Human Diseases Caused by Fungi & Protists 40 Microbiology of Food
16	<b>Cumulative Final Exam Friday, December 14th 8:00-9:50 AM A224 Langley</b> Early final exams are <i>not</i> available to accommodate your travel and vacation plans.	All content from course