BIOLOGY 230: Principles of Microbiology, Fall 2014
Section 01: MWF (1:30-2:20 pm), ISC 115

Prerequisites: BIOL 222 (Genetics), CHEM 211 or 223 (Organic Chemistry). It is assumed that you have the knowledge from these courses and their pre-requisites.

Instructor

Betsy Hutchison
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Office hours: M (2:30-3:30), W (4:00-5:30), or by appointment

Course Description

The structure, cultivation, physiology, ecology, and importance of microorganisms (including bacteria, yeasts, molds, and viruses) are studied. Medical aspects include immunology, serology, disease, and sanitation. Laboratory activity complements lecture material. Prerequisites: BIOL 222 and CHEM 211 or CHEM 223.

Laboratory Sections

Section 02	Tu 10:00 am – 11:55 am	ISC 302
	Th 10:00 am – 10:55 am	ISC 302
Section 03	Tu 4:00 pm – 5:55 pm	ISC 302
	Th 4:00 pm – 4:55 pm	ISC 302

Required Texts

Biology of Microorganisms, Brock, Michael T. Madigan, John M. Martinko, Paul V. Dunlap, David P. Clark. Pearson Benjamin Cummings, San Francisco, CA 13th Edition (2012) ISBN 0-321-64963-8

Microbiology - A Laboratory Manual, J.G. Cappuccino and N. Sherman. Pearson Benjamin Cummings, San Francisco, CA 9th Edition (2011) ISBN 0-321-65133-2

Calculator

You'll need a simple calculator (that can do basic functions and logs) for exams in this course. You will not be allowed to use cell phone calculators or graphing calculators during exams.

Grading

Exams (2 exams,100 pts each)	200 pts
Final Exam (cumulative)	125 pts
Semester Project	50 pts
Weekly quizzes (10, each worth 5 points)	50 pts
Lab Grades	
Lab Notebook	25 pts
Lab Group Poster	25 pts
Lab Group Report	50 pts
Lab Practical	50 pts
Total:	**575 pts**

The following scale will be used to calculate final grades. Student point totals or grading scheme may be adjusted to reflect course difficulty or section differences at the instructor's discretion.

A (93-100%)	A- (90-92%)	
B+ (87-89%)	B (83-86%)	B- (80-82%)
C+ (77-79%)	C (73-76%)	C- (70-72%)
D (60-69%)		
E (<60%)		

• Grade disputes must be initiated <u>within one week</u> from when the assignment was handed back.

Exams:
• Make up exams are NOT administered except under special circumstances (such as significant medical or family issues), No other excuses (vacations, weddings, travel, etc) will be accepted. **Please notice the final exam date – make sure to check that you do not have 3 or more exams on this day! If you need to re-schedule, make sure to let me know the first week of class. After that, I will not reschedule any final exams.**
• Final exam: the final exam will be cumulative

Semester Project
• The semester project is broken up into four parts (see schedule below for due dates), and a separate information sheet will be provided for this project. Briefly, students will work in teams of 2 to create a fictional bacterium, based on concepts and principles that we cover in class.

Weekly Quizzes
• These quizzes will occur on **Fridays** (of most weeks), and will cover the material from the **previous week**. There will be no quiz on Friday 8/29. The quiz on Friday 9/5 will cover material from Wed 8/27, Fri 8/29, and Wed 9/03. The quiz on Fri 9/12 will cover material from Fri 9/05, Mon 9/08, and Wed 9/10, etc. Quizzes are designed to help you keep up with the lecture and reading material for the course. We will have 11 quizzes, and I will drop your lowest quiz grade. Since I drop the lowest quiz grade, I will not administer make-up quizzes except in extenuating circumstances or for approved absences (such as for student athletes).

Tips for Success
Come to class – important concepts will be covered in class, and you'll get the opportunity to ask questions and to discuss with your classmates. Reading the text is important, but cannot substitute for class attendance and participation.

Don't procrastinate - if you're struggling or don't understand something, get help from me during class or office hours. There are many resources available if you need help, use them!

Assigned readings for class: My suggestion is to read over the assigned reading before Tuesday's class. This will help familiarize you with the topics that will be covered, and if any topics are completely unfamiliar to you then you can do a more in-depth reading of

that section. After lecture, take a more careful look at the assigned readings, using what we covered in class to focus your reading, and to prepare yourself for the quiz on Friday.

Students with Disabilities

SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities. Accommodations will be made for medical conditions related to pregnancy or parenting. Students should contact Dean Buggie-Hunt in the Office of Disability Services (tbuggieh@geneseo.edu or 585-245-5112) and their faculty (Dr. Hutchison) to discuss needed accommodations as early as possible in the semester.

Academic Dishonesty & Plagiarism

Students are expected to adhere to the University's policy on academic dishonesty and plagiarism, located in the student handbook. Academic dishonesty and plagiarism have serious consequences, and if you're struggling in class, please ask for help rather than resort to academic dishonesty! Academic dishonesty will result in a zero on the assignment or exam. In addition, a report will be filed to the department chair and Dean of the College, and a record of academic dishonesty will be placed in the student's file at the Dean of Students Office.

Tentative Schedule (subject to change at instructor's discretion)

Date	Subject	Reading
(M) 08/25/2013	Review syllabus; Introduction	
(W) 08/27/2013	History of Microbiology	Ch 1 (part II)
(F) 08/29/2013	History of Microbiology (no quiz)	Ch 1 (part II)
(M) 09/01/2013	-Labor Day, no class-	-Labor Day, no class-
(W) 09/03/2013	Introduction to Microbes	Ch 2
(F) 09/05/2013	Introduction to Microbes; **quiz**	Ch 2
(M) 09/08/2013	Microbial Cell Biology	Ch 3
(W) 09/10/2013	Microbial Cell Biology	Ch 3
(F) 09/12/2013	Microbial Cell Biology; **quiz**	Ch 3
(M) 09/15/2013	Nutrition and Metabolism	Ch 4
(W) 09/17/2013	Nutrition and Metabolism	Ch 4
(F) 09/19/2013	Microbial Growth; **quiz**	Ch 5
(M) 09/22/2013	Microbial Growth; **project part 1 due**	Ch 5
(W) 09/24/2013	Metabolic Diversity	Ch 13
(F) 09/26/2013	Metabolic Diversity; **quiz**	Ch 13
(M) 09/29/2013	Metabolic Diversity	Ch 14
(W) 10/01/2013	Metabolic Diversity	Ch 14
(F) 10/03/2013	EXAM I (material up to 9/26)	
(M) 10/06/2013	Metabolic Diversity	Ch 14
(W) 10/08/2013	Microbial Genomics	Ch 6 section II; Ch 7 (7.1, 7.5, 7.6 only); Ch 12

(F) 10/10/2013	Microbial Genomics; **quiz**	Ch 12
(M) 10/13/2013	-Break, no class-	-Break, no class-
(W) 10/15/2013	Regulation of Gene Expression	Ch 8
(F) 10/17/2013	Regulation of Gene Expression; **quiz**	Ch 8
(M) 10/20/2013	Microbial Evolution	Ch 16
(W) 10/22/2013	Microbial Evolution	Ch 16
(F) 10/24/2013	Microbial Diversity; **quiz**	Ch 17
(M) 10/27/2013	Microbial Diversity	Ch 18
(W) 10/29/2013	Archaea	Ch 19
(F) 11/31/2013	Eukaryotes; **quiz**	Ch 20
(M) 11/03/2013	Eukaryotes; **project part 2 due**	Ch 20
(W) 11/05/2013	Viruses	Ch 21
(F) 11/07/2013	Viruses; **quiz**	Ch 21
(M) 11/10/2013	Host/Symbiont Relationships	Ch 25
(W) 11/12/2013	Host/Symbiont Relationships	Ch 25
(F) 11/14/2013	EXAM II (material up to 11/07)	
(M) 11/17/2013	Epidemiology	Ch 32
(W) 11/19/2013	Microbes and Disease	Ch 33
(F) 11/21/2013	Microbes and Disease; **quiz**	Ch 33
(M) 11/24/2013	Microbes and Disease; **project part 3 due**	Ch 34
(W) 11/26/2013	-Thanksgiving, no class-	-Thanksgiving-
(F) 11/28/2013	-Thanksgiving, no class-	-Thanksgiving-
(M) 12/01/2013	Microbes and Disease	Ch 34
(W) 12/03/2013	Foodborne Microbial Diseases	Ch 36
(F) 12/05/2013	**Short presentations**; **quiz**	-
(M) 12/08/2013	**Short Presentations**	-
(M) 12/15/2013	Final Exam (12-3 pm)	cumulative exam