PMB C112 **General Microbiology** **Fall 2013**
MCB C112

Lectures: MWF 11am-12pm
101 Barker Hall

Instructors:

Kathleen Ryan 251 Koshland Hall
krr@berkeley.edu
Office hours: Wed 2-3 pm, Thurs 2-3 pm all semester

John Coates Office hours: TBA

Kris Niyogi Office hours: TBA

GSIs:

Prerequisites:
Chemistry 3B, Biology 1A

Course Description:
This course will explore the molecular bases of structural, behavioral, and metabolic diversity among the Bacteria. We will discuss bacterial cell organization and life cycles, metabolic capacities of individual species and communities, interactions among bacteria, plants, and animals, the impact of bacteria upon the environment, and industrial microbiology. This mechanistic course employs the textbook below and incorporates recent scientific findings and approaches.

Course textbook:
We commissioned a custom version of Prescott's Microbiology, 9th ed., by Willey, Sherwood, and Woolverton. The custom version is about half the length and half the price of the full version. The textbook is REQUIRED because with the text, you get a login code for assignments based on the textbook.
Go to: http://connect.mcgraw-hill.com/class/k_ryan_fall_2013_3
Under the Student tab, click on Register
Follow the instructions using the code that came with your textbook to register, or purchase a code separately.
Course: PMB-MCB 112 General Microbiology
Section: Fall 2013

Grading Policy and Exams

Exams:

Midterm 1 (50 pts):	Wed, Oct 9, during class time, covers material Aug 30-Oct 2
Midterm 2 (50 pts):	Wed, Nov 6, during class time, covers material Oct 4-Oct 30
Final (100 pts):	Monday, Dec 16, 11:30 am-2:30 pm, 60% of exam on material covered Nov 1-Dec 6, 40% of exam on material covered in Midterms 1 and 2

Section:

Attendance and participation in discussion section: 25 points
Weekly homework assignments: 25 points

Total points for class: 250

Grading policy:

90% and above: A- to A+, 80% and above B- to B+, 70% and above C- to C+, etc. If mean course grade is below 80%, course will be graded on a curve in which the mean is the lowest B-. Late homework assignments and missed exams will be awarded no points.

Academic integrity

Any exam, paper or report submitted by you and that bears your name is presumed to be your own original work. In section assignments, you may use words or ideas written by other individuals in publications, web sites, or other sources, but only with proper attribution. "Proper attribution" means that you have fully identified the original source and extent of your use of the words or ideas of others that you reproduce in your work for this course, usually in the form of a footnote or parenthesis. If you are not clear about the expectations for completing an assignment or taking a test or examination, be sure to seek clarification from your instructor or GSI beforehand.

We expect you to protect and promote academic integrity at Berkeley. Any evidence of cheating will result in a score of zero (0) on that assignment or examination. Cheating on the final exam results in an "F" for the course. Cheating includes but is not limited to bringing notes or written or electronic materials into an exam or quiz, using notes or written or electronic materials during an exam or quiz, copying off another person's exam or quiz, allowing someone to copy off of your exam or quiz, and having someone take an exam or quiz for you. Incidences of cheating will be reported to Student Judicial Affairs, which may administer additional punishment.

General Microbiology

PMB/MCB 112 **11:00-12:00 MWF** **101 Barker Hall**

All readings are in the custom edition (or full edition) of Prescott's Microbiology, 9th ed, by Willey, Sherwood, and Woolverton.

	Date	Lecture	Readings	Lecturer
F	Aug 30	Origins of Microbiology	1.3-1.4	KR 1
M	Sep 2	Academic Holiday, no lecture		
W	Sep 4	Observing and Counting Bacteria	2.1-2.3, 7.7	KR 2
F	Sep 6	Microbial Growth	7.3-7.6, 7.8	KR 3
M	Sep 9	Growth, continued, Genetics I	16.1-16.5	KR 4
W	Sep 11	Genetics I, continued	16.1-16.5	KR 5
F	Sep 13	Genetics II	16.6-16.9	KR 6
M	Sep 16	Genetics III	17.1-17.6	KR 7
W	Sep 18	Cell Walls and Shape	3.1-3.2, 3.4, 3.6	KR 8
F	Sep 20	Cell Walls and Shape, Cell Division	3.1-3.2, 3.4, 3.6, 7.1-7.2	KR 9
M	Sep 23	Cell Division, continued	7.1-7.2	KR 10
W	Sep 25	DNA Replication and Segregation	7.2, 13.3	KR 11
F	Sep 27	Cytoplasmic Membrane Transport	3.3, 13.8	KR 12
M	Sep 30	Appendage Structure/Function	3.5-3.8	KR 13
W	Oct 2	Regulation I	14.1-14.4	KR 14
F	Oct 4	Microbial Energetics	10.1-10.7	JDC 1
M	Oct 7	Redox principles	10.1-10.7	JDC 2
M	Oct 7	Fermentation	11.1-11.5, 11.8	JDC 3
W	Oct 9	Respiration	11.6-11.7	JDC 4
F	Oct 11	Chemolithotrophy	11.10	JDC 5
M	Oct 14	Wastewater preview	28.1-28.2, 43.4	JCD 6
W	Oct 16	Phototrophy	11.11	KN 1
F	Oct 18	CO_2 Fixation	12.1-12.3	KN 2
W	Oct 23	Nitrogen Fixation	12.5	KR 15
F	Oct 25	Regulation II	14.5, 16.3	KR 16
M	Oct 28	Chemotaxis	3.8, 14.5	KR 17
W	Oct 30	Chemotaxis, continued	3.8, 14.5	KR 18
F	Nov 1	Microbial Evolution	1.1-1.2, 19.1-19.5	KR 19

M	Nov 4	Microbial Genomics	18.1-18.7	KR 20
W	Nov 6	Microbial Ecology	18.8, 29.1-29.3	KR 21
F	Nov 8	Biofilms	7.4, 14.5	KR 22

M	Nov 11	Academic Holiday, no lecture		
W	Nov 13	Biofilms, Quorum Sensing	7.4, 14.5	KR 23
F	Nov 15	Quorum Sensing, cont'd	7.4, 14.5	KR 24
M	Nov 18	Human Microbiome, part 1	32.1-32.3	KR 25
W	Nov 20	Human Microbiome, part 2	32.1-32.3	KR 26
F	Nov 22	Plant-Microbe Interactions	31.1-31.3, 42.5	KR 27
M	Nov 25	Plant-Microbe Interactions, cont'd	31.1-31.3, 42.5	KR 28
W	Nov 27	Microbial Growth Control, part 1	8.1-8.7	KR 29
F	Nov 29	Academic Holiday, no lecture		
M	Dec 2	Microbial Growth Control, part 2	9.1-9.4, 9.8	KR 30
W	Dec 4	Wastewater Treatment	43.1-43.3	KR 31
F	Dec 6	Wastewater Treatment, cont'd		KR 32

FINAL EXAM: Monday, December 16, 11:30 am-2:30 pm
Location 145 Dwinelle