

BIOL3380: Intro Microbiology COURSE SYLLABUS Fall 2008

LECTURE INSTRUCTORS:

Nicholas Bergman, Ph.D. CE, Room 231 nickbergman@gatech.edu
Patricia Sobecky, Ph.D. ES&T, Room 1242 patricia.sobecky@biology.gatech.edu

BIOL3381 Laboratory Instructor:

Jennifer Leavey, Ph.D. A112 Cherry Emerson jennifer.leavey@biology.gatech.edu

Laboratory TA: Andrew Conley
Lecture TA: Anjana Varadarajan

COURSE HOURS/LOCATION: MWF 9:05-9:55am/ES&T Bldg, Room L1205
OFFICE HOURS: Sobecky: Tuesdays 8-9:30 am or by appointment. Bergman: By appointment

COURSE DESCRIPTION: This course will provide an extensive (and intensive) overview of the microbial world highlighting the structure, functioning, and diversity of microorganisms. Fundamental concepts of microbial physiology, ecology, genetics, evolution and pathogenesis will be presented. Topics include microbial cell structure and function, metabolism, microbial genetics, and the role of microorganisms in disease, the environment and other selected areas. The format of the course will consist of interactive class lectures, which draw on information found in the textbook as well as the latest exciting discoveries in microbiology. A complementary, but not required, one-hour laboratory course, BIOL 3381 is also offered.

TEXTBOOK: M.T. Madigan & J.M. Martinko. 2009. *Brock's Biology of Microorganisms*. 12th edition published by Pearson/Benjamin Cummings.

T-Square Page: Includes lecture notes and figures, a class schedule, useful course information (example text questions). The info available on T-square is **NOT** a substitute for attending class.

IMPORTANT GEORGIA TECH DATES

Mon	Aug 18	CLASSES BEGIN
Mon	Sep 1	OFFICIAL SCHOOL HOLIDAY
Fri	Oct 10	Last day to drop individual courses with a grade of "W"
Mon-Tue	Oct 13-14	FALL BREAK
Fri	Dec 5	LAST DAY OF CLASSES
Mon – Fri	Dec 8-12	FINALS WEEK

IMPORTANT COURSE DATES

FRI	Sept 12	EXAM 1
FRI	Oct 10	EXAM 2
MON	Nov 3	EXAM 3
WED	Nov 26	EXAM 4
WED	Dec 10 2:50 -5:40	CUMULATIVE FINAL EXAM

GRADING: There will be **FOUR** (4) lecture exams and one (1) **FINAL EXAM**; each lecture exam is worth 20% and the final exam is worth 25% of the final grade. Your **lowest LECTURE EXAM score will be dropped**. All lecture exams will be closed book and will consist of multiple-choice, short answers and essay questions. **NO make-up exams will be given** so you should plan to take all the exams in case you miss one due to illness. The **FINAL EXAM** is **mandatory** and cannot be dropped. Quizzes will be worth 15% of the final grade.

GT Honor Code: All students are expected to follow the Georgia Tech Academic Honor Code (www.honor.gatech.edu). This includes, but is not limited to the following issues pertaining to exams, quizzes and any presentations for this class: plagiarism is not permitted and will be dealt with according to the GT Academic Honor Code.

COURSE OUTLINE:

Blue font-Sobecky lectures Black-Bergman lectures

Schedule—topics may be modified/omitted due to time constraints and exams dates may be changed.

Week	Topic	Chapters
1	Overview of Microbial Life	1, 2
2	Cellular Components, Cell Structure & Function	3, 4
3	Energetics, Metabolism and Growth	5, 6
4	Energetics, Metabolism and Growth (continued)	5, 6
Exam 1	Friday, September 12	
5	Evolution, Systematics and Prokaryotic Diversity	14, 15-17
6	Metabolic Diversity	20, 21
7	Methods in Microbial Ecology	22
8	Microbial Biogeochemical Cycles	24
Exam 2	Friday, October 10	
9	Molecular Biology of Microbes	7
10	Molecular Biology/Genetics of Microbes (cont.)	9, 11
11	Molecular Biology/Genetics of Microbes (cont.)	9, 11
Exam 3	Monday, November 3	
12	Microbial Genomics, Genetic engineering of microbes	13, 10
13	Viruses, Microbial interactions with humans	10, 28, 34-37
14-15	Microbial interactions with humans (cont.)	34-37
Exam 4	Wednesday, November 26	
16	Antibiotics and resistance; review for final	27, 33
Final Exam	Wednesday, December 10	