



COURSE INFORMATION SHEET

BIOLOGY 241 MICROBIOLOGY

(Tentative course outline and schedule for Fall 2009)

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Lecture venue and time: A2151, Wednesdays and Fridays, 2:30 – 3:45 pm

Course prerequisites: Biology 131 and 133

Course description:

The course introduces students to the biology, ecology and diversity of microorganisms. A large emphasis is placed on the biology of bacteria, as well as their role in causing disease and use in industry. Students taking this course are required to enroll in Bio 241L, which encompass the laboratory accompaniment for this course.

Course objectives:

At the end of the course, students should have acquired the following skills:

1. Understand the basic features of microbes
2. Understand the diversity of microbes
3. Comprehend the intimate interaction between humans and microbes

Required textbook:

Brock Biology of Microorganisms. Madigan MT, Martinko JM, Dunlap PV and Clark DP. (latest edition). Pearson Benjamin Cummings. San Francisco.

Tentative schedule:

Date	Topic	Chapter
Sept 9	Course introduction.	1
Sept 11	Bacterial cell structure and function	4
Sept 16	Bacterial nutrition, culture and metabolism	5
Sept 18	Microbial growth	6
Sept 23	Bacterial genetics – chromosomes and plasmids	11 (I)

Sept 25	Gene regulation	9 (I – III)
Sept 30	Community Day (no lectures)	
Oct 2	Gene regulation	9 (IV – VI)
Oct 7	Test I (Sept 9 – Oct 2)	
Oct 9	Mutation in bacteria	11 (II)
Oct 14	Genetic exchange in bacteria	11 (III)
Oct 16	Microbial diversity – Evolution & Systematics	14
Oct 21	Microbial diversity – Phyla	15 – 17
Oct 23	Microbial diversity – Eukarya	18
Oct 28	Test II (Oct 9 – Oct 23)	
Oct 30	Viral structure, replication and diversity	10, 19
Nov 4	Introduction to microbial ecology	23
Nov 6	Industrial microbiology	25
Nov 11	Remembrance Day (no lectures)	
Nov 13	Biotechnology	26
Nov 18	Test III (Oct 30 – Nov13), Essay question	
Nov 20	Microbial interaction with humans	28
Nov 25	Introduction to epidemiology	33
Nov 27	Microbial diseases A	34 & 35
Dec 2	Microbial diseases B	36 & 37
Dec 4	Test IV	
Dec 9	Review	

Mark distribution:

Essay (Due Dec 9)	10%
Tests (3 x 20%)	60%
Final exam	30%

Tests will consist of short answer questions based on topics covered during lectures. The tests are not cumulative. Each test carries 20% of the total course marks. The higher scores in three of the four tests will be used to calculate the final course marks and grade. The final exams will consist of multiple-choice questions, short and long answer questions. Questions will be based on topics covered during lectures, corresponding chapters from the required textbook as well as any additional reading material provided

over the duration of the course. The final exam will cover topics from the whole course (cumulative).

Grading scheme:

A+	93 – 100%	C+	66 – 69%
A	86 – 92%	C	62 – 65%
A-	82 – 85%	C-	58 – 61%
B+	78 – 81%	D+	54 – 57%
B	74 – 77%	D	50 – 53%
B-	70 – 73%	F	Below 50%