



COURSE INFORMATION SHEET

Biology 241 Microbiology (Tentative schedule for Fall 2010)

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Lecture venue and time: A2145, Wednesdays and Fridays, 2:30 – 3:45 pm

Laboratory venue and time: A2145, Mondays, 2:00 – 4:30 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 and appreciate the diversity of microbes.
3. Comprehend the intimate interaction between humans and microbes.
4. Competently handle and experiment on bacteria.

Required textbook:

Brock Biology of Microorganisms. Madigan MT, Martinko JM, Dunlap PV and Clark DP. 2009. 12th edition. Pearson Education Inc. San Francisco.

Supporting textbook:

Microbiology: an introduction. Tortora GJ. Funke BR and Case CL. 2010. 10th edition. Pearson Education Inc. San Francisco.

Attendance:

There are no penalties for non-attendance for any lectures. However, attendance is compulsory for all laboratory exercises, presentations, tests and exams. Allocated marks will not be awarded if student is absent from any laboratory, presentation, test or exam without notice and sufficient reason.

Lecture and laboratory schedule:

Date	Topic	Chapter
Sept 8	Course introduction and overview. Essay question.	1, 2II-2III
Sept 10	Bacterial cell structure and function	4
Sept 13	NOVA documentary: A global health challenge.	
Sept 15	NOVA documentary: Typhoid Mary	
Sept 17	Bacterial nutrition, culture and metabolism	5
Sept 20	Microbial growth	6
Sept 22	Regulation of gene expression I	9 (I-III)
Sept 24	Regulation of gene expression II	9 (IV-VI)
Sept 27	Principles of bacterial genetics I	11 (I-II)
Sept 29	Principles of bacterial genetics II	11 (III)
Oct 1	Test 1	
Oct 4	Microbial evolution and systematics	14
Oct 6	Bacteria: the proteobacteria	15
Oct 8	Bacteria: Gram-positive and other bacteria	16
Oct 11	Thanksgiving (public holiday)	
Oct 13	<i>Archaea</i>	17
Oct 15	Eukaryotic microorganisms	18
Oct 18	Overview of viruses and viral diversity	10 and 19
Oct 20	Community Day (no lectures)	
Oct 22	Test 2	
Oct 25	Metabolic diversity	20 and 21
Oct 27	Ecosystems and microbial ecology	23 and 24
Oct 29	Industrial microbiology	25
Nov 1	Biotechnology	26
Nov 3	Microbial interaction with humans	28
Nov 5	Introduction to epidemiology	33
Nov 8	Microbial diseases I	34 and 35
Nov 10	Microbial diseases II	36 and 37
Nov 12	Test 3	
Nov 15	Final exam for lecture component	

Nov 17	Lab: Microscopy Aseptic techniques and plating Lab: Choose colony, subculture to plate and broth (Nov 18)	21
Nov 19	Lab: Growth rate and environmental factors	
Nov 22	Lab: Bacterial staining I	
Nov 24	Lab: Bacterial staining II	
Nov 26	Lab: Biochemical properties I	
Nov 29	Lab: Biochemical properties II	
Dec 1	Lab: Controlling bacterial growth	27
Dec 3	Lab: Observe plate results	
Dec 6	Lab: Results presentation	
Dec 8	Deadline for lab logbook and report, and essay	

Mark distribution:

Essay (Due Dec 8)	10%
Tests (2 x 15%, and 1 x 5%)	35%
Final exam	30%
Lab component	25%

Tests will consist of short answer questions based on topics covered during lectures. The tests are not cumulative. Each test carries 15% of the total course marks, but the lowest test score carries 5% of the total course marks. The final exam 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).

There will be no exam or tests for the laboratory component. Marks for the laboratory component rest on the completeness and detailed entries of the lab logbook (50%, due Dec 8), results presentation (20%) and the final lab report (30%, due Dec 8).

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%

Important Notes/Dates:

I will be absent from Ambrose between Sept 11 – 16 to attend a conference in Banff. I do expect to have access to the internet and will reply to any email inquiries as soon as I can.

The last day to enter a course without permission and /or voluntary withdrawal from a course without financial penalty – Friday, September 17

Graduation application deadline – Friday, October 15

The last day to voluntarily withdraw from a course or change to audit without academic penalty – Friday, November 12

Last day to request revised time for a final exam – Monday, November 29

Last day to apply for time extension for coursework – Monday, November 29

Please note that final grades will be available on your student portal. Printed grade sheets are no longer mailed out.

Other Syllabus Features:

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Student Handbook and Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "Course Extension" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the appropriate deadline (as listed in the Academic Calendar <http://www.ambrose.edu/publications/academiccalendar>). Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar and the Student Handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean.

Students are advised to retain this syllabus for their records.

Course changes, including adding or dropping a course, may be made during the Registration Revision period, as outlined in the Calendar of Events. All course changes must be recorded on a Registration form, available from the Office of the Registrar. Due to circumstances such as class size, prerequisites or academic policy, the submission of a Registration form does not guarantee that a course will be added or removed from a student's registration. Students may change the designation of any class from credit to audit up to the date specified in the Calendar of Events, although students are not entitled to a tuition adjustment or refund after the Registration Revision period.

Withdrawal from courses after the Registration Revision period will not be eligible for tuition refund. Students intending to withdraw from some or all of their courses must submit a completed Registration form to the Registrar's office. The dates by which students may voluntarily withdraw from a course without penalty are listed in the Calendar of Events. A grade of 'W' will be recorded on the student's transcript for any withdrawals from courses made after the end of the Registration Revision period and before the Withdrawal Deadline (also listed in the Calendar of Events). 'W' grades are not included in grade point average calculations. A limit on the number of courses from which Academic a student is permitted to withdraw may be imposed. Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from Ambrose. Students are expected to be familiar with the policy statements in the current academic calendar and the student handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.