

MICB 201: INTRODUCTORY ENVIRONMENTAL MICROBIOLOGY
2013W TERM 1 GENERAL INFORMATION

A. CALENDAR DESCRIPTION

“ Prokaryotic diversity and the impact and applications of microbial metabolic, genetic and growth processes in environmental contexts.”

<u>B. INSTRUCTOR</u>	<u>OFFICE</u>	<u>E-MAIL</u>	<u>OFFICE HOURS</u>
Wade Bingle	Wesb 126	wade.bingle@ubc.ca	Mondays 10 AM-2 PM

Note!

- Questions about course content will not be answered by e-mail. These questions should be posed during office hours.
- For other e-mails (eg. appointment requests), please include a subject line stating the course name (MICB 201), student name and student # to ensure a timely response.

C. TEXTBOOK

There is no commercial textbook required for MICB 201. MICB 201 uses a custom text. It is sold by AMS Copyright in the SUB. The cost is \$36 (This price includes royalty charges that need to be paid to publishers under Access Copyright printer’s agreements). Those students who wish to consult a recent commercial introductory Microbiology textbook should contact the instructor for some recommendations.

D. PREREQUISITES and PREVIOUS LEARNING

One of BIOL 112, BIOL 200, SCIE 001. For students with BIOL 112, CHEM 121 is recommended.

An understanding of the following information is critical to success in MICB 201.

- The cell concept and the difference between cells and organisms.
- Principles of protein structure and enzyme function.
- Principles of membrane structure, permeability properties and mechanisms of transport across membranes.
- Prokaryotic gene structure and gene expression (transcription and translation).
- DNA structure, prokaryotic DNA replication and mutation.
- Principles prokaryotic regulation of gene expression at the level of transcription initiation.
- Principles of oxidative phosphorylation, photophosphorylation and substrate level phosphorylation.
- The concepts of respiration of fermentation.
- Evolution of mitochondria and chloroplasts.

This is the background for MICB 201 that should have been learned in high school biology and the prerequisite courses above. Although much of this content appears in the custom text and lecture slides for review purposes, as prerequisite material it will assumed that students already do understand it. For this reason will not be retaught in MICB 201.

E. COURSE CONTENT

In MICB 201 we focus on prokaryotic diversity and some selected topics illustrating the impact and applications of prokaryotic metabolic, genetic, and growth processes in environmental contexts. All of these topics in one way or another concern human and planetary health.

1. Introduction to Bacterial and Archaeal Diversity
2. Diversity: Cell Structure
3. Diversity: Genomes and Gene Expression
4. Impact/Applications: Antibiotics and Antibiotic Resistance in Bacteria
5. Diversity: Cell Division, Reproduction and Selected Life Cycles
6. Diversity: Sensing and Responding to the Environment
7. Diversity: Growth and the Environment
8. Impact/Applications: Food-Bourne Illness & Control of Bacterial Growth in the Food Industry
9. Diversity: Nutrition
10-13. Diversity: Metabolism
14. Impact/Applications: Life on the Rocks
15. Impact/Applications: Bacteria and Archaea on the Farm
16. Impact/Applications: Cleaning-up with Prokaryotes

F. iCLICKERS

iClickers are used to collect student responses to multiple choice questions posed during class. Each student should purchase a iClicker from the UBC Bookstore and register it on the MICB 201 Connect site.

G. CONNECT SITE

The MICB 201 Connect site is used to post slides, questions and problems (with answers), learning objectives, exam information, announcements, grades and other materials, so students are expected consult this site on a regular basis. A plea of ignorance about an important course announcement posted on Connect will not be considered.

Note!

- The Connect site also has a student discussion feature. This feature is for students to talk to students. The postings are not monitored by the course staff. Therefore do not post questions/requests to the an instructor or TA on the discussion board, they will not be answered.
- Students use the discussion feature at their own risk. The postings are not monitored by the course staff for correctness. Students should not assume that an answer they receive from another student is correct, no matter how appealing or satisfying the answer seems to be. Students who want to be sure an answer to a question is correct should consult an instructor or TA during their office hours.

H. GRADING and EXAM POLICIES

The following is a summary of the grade distribution for MICB 201:

<u>Exam</u>	<u>% Final grade</u>	<u>Content</u>	<u>Date/Time/Location</u>
iClicker questions	10%	T.B.A	In class
Assignments	10%	TBA	
Exam-I ("midterm")	30%	Chapters 1-4	<u>Date:</u> Oct. 24 <u>Time:</u> 7 PM -9:00 PM <u>Location:</u> TBA
Exam-II ("final")	50%	Chapters 5-16	TBA by Enrollment Services

This grading scheme is final and will not be modified.

Exam format

It is the policy of the Department of Microbiology and Immunology to use multiple choice testing in their two 2nd year courses: MICB 201 and MICB 202. Thus exam questions will be multiple choice format.

Exam questions will be drawn from content explored during class time and from assigned custom text readings. Some content in the custom text may not be explicitly dealt with during class time; nevertheless, students are still responsible for learning this content for exam purposes. Students should consult the learning objectives as a study guide for the assigned readings. Many exam questions will involve problem solving.

Midterm exam

A "midterm" exam will be held from 7:00-9:00 **PM** on the **night** of **Oct. 22 or 24**. The exact location of this exam will be announced in class and posted on the Connect site. Students are required to produce one piece of photo-identification during the exam.

Important! Students must contact Dr. Bingle by **Fri. Sept. 20** about any legitimate academic conflicts (eg. regularly scheduled classes) with the "midterm" date/time otherwise they must sit the exam on the night of Oct 22 or 24.

Policy on Missed Midterm Exam

Students that miss an the midterm due to illness family emergency are eligible to write the make-up midterm examination provided they

- contact Dr. Bingle within 24 hours of missing the exam (please put "Missed Midterm Exam" and a student number in the subject heading)
- provide valid documentation of illness or family emergency. A doctor's note must explain the reason the exam was missed (i.e., a note that says "was seen in my office this morning" does not explain why a student was unable to write). This documentation must be provided as a paper copy- not an electronic attachment- and include a student name, student number, and e-mail address.

Final exam

A “final” exam will be held during the sessional exam period in December as scheduled by Enrollment Services. Students should note that this exam could occur any time during the sessional exam period. This means students should not make travel reservations until they know their exam schedule.

Note that instructors are not permitted to rearrange the times of final exams for students other than in a case of exam hardship. An exam hardship is defined as 3 exams within a 24-hour period. For example, Student “A” has an exam at 8:30 am, 12:00 noon and 7 pm; this is an exam hardship and the 2nd exam would be rescheduled (probably to the following day). An example of what is not an exam hardship: Student “B” has exams scheduled at 8 am, 12:00 noon, then 8 am the following day. The third exam is in the next 24-hour period.

Policy on Missed Final Exam

Students that are absent during the final exam must report to the Dean's Office as soon as possible and request a form for a Deferred Exams. The Dean's office will require valid documentation to explain an absence from an exam. Deferred Exams are scheduled by the Registrar's Office and are usually held in December.

iClicker

iClicker questions will be marked for participation only. iClicker questions may be posed at the beginning of class so students should arrive on time to avoid losing marks. Students are expected to keep their iClickers in good working order and to bring them to every class. A plea of battery failure, defectiveness etc. or forgetfulness will not be considered.

Students will receive full marks for iClicker participation if they answer 80% of the questions. This allows students to miss some questions due to iClicker malfunction, battery failure, illness or forgetting to bring their iClicker to class.

Calculation of Course Grade

The “midterm” and “final” exams will test different content. This means each is essentially a final exam and will not be returned to students to keep permanently.

Important! Although the “final” exam will not explicitly retest the learning of “midterm” content, it will pose questions that draw on terminology and concepts students learned for the midterm exam.

Students must achieve an aggregate passing grade (i.e. $\geq 40/80$) in the exam component of the course to pass the course. Marks for the iClicker responses will be included in the calculation of a student’s overall course grade only if the exam component is passed.

Grades in MICB 201 are not scaled no matter how low or how high the average overall course grade.

I. CLASSROOM CIVILITY

To create and preserve a classroom atmosphere that optimizes teaching and learning, all participants share a responsibility in creating a civil and non-disruptive forum. Students are expected to conduct themselves at all times in this classroom in a manner that does not disrupt teaching or learning.

Students are expected to be on time. Class starts at 9 am. Students should be in their seats and ready to begin class at this time. Class ends at 9:50 am. Students packing up their things early is disruptive to others around them and to the instructor.

Classroom discussion should be civilized and respectful to everyone and relevant to the topic we are discussing. Any discussion from class that continues on Connect should adhere to these same rules and expectations.

Electronic devices such as cell/smart phones and pagers must be turned off during class.

Use of laptops in class: See below

J. USE OF LAPTOPS IN CLASS

Laptops may be used in class to view course related materials that are being used in class. Other uses of laptops (eg. watching movies, TV, sports events, playing games, e-mailing etc) is not productive use of class time. There is no doubt that using a laptop for these purposes decreases student attention in class. While students have every right to engage in such counterproductive behaviour if they choose to do so, they do not have right to distract those sitting next to them or wasting the instructor's time by asking needless questions they would have known the answer to if they were paying attention.

K. STUDENT RESPONSIBILITIES

Students are responsible for:

- Confirming their registration in the course.
- Maintaining an active e-mail address that is registered with the University for the purpose of communicating with the instructors, the Dean of Science, and the Registrar.
- Consulting the MICB 201 Connect site on a regular basis for announcements and other posted information.
- Informing Dr. Bingle within the first two weeks of class about any conflicts with the midterm date/time.
- Informing Dr. Bingle within 24 hours of the exam if they had been absent due to illness or family emergency.
- Providing Dr. Bingle with valid documentation to explain their absence. Without timely notification and documentation, a grade of "0" will be given for the exam.
- Arriving to class on time and not leaving before the class is dismissed.
- Turning off cell/smart phones and pagers during class time.
- Refraining from talk during class time that disturbs the other students.
- Refraining from distracting other students by playing video games, watching movies, sending e-mail, etc.
- Refraining from eating or drinking in class.

L. ACADEMIC MISCONDUCT

From the UBC Academic Calendar: Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

<http://www.students.ubc.ca/calendar/index.cfm?tree=3,54,0,0>

What is academic misconduct? Academic misconduct is behaviour that erodes the basis of mutual trust on which scholarly exchanges commonly rest, undermines the University's exercise of its responsibility to evaluate students' academic achievements, or restricts the University's ability to accomplish its learning objectives. See the following URL below for specific examples of academic misconduct.

<http://www.students.ubc.ca/calendar/index.cfm?tree=3,54,111,959>

What happens if a student commits academic misconduct? Academic misconduct often results in a one-year suspension from the University and a notation of academic discipline on the student's record. Other disciplinary measures include a letter of reprimand, a grade of zero for the assignment and/or for the course, suspension from the University, and expulsion from the University.

<http://www.students.ubc.ca/calendar/index.cfm?tree=3,54,111,960>

Examples of academic misconduct that would apply to MICB 201 (this list is not comprehensive):

- Writing an exam for another student, or hiring someone to write an exam.
- Showing answers to another student during an examination.
- Copying answers from another student during an examination.
- Providing another student with their iClicker so they can answer questions for them.