

**MICR 200A**  
**Introductory Microbiology I**  
**Fall 2016**  
**CRN 12329**

**Class time/location:** Mon, Thurs, 8:30 – 9:50, Engineering and Computer Sciences, ECS 123

**Instructors:** Dr. Doug Briant

**office:** Petch 227

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**office hours:** Monday, Thursday 10-11

\*\* available at other times by appointment \*\*

Dr. Chris Upton

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**office hours:** by appointment

**Textbook:** Brock's Biology of Microorganisms (14th Edition), M. T. Madigan, J. M. Martinko, K. S. Bender, D. H. Buckley and D. A. Stahl. 2015, Pearson Education Inc.

**MasteringMicrobiology course ID:** MMBBRIANT40814

\*\* This resource is optional. **No grade will be assigned to online work.** If you purchased a new textbook, it will include an access code for MasteringMicrobiology. A separate access code to the website can be purchased through the book store.\*\*

**i>clickers:** students will require **their own** i>clicker for in class participation marks in both the lecture and laboratory components. i>clickers are available in the bookstore

**Laboratory:** Laboratory manuals are available in the bookstore

**Note:** Laboratory classes start during the week of September 12th. Laboratory attendance is mandatory, and a passing mark in the laboratory portion is required in order to obtain credit for the course

**Lecture Notes:** Notes will generally be made available on the CourseSpaces site prior to lectures. Notes are arranged by topic, and a single topic may span multiple lectures. **Lecture notes are not complete**, and students will be responsible for all materials covered in the lectures.

**Video Lectures / Tutorials:** Lectures may be delivered in video format on the course CourseSpaces site. It will be your responsibility to watch these prior to the scheduled class. Scheduled class time for these lectures will be used as a tutorial session with a question/answer period, sample problems and a participation-only quiz

## **MICR200A LEARNING OBJECTIVES**

- Students will gain insight into historical events that initially identified microbes. Processes used to establish the role of microbes in important processes such as disease will also be examined and students will be able to compare these methods to modern techniques utilized in the field of microbiology.
- The major structural components of bacteria, archae and eukaryotes will be described. Utilizing this information, students will be able to compare the structures between these organisms, and rationalize why they have evolved specific adaptations.
- Conditions for growth of microbes, both in natural and laboratory settings will be examined. Students will demonstrate the ability to apply this knowledge to both identify and classify microbes. Additionally, students will learn to categorize microbes based on a variety of phenotypic and genotypic traits.
- Metabolic pathways will be described in the context of microbes, and compared to more complex systems, particularly humans. The suitability of using bacteria as a model organism for higher order eukaryotic organisms will be appraised.
- Students should be able to describe the basics of virion structure, virus replication, viral gene regulation and the difficulties of making anti-viral drugs and vaccines for example viruses such as polio, flu, HIV and phage.
- The laboratory component of the course will introduce basic microbiology techniques. By completion of the course, students will be capable of performing aseptic technique, as well as isolating, visualizing and identifying microbes.

### **Tentative Class Schedule:**

<b>topic</b>	<b>instructor</b>	<b>dates</b>	<b>textbook chapters</b>
1) <b>Introduction</b> <b>-history</b> <b>-visualization</b> <b>-structure</b>	Briant	Sept. 08 – 26	1 – 2
<b>MIDTERM 1</b> <b>( 19% final grade )</b>		Thursday., Sept. 29	
2) <b>Nutrition and Growth</b> <b>-general intro to growth</b> <b>-culture media</b> <b>-morphology and replication</b> <b>-controlling microbial growth</b>	Briant	Oct. 03 – Oct. 06	3, 5, 20, 27
3) <b>Metabolism</b>	Briant	Oct. 13 – Oct. 27	3, 13
<b>MIDTERM 2</b> <b>( 19% final grade )</b>		Monday, Oct. 31	
4) <b>Diversity of Microbes</b> <b>-phylogeny</b> <b>-microbe classification</b>	Briant	Nov. 03 – Nov. 17	12 – 15
5) <b>Viruses</b>	Upton	Nov.21 – Dec. 01	TBA

### **Important dates and evaluation:**

EVALUATION	Date
19% midterm exam 1	<i>in class</i> Thursday, September 29
19% midterm exam 2	<i>in class</i> Monday, October 31
19% final exam	<b>2 hours, set by registrar</b>
40% laboratory	<b>based on laboratory components (reports, quizzes, laboratory exam etc.). See lab manual for grading details</b>
3% lecture participation (requires i>clicker)	<b>≥80% class participation, 3%</b> <b>≥70% class participation, 2%</b> <b>≥60% class participation, 1%</b> <b>&lt;60% class participation, 0%</b>  <b>* participation is measured by response to i&gt;clicker questions in lecture</b>

- Students are responsible for ensuring that they are properly registered in the course.
- Students are expected to have met all pre/co-requisites for the course (see above).

### **Conversion of marks to final letter grades:**

The total mark, calculated from the marks on all of the exams according to the weighting scheme above, will be converted to a percentage and then to a letter grade in the following way:

<b>A<sup>+</sup></b>	90 - 100	<b>B<sup>+</sup></b>	77 - 79	<b>C<sup>+</sup></b>	65 - 69	<b>F</b>	< 50
<b>A</b>	85 - 89	<b>B</b>	73 - 76	<b>C</b>	60 - 64	<b>N **</b>	< 50
<b>A<sup>-</sup></b>	80 - 84	<b>B<sup>-</sup></b>	70 - 72	<b>D</b>	50 - 59		

#### **\*\* N grades**

Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade:

- **\*\*both midterms and the final exam must be completed in order to complete the course \*\***

Failure to complete one or more of these elements will result in a grade of “N” regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student’s GPA as 0. The maximum percentage that can accompany an N on a student’s transcript is 49

### **DEPARTMENT INFORMATION AND POLICIES**

1. The Department of Biochemistry and Microbiology upholds and enforces the University's policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times unless being used for a purpose relevant to the class. Students having a cell phone, tablet, or computer on their person during an exam will be assumed to have it for the purpose of cheating.
3. Any recordings of lectures may only be performed with written permission of the instructor, and are for personal use only. The instructor retains copyright to such recordings and all lecture materials provided for the class (electronic and otherwise); these materials must not be shared or reposted on the Internet.
4. Course materials, such as notes, problem sheets, quizzes, examinations, example sheets, or review sheets, may not be redistributed without the explicit written permission of the instructor.
5. Students are expected to be present for the midterm and final exams. Instructors may grant deferrals for midterm examinations for illness, accident, or family affliction, and students must provide appropriate documentation 48 hours after the midterm exam. The deferred exam must be written within five business days of the original exam. The Department of Biology considers it a breach of academic integrity for a student taking a deferred examination to discuss the exam with classmates. Similarly, students who reveal the contents of an examination to students taking a deferred examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Deferral of a final exam must be requested with an Academic Concession form and submitted directly to Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams for spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.
6. Multiple choice scan sheets for machine scoring (bubble sheets) are considered the authentic exam answer paper and will be retained by the department for 1 year.
7. Professors may refuse to review/remark exams not written in indelible ink. In addition, requests for review/remark of a midterm exam must be made within one week of the exam being returned. Students are expected to promptly pick up midterm exams after marking has been completed, either in class or from the instructor.
8. Examination papers that have pages removed, or are mutilated will not be marked.
9. I reserve the right to use plagiarism detection software or other platforms to assess the integrity of student work."