

Part 1: Course Information

Instructor Information

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Course Description

This is an introductory microbiology course for the health sciences. Thus, the focus will be on basic microbiological issues involving human health and wellbeing. We will deal with aspects of cell biology of importance to our understanding of microbial functions in health and disease, and then we will take a look at some aspects of public health and medical microbiology.

Course Duration

January 5th 2014 – April 7th 2014

Prerequisite

Nursing students

Textbook and Course Materials

Microbiology: An Introduction.11th Edition by Tortora, Funke and Case (required text).

Course Requirements

Internet connection
Access to *Desire 2 Learn (D2L)*

Course Structure

This course will be delivered in class and lectures and grades will be posted online through the course management system *Desire 2 Learn* delivery platform. You will need your user name and password information to login to the course from the *D2L* home page.

In *Desire2Learn*, you will access course materials and additional resources if required.

Technical Assistance

If you need technical assistance at any time during the course or to report a problem you can contact: mycourselink@lakeheadu.ca or CEDL office: cedl@lakeheadu.ca or Phone: (807) 346-7730.

Part 2: Course Objectives

This course is designed for you as a nursing student to understand the important roles microorganisms play in human health and well-being. Although well engrained in the minds of everybody, including health care professionals that microbes are harmful, they are more beneficial than detrimental to us.

To really appreciate how microbes affect our health, you need to understand the basic biology of microorganisms, including microbial anatomy, physiology, growth, genetics, and metabolism. This core knowledge is what will lead you to recognize microbes as etiologic agents of disease, their mechanisms of pathogenicity, modes of spread, sensitivity to chemotherapy and resistance to some antimicrobial agents.

You will meet these course objectives by thoroughly studying the various chapters (spending at least 3 hours per week on each chapter), preparing for each exam/quiz, and contributing to discussions as necessary.

Use the study objectives and questions in the power point presentations, as well as questions at the end of each chapter as a guide to test your comprehension of the contents in the chapter. Additional resources may also be provided in each module. Please enjoy microbiology by challenging yourself!!!

BIOL 2713 2015: INTRODUCTION TO MICROBIOLOGY
COURSE SYLLABUS

Part 3: Course Outline

- **Important Note:** Refer to the course calendar for specific information. Activities and assignments will be explained in detail within each week's corresponding learning module as required. Pay attention to important dates and times. If you have any questions, please contact me. The lecture schedule may change depending on the progress of the course, but exam dates are fixed.

Week	Topic	Readings Chapters	Exam Date
1	The microbial world and you	1	
2	Functional anatomy of prokaryotic and eukaryotic cells	4	
3	Microbial growth and control	6 & 7	
4	Midterm Exam 1 Microbial genetics	8	Jan 26th
5	Biotechnology and DNA technology Classification of microorganisms	9 10	
6	The prokaryotes: domains bacteria & archaea The eukaryotes: fungi, algae, protozoa & helminths	11 12	
7	Winter break		
8	Viruses, viroids and prions Principles of disease and epidemiology	13 14	
9	Midterm Exam 2 Microbial mechanisms of pathogenicity	15	Mar 2nd
10	Innate immunity Adaptive immunity	16 17	
11	Practical applications of immunology & disorders of the immune system Antimicrobial drugs	18 & 19 20	
12	Midterm Exam 3 (optional) Microorganisms and disease	21-26	Mar 23rd
13	Group presentations		
14	Review		
	Final Exam		TBD

Grading Policy

Graded Course Activities

Description	Percentage Points
Midterm Exams – either a) the 2 highest marks of all 3 exams taken or b) the marks of the first 2 midterms	45%
Group presentation	10%
Quizzes	5%
1 Final Exam	40%
Total Points	100

Evaluation of Group Presentation

Groups of 4 – subjects (organisms) will be given

Duration should be 8 minutes with 2 minutes for questions. In addition to the presentation, each group will submit 5 multiple choice questions with answers. Some of these questions will become part of the final exam.

Look to include: reservoir, vector, transmission, infective dose, life cycle of organism (if applicable), incidence of disease, prevalence of disease, symptoms of infection (and stages of disease), diagnosis, and treatment. Information should be referenced - any style, just be consistent - but Wikipedia can **only** be used as a starting point. Acceptable websites include recognized health organizations (e.g. Ministry of Health, Health Canada, World Health Organization, etc.) and other government sites. If you're unsure of whether or not a certain site can be used as a reference, please ask.

Criterion 1: Contribution of group members (1 out of 10)

Were all group members contributing to the presentation?

Criterion 2: Presentation (6 out of 10)

All students present in class will be asked to select the statement most appropriate for the presentation by the group

- A. Information is presented in logical sequence which audience can follow AND it was fun and/or really interesting. Group gives strong, well-defined information, includes more than one format (i.e. text, graphics, graphs, tables etc.) and includes relevant, accurate, specific details that explain or support the information
- B. Information presented in logical sequence which audience can follow. Group gives clear information with appropriate, substantial details to explain/support the information.
- C. Audience has difficulty following presentation because there was too much jumping from one topic to another. The group's information is definite, but rather general. Some support for the information is offered.
- D. Audience cannot understand presentation because there is no sequence of information. Some information given which does not seem to directly relate to topic; only vague ideas are presented in disorganized pieces.

The responses from the class and the instructor's evaluation will determine the mark for criteria 1 and 2.

Criterion 3: Multiple Choice Questions (3 out of 10)

Instructor will assign the marks for the quality of MC questions.

Note: **All exams will be multiple-choice questions**

Viewing Grades

You will be notified when grades are ready to be viewed

Course Policies

Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let me know as soon as possible. As you will notice, building rapport and effective relationships are both key to becoming an effective professional. Make sure that you are proactive in informing me when difficulties arise during the semester so that I can help you find a solution.

Welcome and have fun with microbiology!!!