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**BIOL 2713 2016: INTRODUCTION TO MICROBIOLOGY  
COURSE SYLLABUS**

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## **Part 1: Course Information**

### **Instructor Information**

Ms. Karen Giffin  
Contract Lecturer  
Department of Biology  
Lakehead University  
Contact e-mail: [kgiffin@lakeheadu.ca](mailto:kgiffin@lakeheadu.ca)

I do not have a public office on campus, but I am more than happy to arrange to meet with students as a group or as individuals if you have any questions regarding the material or tests. Please just send me an email and we can arrange something together.

### **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 4<sup>th</sup> 2016 – April 5<sup>th</sup> 2016

### **Prerequisite**

Nursing students

### **Textbook and Course Materials**

Microbiology: An Introduction, 12<sup>th</sup> 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.

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**Technical Assistance**

If you need technical assistance at any time during the course or to report a problem you can contact: [mycourselink@lakeheadu.ca](mailto:mycourselink@lakeheadu.ca) or CEDL office: [cedl@lakeheadu.ca](mailto: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!!!

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**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	Chapters	Exam Date
Jan. 4	The microbial world and you Functional anatomy of prokaryotic and eukaryotic cells	1 4	
Jan. 11	Microbial growth and control	6 & 7	
Jan. 18	Microbial genetics Biotechnology and DNA technology	8 9	
Jan. 25	<b>Midterm Exam 1 (required)</b> The prokaryotes: domains bacteria & archaea	11	<b>Jan. 25</b>
Feb. 1	The eukaryotes: fungi, algae, protozoa & helminths Viruses, viroids and prions	12 13	
Feb. 8	Principles of disease and epidemiology Microbial mechanisms of pathogenicity	14 15	
	<b>Winter break</b>		
Feb. 22	Innate immunity Adaptive immunity	16 17	
Feb. 29	<b>Midterm Exam 2 (required)</b> Practical applications of immunology & disorders of the immune system	18 & 19	<b>Feb. 29</b>
Mar. 7	Antimicrobial Drugs Microbial diseases of the skin and eyes & microbial diseases of the nervous system	20 21 & 22	
Mar. 14	Microbial diseases of the cardiovascular and lymphatic systems & microbial diseases of the respiratory system	23 & 24	
Mar. 21	<b>Midterm Exam 3 (optional)</b> Section WA - Microbial diseases of the digestive system Section WB - No class for the rest of the week (Good Friday)	25	<b>Mar. 21</b>
Mar. 28	<b>No class Monday Mar. 28 (Easter Monday)</b> Section WA - Microbial diseases of the urinary and reproductive systems Section WB - Microbial diseases of the digestive system & <b>*REPORTS DUE BY 5pm FRIDAY APR. 1*</b>	26 25	<b>Reports Due Apr 1.</b>
Apr. 4	Section WB - Microbial diseases of the urinary and reproductive systems Exam Review – Section WA on Monday, Section WB on Tuesday(make-up day for loss of Good Friday)	26	
	Final Exam		<b>TBD</b>

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## **Part 4: Grading**

### **Graded Course Activities**

<b>Description</b>	<b>Percentage Points</b>
Midterm Exams* – either a) the 2 highest marks of all 3 exams taken or b) the marks of the first 2 midterms	45%
Group report	15%
1 Final Exam	40%
Total Points	100

**\*the first two midterm exams MUST be written**

**N.B.** No make-up tests will be permitted without submission of official documentation of a reason for the missed test (i.e. doctor's note, death of a family member, car accident). If the test is missed due to extremely poor weather conditions, that will also be acceptable. **You must contact me within 48h of the missed test to make arrangements to submit the required documentation and reschedule the test.**

## **Evaluation of Group Report**

Individuals will be **assigned** to groups near the beginning of the semester and the subject (organism) will be given at approximately the same time.

Acceptable information sources: journal papers, books (including text), journal paper reviews, some websites. Acceptable websites include recognized health organizations (e.g. Ministry of Health, Health Canada, Centers for Disease Control, 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, you should ask. WebMD and Wikipedia are NOT acceptable sites to use as references, but can be a great place to start. Use of incorrect source material will result in a loss of marks from the final grade.

Information must be referenced - any style, just be consistent. APA or Harvard Anglia may be the simplest to use.

The paper should be 12pt Times New Roman and double-spaced.

All individuals are expected to fully participate in the preparation of the report.

Papers must be submitted electronically in rich text format (.rtf) to [kgiffin@lakeheadu.ca](mailto:kgiffin@lakeheadu.ca) by the expected deadline. Late submissions will be docked 10% per day.

**Plagiarism will result in a grade of zero for the assignment and will be reported.**

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**Report Rubric**

Report Section	Expectations	Grade Points
Introduction	<ul style="list-style-type: none"><li>• Quality overview of paper's content</li></ul>	/4
Body	<ul style="list-style-type: none"><li>• Minimum 4000 words (maximum 5000)</li><li>• DOES NOT include references, headings or figures</li><li>• Look to include (at least): reservoir and vector (if applicable), method of 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.</li></ul>	/18
Conclusion	<ul style="list-style-type: none"><li>• Summarization of main findings, identification of future research directions/requirements</li></ul>	/2
Bibliography	<ul style="list-style-type: none"><li>• Appropriate quality and number of sources</li><li>• Consistent and correct format</li></ul>	/3
Style/Formatting	<ul style="list-style-type: none"><li>• Title page</li><li>• Page numbers</li><li>• Grammar</li><li>• Spelling (particularly organisms)</li><li>• Flow of text</li><li>• Language use</li></ul>	/3
Total		/30

**Viewing Grades**

You will be notified when grades are ready to be viewed.

**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!