Department of Biology Course Outline

SC/BIOL 2900 3.0 Clinical Microbiology for Nurses
Fall 2018

Course Description

An introductory course in medical microbiology designed for nursing students. Topics include: structure/function relationships of viruses, bacteria and fungi; physical and chemical control of microbial growth; human/microbe interactions; immunology; major infectious diseases of humans; epidemiology and public health.
Course credit exclusions: SC/BIOL 2905 3.00, SC/BIOL 3150 3.00, SC/BIOL 3150 4.00. Note: Not eligible for biology credit towards a Biology/Biochemistry program. Not open to students who have taken SC/BIOL 3150 3.00 or SC/BIOL 3150 4.00.

Prerequisites

Entry in the collaborative Nursing program.

Course Instructors and Contact Information

Course Instructor: Dr. Paula Wilson
Contact Email*: Please consult the Moodle Course Website
Office Hours: Please consult the Moodle Course Website

**Please use the posted email for all course-related correspondence, and refer to email policy in course policy section below before sending an email.*

Schedule

Section A: Monday 14:30-17:30 SLH D

Evaluation

Course Activities*	15%
Midterm Test 1	20%
Midterm Test 2	25%
Final Exam	40%

***Course Activities** are varied and designed to support your learning. If used properly, they can be a huge help to keep you on track and up to date with text readings, and to help you understand the material, identify what you do not understand, and improve your learning. I use evidence-based teaching strategies, which means you do activities that research has shown are effective for improving and supporting your learning.
Online reading quizzes each week encourage you to do the readings, help you recall what you have read, and prepare you for the week's lectures.
In-class "iclicker" questions and other in-class activities give you opportunities to recall your knowledge, help you remember information, learn from your peers, test your understanding, identify areas where you need to invest more time studying, and keep you engaged.

The activity grade includes points earned from all of the above activities.

- Each reading quiz question is worth one mark. You must get the correct answer to receive each mark.
- Each iClicker question is worth 1 mark. Normally (unless otherwise indicated) you receive 1 mark for each multiple choice question answered, regardless of whether your answer is correct or not. For Short Answer questions, you get 1 mark provided a sincere effort to answer it has been made. Writing "I don't know", "Not Sure", or nonsense will not earn a point.
- The value of other activities will be provided during lecture.

To calculate the activity grade, the lowest 20% of in-class questions/quizzes (including zeroes) will be dropped from your grade, to account for an occasional missed class (due to illness or other reasons) or for a forgotten/malfunctioning electronic device. So don't worry if you miss a class or forget a quiz, and no need to contact me – the lost points will fall into the 20% that will be dropped.

Note: Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.

Important Dates

Midterm Test 1* October 15
Midterm Test 2* November 12
**Test dates are subject to change and will be confirmed after start of class.*

FINAL EXAM: Dates/times/rooms for exams are scheduled and published by the Registrar's Office

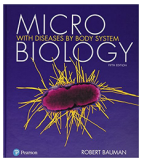
Last Day to drop the course without receiving a grade: November 9, 2018
Course Withdrawal Period to receive "W" on transcript: November 10 - December 4, 2018

NOTES:
For additional information on withdrawing from a course refer to http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/

For additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at http://registrar.yorku.ca/enrol/dates/

Resources

Textbook



Microbiology with Diseases by Body System 5th Edition (2018), by Robert Bauman, Pearson Publishing

Mastering Microbiology
Online learning tool that comes with the purchase of your text or may be purchased separately.

Personal response system – via your own mobile device or computer
iClicker Polling System: Please see Moodle Website for details regarding how to create an account.
Note: part of your in-class activity grade will be from iClicker questions.

Course Moodle Site
http://moodle.yorku.ca

Learning Outcomes

Students who complete the course successfully should be able to

- Describe and distinguish among the major groups of micro-organisms (including bacteria, archaea, eukaryotes) and acellular infectious agents (viruses , viroids, prions), and their roles in human health and disease.
- Describe the importance of the human microbiome to human health, illustrating key concepts with specific examples.
- Describe general characteristics of and requirements for microbial growth.
- Explain and evaluate different modes of controlling microbial growth using physical, chemical and pharmaceutical methods. Identify which form of growth control is most appropriate for a given context.
- Describe, and illustrate with examples, the biological basis of antibiotic resistance. Discuss the impact of resistance in the medical setting, and potential solutions.
- Describe how microorganisms infect their host, cause disease and are transmitted, using common human pathogens as examples.
- Explain what epidemiology is and the role of nurses in the epidemiology of microbial infection.
- Explain the general principles of innate and adaptive immunity.
- Use terminology associated with medical microbiology correctly and appropriately in the work environment.
- For several infectious diseases in humans, identify the pathogen, and in general terms describe its biology, mode of infection and transmission, how it causes disease, symptoms, treatment and prevention.
- Effectively communicate fundamental microbiological concepts to peers, patients and the general public.
- Work effectively and collegially with others in the class setting.

Course Content

Lecture Topics will include

1. Introduction to Course
2. Micro-organisms: types, cell structure and function, identification
3. Viruses and Prions: structure and function
4. Microbial Growth and Anti-microbial Agents
5. Bacterial Genetics, Evolution and Antibiotic Resistance
6. Infection, Transmission, Epidemiology
7. Immune System – Innate and Adaptive Immunity
8. Immunization and Vaccination
9. Common Infections/Emerging Infectious Diseases

A detailed Lecture Outline and topic-specific learning outcomes will be available on the Moodle Course Website.

Experiential Education and E-Learning

Experiential Learning:

- Case Studies

E-Learning:

- Moodle Website
- Online quizzes (lecture and lab)
- iClickers in the classroom
- Mastering Microbiology

Other Information

Mastering Microbiology is an electronic learning system provided by the publisher. We will be using Mastering Biology for "post-lecture" review/knowledge reinforcement. These activities will not be included in your final grade, but rather are there to support, improve and test your learning.

Details for registering in Mastering Microbiology will be made available on the course Moodle Website.

Course Policies

E-mail Policy

We will try to respond to email within two working days, but this is not always possible. We may also answer your question in the next class meeting or by course announcement if appropriate.
In order to ensure a prompt, useful response please follow these guidelines:

- Use your @my.yorku.ca email address. Email from other sources may be filtered out and not reach the intended recipient.
- SUBJECT LINE - Include the course code, **course section** and brief indication of topic. Example: BIOL2900**A** – question regarding final exam.
- Include your **name** and **student number** at the end of each message. Otherwise we don't know who you are and cannot really respond.
- You are in a professional environment – please use full sentences and proper grammar, beginning your message with "Dear …"
- Most of the answers to your questions are in this syllabus or on the website. Please consult both before emailing biol2900.

What to do for a Missed Midterm Exam

- You must email biol2900@yorku.ca within 48 hours of missing the test (the sooner the better) to alert us that you were unable to attend.
- Appropriate documentation for missing the test/exam must be uploaded to the Department of Biology Document Submission System within seven (7) days of the missed test (retain originals until end of course). The link to the document submission system is http://science.apps01.yorku.ca/machform/view.php?id=84113. Documentation should cover the date of the missed test/exam.
    - For medical issues: You **must see a physician while you are ill - within 24 hours of the missed test** – ideally on the same day - so that the physician can confirm you are too ill to attend the test based on medical examination. If you see the physician when you are no longer ill, he/she cannot confirm the illness and we cannot accept the documentation. Valid documentation for medical situations consists of an "Attending Physician's Statement" from the registrar petitions package http://www.registrar.yorku.ca/petitions/academic/package or letter/document of similar detail. A note that simply says you were seen in the clinic will not be accepted.
    - For death of an immediate family member: death certificate or letter from the funeral director.
    - For other circumstances: Email biol2900@yorku.ca to determine the appropriate documentation required.
- If appropriate documentation is not provided within seven (7) days, a zero will be earned on the missed assessment.
- Not all situations can be accommodated - schedule confusion, sleeping in, missing the bus, personal endeavours (including a job), and busy lives are not considered acceptable reasons.

What to do for a Missed Final Exam

- If you miss the final examination you must submit a Deferred Standing Agreement Form (DSA), together with appropriate documentation (see above section), to the Course Director or the Biology Undergraduate Office. The course director may grant deferred standing or may request that you petition for deferred standing.
- The format of the deferred final exam may be different from the original final exam. It may include essay, short answer, multiple choice, or a mix of these options.

How to use the Discussion Forum

You are encouraged to participate in the online Moodle forum to discuss course concepts, organize study groups, and ask questions relating to microbiology. Please follow the following code of conduct when using the Moodle forum:

- Check to see if your question has already been posted.
- Use a clear, informative subject line.
- Post only material relevant to BIOL 2900
- Be respectful and professional, following the York University Student Code of Conduct http://www.yorku.ca/oscr/codeofrr.html and the Policy on Academic Honesty. Inappropriate posts will be deleted.
- If you notice any inappropriate threads please email biol2900@yorku.ca

Policy for Recording Lectures

Photographs or video recordings of any portion of the lectures (including slides) are not permitted. Images and material presented are subject to Canadian copyright law.

Audio recordings are permitted provided they are used **only** as a personal study aid. They may not be sold, passed on to others or posted online. The lectures are the intellectual property of the professor and cannot be distributed without permission. Lectures can only be recorded from your seat.

How to submit a Reappraisal Request

If you believe that a major course evaluation component (test/exam) was graded incorrectly, you may request a grade reappraisal for the work. For reappraisals you must submit a written rationale for the request that is based on academic grounds, together with the material to be regraded, to the Course Director within one week of the material being made available to you. If it is determined that you have provided sufficient academic grounds, the material will be regraded by the instructor.
Note: Regrading can result in the grade being raised, confirmed or lowered.

In order to be fair and consistent with regards to the entire class, individual grades are not negotiable. We cannot provide “extra credit” assignments.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.
There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students’ research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - http://www.yorku.ca/academicintegrity/

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.
Student's in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are

encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.
Additional information is available at the following websites:
Counselling & Disability Services - http://cds.info.yorku.ca/
Counselling & Disability Services at Glendon - http://www.glendon.yorku.ca/counselling/personal.html
York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

Religious Observance Accommodation
York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at
http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf (PDF)

Student Conduct in Academic Situations
Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/