

# Clinical Microbiology for Nurses

## BIOL2900, Fall 2012-3 Sections A and B

Clinical Microbiology for Nurses course is an introductory course in medical microbiology designed for nursing students. Upon completion of this course, students will have a general understanding of the different types of disease-causing pathogens, transmission of pathogenic microorganisms, host responses and how pathogens attempt to evade the body's immune system. The students will build a practical, patient-focused understanding of microbiology, allowing them to evaluate and accurately communicate with patients, their families, physicians and other members of the health care team in the interest of quality patient care.

**Note:**

- Not eligible for biology credit towards a Biology/Biochemistry program.
- Not open to students who have taken SC/BIOL 3150 3.00/3150 4.00.
- Course credit exclusions: SC/BIOL 2905 3.00, SC/BIOL 3150 3.00, SC/BIOL 3150 4.00.

**Prerequisite:**

Entry in the collaborative Nursing program

In order to be prepared for the course, students must be previously familiar with concepts related to "the central dogma" (DNA, RNA, proteins, phenotype) and understand cell structure and function. All of the above topics are in the curriculum of 4U biology (which is a prerequisite for the collaborative Nursing program). A good overview of these concepts can be found in the Bauman textbook: parts 1-8, pages 197-224 and Chapter 3. See also <http://ghr.nlm.nih.gov/handbook> and <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=cooper.TOC&depth=2>

The first quiz will be about the topics mentioned above.

## **Course Schedule and Location**

The course will be offered on Mondays (section A) or Wednesdays (section B) both at 2:30pm-5:30pm in LAS C.

**Note:** As both sections are full to the capacity of the lecture hall, you are required to attend only the lectures of the section you are enrolled in. The participation and quiz grades will be recorded only when you are attending the appropriate section.

## **The Course Team:**

Course Director: Dr. Motti Anafi

Office: Room 210, Farquharson Building

Teaching Assistant Section A: Nezeke Alli

Teaching Assistant Section A: Michael Fridman

Our Email: [biol2900@yorku.ca](mailto:biol2900@yorku.ca)

## **Office hours:**

Email to set up an appointment

## **The Course MOODLE web site**

To access Moodle, please follow the instructions below.

1. Go to: <http://moodle.yorku.ca>
2. Log in with your Passport York account.

Here you will find

- An updated course outline
- Optional reading
- The course wiki
- Forum
- Announcements
- Grades
- Assignment

Please note that in-class updates take precedence over the information in the course MOODLE web site. The course director is not responsible for the accuracy of the notes posted by students in the wiki/forum. The exam is not restricted to the material posted on wiki. If you have moodle-related questions, please direct them to UIT Client Services at 416.736.2100 x55800 or email [helpdesk@yorku.ca](mailto:helpdesk@yorku.ca).

Do not rely on the Wiki: take your own notes.

## Grading:

Please note that this information is subjected to in-class updates.

### Mid-Term Exam 1 (on lectures 1-5) 20%

Date for section B\*: Wednesday, October 17, 2012 @ 4:00pm

Date for section A\*: Monday, October 22, 2012 @ 4:00pm

Location: TBA

### Mid-Term Exam 2 (on lectures 1-8) 20%

Date for section A\*: Monday, November 12, 2012 @ 4:00pm

Date for section B\*: Wednesday, November 14, 2012 @ 4:00pm

Location: TBA

### Assignment 15%

Details are provided on the course moodle.

### Final Exam (on lectures 1-12) 30%

Date and place: will be published by the registrar's office.

### Activities Total 15%

Contribution to the wiki 3%

Discussion in the forum 3%

Participation 4%\*\*

Quizzes (in class) 5%\*\*

**\*Each mid-term exam is only for the students enrolled in the relevant section. Students enrolled in section A must to write their mid-terms on Mondays and students enrolled in section B must to write them on Wednesdays, as indicated above. You are not allowed to stay in the class of the other section during their mid-term exams. Any exposure to the exam taken by the other section will be treated as a violation of academic honesty rules. All the exams and tests are cumulative (you need to know all the material from the beginning of the course).**

\*\* For participation and quizzes: the grade will be calculated out of your best 80%. So for these two components of the grade you have 20% buffer. This accounts for a missed class (e.g. due to illness or other reasons), coming late to class (after the quiz or after the attendance was taken), etc.

## Required textbook:

Microbiology, with Disease by Body System by Robert Bauman.

You can get the 3<sup>rd</sup> edition in YorkU bookstore. However, in general, any edition is fine. Many copies can be found in Steacie Library. My general recommendation is to use the texts as auxiliaries to the lecture material. Read the indicated chapter and check the index of the text for the relevant material as covered in class.

## Recommended Readings:

1) Free online resources on the moodle.

2) Use the search box in <http://www.ncbi.nlm.nih.gov/sites/entrez?db=Books> with keywords specified in class and in the course moodle web site.

3) Other possible textbooks:

- Microbiology: A Human Perspective by Nester.
- Microbiology: Principles and Explorations by Black.
- Any "Microbiology" text you can find in the library (there are quite a few over there) is likely to be a good reference.

## Course Outline

### Part 1: Introduction

Tips on studying for the course  
Emerging infectious diseases

### Part 2: Medical Bacteriology

Structure/function of bacteria  
Disinfection and antisepsis  
Antibacterial agents and bacterial resistance  
Diversity of microorganisms  
Epidemiology and public health

### Part 3: The Immune System

Basic concepts in immunology  
The specific immune response  
Immunization and vaccination

**Part 4: Human Virology**

Structure/function of viruses

HIV: epidemiology, treatment complications and prevention

Human Papilloma Virus: epidemiology and prevention

Influenza: seasonal and pandemic flu

Prions: structure and function

**Part 5: Pathogenic eukaryotic microbes**

Pathogenic fungi in AIDS

Human malaria

Leishmaniasis: causes, incidence, and risk factors

**Tips on studying for this course:**

- For the exams, you must know and understand the material presented in the lectures.
- The online resources (to be specified on the moodle) and textbooks can help students consolidate and expand their understanding of the material. However, much of the online resources and textbooks will not be covered in class. For the exams you are NOT expected to know material from the online resources and textbooks which has not been covered in the lectures.
- Students need to attend all lectures in order to do well in the course. The discussions in class are critical for the understanding of the material. The centre of the course is the lectures. It is your responsibility to attend lectures as my multimedia presentations will not be provided outside the classrooms.
- The material presented in the lectures and other components of the course such as tests and exam have been developed from a large variety of resources, including websites, textbook supplements and the material mentioned above.
- In general, it is best that a student who was unable to attend a lecture borrow the relevant notes from a classmate. You may also wish to check the course moodle website for additional relevant material. Here, you can find an updated course outline and many on-line resources. In addition, you can use the course wiki. Furthermore, you have my permission to use an audio tape-recorder in class (or to arrange with a classmate to do it for you).
- I will usually be available before/after each lecture to address individual questions. If you need to speak with me out of class, please send me an email to set an appointment.

## Tests and Exams

Attendance for all exams is mandatory. Exams missed on the ground of medical circumstances must be supported by an Attending Physician's Statement, which can be downloaded from:

[http://www.yorku.ca/rkenedy/courses/petitions/attending\\_physician\\_statement.pdf](http://www.yorku.ca/rkenedy/courses/petitions/attending_physician_statement.pdf), or a statement by a psychologist or counsellor. Students are NOT expected to disclose the nature of the illness. The document must specify:

- 1) date of consultation
- 2) contact information (e.g. phone number of the hospital; legible name of the health provider) that would allow verification of the document
- 3) a statement that the student would not have been able to attend class (or carry out activities) during the relevant period of time

The documentation must be dated on the same day as the exam or earlier, or it will not be accepted. The Course Director must be notified by email within 24 hours in the case of a missed test or exam. Appropriate documentation must be submitted to the Course Director within one week after the test or exam. **No opportunities to make up missed mid-term exams will be offered. However, after acceptable justification for a missed exam has been received, the percentage value of the missed mid-term will be added to the final exam. If the final exam is missed, the student must petition the Registrar for permission to write the final exam.**

## Emailing the Course Director

All e. mails should be sent to [biol2900@yorku.ca](mailto:biol2900@yorku.ca). Your email will be read and answered as soon as possible. However, I will open only e-mails that fulfill the following requirements:

- Your email must be sent from your regular yorku.ca email account (<https://mymail.yorku.ca/> - not from the moodle server). Do not use non-yorku.ca accounts (such as hotmail or gmail). Emails from non-yorku.ca accounts will likely languish in a spam folder that is checked only intermittently.
- Be sure to include your full name and student number in your email text.
- Your email must include "BIOL/2900 section A" or "BIOL/2900 section B" in the subject line
- Your email must NOT include an attachment (unless the attachment is your assignment).

## **Accommodations**

Students who feel that there are extenuating circumstances that may interfere with the successful completion of their exams or other course requirements are encouraged to discuss their concerns with the Course Director as soon as possible.

Students with physical, learning or psychiatric disabilities who require reasonable accommodations in teaching style or evaluation methods should discuss the matter with the Course Director early in the term so that appropriate arrangements can be made.

## **Cheating and Plagiarism**

Cheating and plagiarism are major academic offences and carry serious penalties, ranging from a failing grade on the work in question to expulsion from the university. For more details about cheating, see York University's academic dishonesty policy at the following link:

[http://www.yorku.ca/secretariat/policies/document.php?document=69#\\_To\\_c89156096](http://www.yorku.ca/secretariat/policies/document.php?document=69#_To_c89156096)

## **FAQs: Copyright and You (from YorkU Web site)**

**"1.Q Can I include copyrighted content in a class presentation without permission of the rights holder?"**

Answer:

Yes, if you stay within the limits of the Copyright Act. The educational exceptions allow you to

- "make a manual reproduction of a work onto a dry-erase board, flip chart or other similar surface intended for displaying handwritten material, or"
- "make a copy of a work to be used to project an image of that copy using an overhead projector or similar device"

The display must be on campus, there can be no commercial version available that is appropriate for that use and you are not able to distribute copies in either paper or electronic form.

**2.Q Can I post that same presentation on my Course website?**

Answer:

No, the educational exceptions do not allow you to distribute copies in either paper or electronic form."

**Important Dates:**

- Last day to ENROL without requiring the permission of the Course Director is Sept. 19, 2012.
- Last day to ENROL even with the permission of the Course Director is Oct. 2, 2012.
- Co-Curricular Days: Oct. 31-Nov. 4, 2012
- Last day to DROP the course without a grade being submitted is Nov. 9, 2012.

**Disclaimers**

The information presented in the lectures is provided for educational purposes only, and should not be considered as a medical advice.