Clinical Microbiology for Nurses
BIOL2900 3.0, Fall 2009-10

Clinical Microbiology for Nurses course is an introductory course in medical microbiology designed for students entering nursing. 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 immune system. The students will build a practical, patient-focused understanding of microbiology allowing him/her 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.
- Preference in enrolment will be given to students in the Second Entry Nursing Program.
- Not open to students who have taken SC/BIOL 3150 3.0/4.0

Course Schedule and Location
The course will be offered on Wednesdays 2:30pm-5:30pm in CLH K.

Prerequisite: Students are expected to have completed 6 credits in a life science course (BIOL, KINE, Biology-related NATS, etc). If you are missing the prerequisite for BIOL2900 you need to read and sign the “Enrolling in course without prerequisite declaration form” (last page of the course outline). Please, bring the signed form to class by the third lecture.

Furthermore, 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 to be familiar with the cell structure and function (see http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=cooper.TOC&depth=2, parts 1-8, and pages 197-224 and chapter 3 in the Bauman textbook).
Course Director
Dr. Motti Anafi
Room 018, Farquharson Building
E-Mail: moanafi@yorku.ca

Office hours:
E-mail to set an appointment

The Course MOODLE web site
To access Moodle, please follow the instructions below.
1. Go to: http://moodle.yorku.ca
2. Click on '2009-10'
3. Log in with your passport York account.

Here you will find
- An updated course outline
- Keywords used in the lectures
- Announcements
- Grades
- Wiki
- Chat room

Please note that in-class updates take precedent 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. The exam is not restricted to the material posted on Wiki.

Grading:
Mid-Term Exam 1 25%
- Date: Wednesday, Oct 21, 2009 @ 2:30pm
- Location:
  Last name A-K in CLH H
  Last name L-Z in CLH K

Mid-Term Exam 2 25%
- Date: Wednesday, Nov 18, 2009 @ 2:30pm
- Location:
  Last name A-K in CLH H
  Last name L-Z in CLH K
Final Exam 50%
Date and place: will be published by the registrar office
Please note that this information is subjected to in-class update.

Recommended Readings:
1) Free online resources as specified in below.


3) If you want to use a hardcopy you can try:
   • Microbiology, by Robert Bauman. Any edition is fine. Many copies can be found in Steacie Library. If you wish, you can buy a used one from students which took BIOL2900 or NATS 1670 with me in the past.
   • 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 (+optional reading)

Part 1: Introduction
   Tips on studying for the course
   Emerging infectious diseases
   http://www.learner.org/channel/courses/biology/support/5_infect.pdf
   http://www.merck.com/mmpe/sec14/ch167/ch167h.html
   http://emergency.cdc.gov/bioterrorism/

Part 2: Medical Bacteriology
(A lot of material at:
   2) http://books.google.com/books?id=CbLLoo0Vq6EC&printsec=frontcover&dq=microbiology&source=gbs_similarbooks&s&cad=1#v=onepage&q=&f=false
   3) http://books.google.com/books?id=L6OClwb08LwC&printsec=frontcover&dq=microbiology&source=gbs_similarbooks&s&cad=1#v=onepage&q=&f=false
   4) http://gsbs.utmb.edu/microbook/oe.htm)

Structure of bacteria
   http://gsbs.utmb.edu/microbook/ch002.htm
Bauman Chs. 3, 4, 5, 6, 11

**Bacterial genetics**
- [http://gsbs.utmb.edu/microbook/ch005.htm](http://gsbs.utmb.edu/microbook/ch005.htm)

Bauman Ch. 7

**Antibacterial agents and bacterial resistance**
- [http://gsbs.utmb.edu/microbook/ch011.htm](http://gsbs.utmb.edu/microbook/ch011.htm)

Bauman Chs. 9-10

**Diversity of microorganisms**
- [http://www.learner.org/channel/courses/biology/support/4_microb.pdf](http://www.learner.org/channel/courses/biology/support/4_microb.pdf)

**Infection, infectious diseases and epidemiology**
- [http://gsbs.utmb.edu/microbook/ch007.htm](http://gsbs.utmb.edu/microbook/ch007.htm)
- [http://www.cdc.gov/excite/classroom/intro_epi.htm](http://www.cdc.gov/excite/classroom/intro_epi.htm)
- [http://gsbs.utmb.edu/microbook/ch009.htm](http://gsbs.utmb.edu/microbook/ch009.htm)

Bauman, Ch. 14

**Part 3: The Immune System**

A lot of reading material at:

5. [http://books.google.com/books?id=vPzFWC38CUUC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=&f=false](http://books.google.com/books?id=vPzFWC38CUUC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=&f=false)
7. [http://books.google.com/books?id=iYjnou9uz0sC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=&f=false](http://books.google.com/books?id=iYjnou9uz0sC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=&f=false)
8. [http://books.google.com/books?id=EntAv1hn_quC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=Immunology&f=false](http://books.google.com/books?id=EntAv1hn_quC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=Immunology&f=false)
9. [http://books.google.com/books?id=Mn8cJk0jO9kC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=Immunology&f=false](http://books.google.com/books?id=Mn8cJk0jO9kC&printsec=frontcover&dq=Immunology&source=gbs_similarbooks_s&cad=1#v=onepage&q=Immunology&f=false)

**Basic concepts in immunology**
- [http://gsbs.utmb.edu/microbook/ch001a.htm](http://gsbs.utmb.edu/microbook/ch001a.htm)
- [http://virology-online.com/general/Immunology.htm](http://virology-online.com/general/Immunology.htm)

**The specific immune response**
- [http://gsbs.utmb.edu/microbook/ch008.htm](http://gsbs.utmb.edu/microbook/ch008.htm)
Part II

Bauman Ch. 15-16

Vaccination

http://www.cdc.gov/vaccines/
http://virology-online.com/general/vaccines.htm#Vaccines

Bauman Ch. 17

Part 4: Human Virology

A lot of reading material at:

http://gsbs.utmb.edu/microbook/toc.htm (scroll to the middle of the page)
http://virology-online.com/general/index.htm

Full textbooks in virology on line

1) http://books.google.com/books?id=5O0somr0w18C&pg=RA1-PA331&lpg=RA1-PA331&dq=virus+host+equilibrium+balance&source=bl&ots=FpoAk7U68v&sig=jRQHgZW6-
   3TOrWSn0bpXACVfrXc&hl=en&ei=sE6JSpW4Bsi7tgfu19TnDA&sa=X&oi=book_result&ct=result&resnum=7#v=onepage&q=virus%20host%20equilibrium%20balance&f=false
2) http://books.google.com/books?id=b3YeUchtDy4C&printsec=frontcover&dq=virus+host+equilibrium+balance&source=gbs_similarbooks_s&cad=1#v=onepage&q=&f=false
3) http://books.google.com/books?id=_uTEiZFRLFAC&printsec=frontcover&dq=virus+host+equilibrium+balance&source=gbs_similarbooks_s&cad=1#v=onepage&q=virus%20host%20equilibrium%20balance&f=false

Structure/function of viruses

http://gsbs.utmb.edu/microbook/intoviro.htm
http://gsbs.utmb.edu/microbook/ch041.htm

Viral replication strategies

http://gsbs.utmb.edu/microbook/ch042.htm
http://virology-online.com/general/Replication.htm

Sexually transmitted infections

http://www.learner.org/channel/courses/biology/support/6_hiv.pdf
http://www.cdc.gov/hiv/
http://www.cdc.gov/std/hpv/default.htm

Infections of the respiratory system
Infections of the gastrointestinal system

http://www.hepb.org/hepatitisbcd/modules/infectd/id450101/id459101g.html
http://gsbs.utmb.edu/microbook/ch070.htm
http://gsbs.utmb.edu/microbook/ch063.htm

Bauman Ch. 24

Chemotherapy

http://gsbs.utmb.edu/microbook/ch052.htm
http://virology-online.com/general/Chemotherapy.htm

Bauman Ch. 10

Tips on studying for this course:

- For the exams, you must know and understand the material presented in the lectures.

- You are NOT expected to know material from the online resources and textbooks which has not been covered in the lectures.

- The online resources 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, and other material that will be covered in class will not be discussed in the above reading material. Hence, it is important to attend the lectures, and, in addition, to read the readings related to each topic as it is covered in the course.

- Use the texts as auxiliaries to the lecture material, not the other way around.

- Students who miss a lecture are expected to borrow the relevant notes from a classmate and to study the corresponding chapter in the online resources and textbooks. It is your responsibility to attend class as lecture notes will not be provided.
• The material presented in the lectures and other components of the course such as tests and exam have been developed from large variety of resources, including web sites, textbook supplements and the material mentioned above.

• I shall usually be available before/after each lecture to address individual questions.

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/legislation/senate/acadhone.htm

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, 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.

Students which are interested to view their exams are requested to set an appointment with the course TA Mathew (E. mail mgd123@yorku.ca).

Sending e-mail to the Course Director
Your e-mail will be read and answered as soon as possible. However, I will open only e-mails that fulfill the following requirements:

- Your e-mail must be sent from your yorku.ca email account (not from hotmail, gmail etc.) - 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 e-mail must include “BIOL/2900” in the subject line
- Your e-mail must NOT include an attachment.

Important Dates:
- Last day to ENROL without requiring the permission of the Course Director is Sept. 24.
- Last day to ENROL even with the permission of the Course Director is Oct. 9.
- Last day to DROP the course without a grade being submitted is Nov. 6.
Enrolling in course without prerequisite declaration form

Course: BIOL2900

By signing this form, I acknowledge the following:

a) I am missing the prerequisite for this course.
b) I am aware that I am likely to be missing some of the background that it is assumed all students in the course have.
c) I am aware that additional work will probably be required in order to make up for the lack of prerequisite(s).
d) I understand that it is my responsibility to monitor my performance in the course, especially before the last date to drop the course.
e) I understand that I cannot use the fact that I lack a prerequisite as grounds to drop the course after the drop date.
f) I understand that lacking the prerequisite(s) is liable to have a negative impact upon my performance in the course.
g) I accept that the course director is not obliged to explain any material covered in the prerequisite course in class, nor in discussions concerning tests and/or assignments.
h) I understand that in order to be prepared for the course, I must be previously familiar with concepts related to "the central dogma" (DNA, RNA, proteins, phenotype) and to be familiar with the cell structure and function. I will study these subjects on my own by the second week of the course.

Name (please print):

Student number:

Signature:

Date:

Please note that a copy of this form will be kept in the student file and supplied to appropriate faculty members and/or committees if requested.