Introduction to Medical Microbiology  
BIOL2905 3.0, Summer 2015

This course is intended as an introduction to clinical microbiology for students interested in nursing or other health-related fields. 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 student will build a practical, patient-focused understanding of microbiology.

There are additional skills nursing students are expected to gain from a science course such as microbiology. From The Essentials of Baccalaureate Education for Professional Nursing Practise, liberal education should provide the professional nurse with the ability to:

• Develop and use higher-order problem-solving and critical thinking skills;
• Integrate concepts from behavioural, biological, and natural sciences in order to understand self and others;
• Interpret and use quantitative data; and
• Use the scientific process and scientific data as a basis for developing, implementing, and evaluating nursing interventions.

Prerequisite:
At least 30 credits towards a degree program; 6 credits from the following: SC/BIOL 1000 3.00, SC/BIOL 1001 3.00, SC/BIOL 1010 6.00; SC/NATS 1610 6.00, SC/NATS 1650 6.00, SC/NATS 1660 6.00, SC/NATS 1670 6.00, SC/NATS1675 6.00, SC/NATS 1680 6.00, HH/KINE 2011 3.00, HH/KINE 2031 3.00; or permission of the instructor. For such permission you must to read and to sign the last page of this course outline and to bring a copy of the signed page to the course director by the second week of the course.

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 topics related to the cell structure and function.
All of the above topics are part of all prerequisite mentioned above. A good overview of these concepts can be found in the Bauman textbook. For free resources see http://ghr.nlm.nih.gov/handbook and http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=cooper.TOC&depth=2.

**Course credit exclusion:**
SC/BIOl 2900 3.00, SC/BIOl 3150 3.00, or SC/BIOl 3150 4.00.

**Note:** Not eligible for Biology credit towards a Biology or Biochemistry program.

**Course Schedule and Location**
The course will be offered on Tuesdays 6:30-9:30pm in TEL 0001

**Course Director**
Dr. Motti Anafi
E-mail: moanafi@yorku.ca
Room 108, Farquharson Building
Office hours: E-mail to set an appointment

**Course TA Markers:**
TBA

**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://emergency.cdc.gov/ bioterrorism/
Bauman: Check the index

**Part 2: Medical Bacteriology**
(A lot of material at:
1) http://www.ncbi.nlm.nih.gov/books/NBK7627/
2) http://www.textbookofbacteriology.net/index.html

**Structure of bacteria**
Bauman Chs. 3, 4, 5, 6, 11 (Check the index)
Bacterial genetics
Bauman Ch. 7

Antibacterial agents and bacterial resistance
http://www.merck.com/mmpe/sec14/ch170/ch170a.html
Bauman Chs. 9-10

Diversity of microorganisms
http://www.learner.org/channel/courses/biology/support/4_microb.pdf

Part 3: The Immune System
A lot of reading material at:
1) http://www.ncbi.nlm.nih.gov/books/ (use the search box)
2) Bauman Ch. 15-17

Basic concepts in immunology
http://virology-online.com/general/Immunology.htm

The specific immune response
Bauman Ch. 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://virology-online.com/general/index.htm
Bauman: Check the index

Structure/function of viruses
http://virology-online.com/general/Replication.htm
http://www.cdc.gov/std/hpv/default.htm

HIV: epidemiology, treatment and prevention
http://www.learner.org/channel/courses/biology/support/6_hiv.pdf
http://www.cdc.gov/hiv/
Bauman Ch. 18

Influenza: epidemiology, complications, treatment and prevention
http://www.cdc.gov/h1n1flu/
http://virology-online.com/general/Outbreak3.htm
Grading:
Please note that this information is subjected to in-class update.

Test 1
Topic: Parts 1-2: Introduction and Medical Bacteriology
25% of the final grade of the course
Date: June 30, 2015 @ 6:30-8:00pm
Location: TBA

Test 2
Topic: Part 3: The Immune System (+cumulative)
25% of the final grade of the course
Date: July 28, 2015 @ 6:30-8:00pm
Location: TBA

Final Exam
Topic: Part 4: Human Virology (+Cumulative- everything we covered)
20% of the final grade of the course
Date: Aug 11, 2015 @ 6:30pm (last class)
Location: TBA

Quizzes: 30%
Time: anytime during class time

Contribution to the wiki 2% (bonus)

All the exams and tests are cumulative (you need to know all the material from the beginning of the course).
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 and quizzes 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 you missed a quiz, the percentage value of the missed quiz will be added to the final exam (but no justification will be required for a missed quiz). If the final exam is missed, the student must petition the Registrar for permission to write the final exam.

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

Here you will find
- An updated course outline
- Wiki
- Forum
- Announcements
- Grades

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. If you have technical Moodle-related questions, please direct them to UIT Client Services at 416.736.2100 x55800 or email helpdesk@yorku.ca.

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

1) If you want to use a hardcopy the recommended textbook for the course is: Microbiology, by Robert Bauman. Any edition is fine. Many copies can be found in Steacie Library.

If you want to buy a new textbook I arranged for you a special package in YorkU bookstore. Package Title: Microbiology with Current Issues Vol 2 RVP ISBN 0133968553. The price of this package should be around $150 (instead of ~$221 the regular price)

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

2) Free online resources as specified below and under each chapter.


Tips on studying for this course:
- For the exams, you must know and understand the material presented 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. 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 center of the course is the class. 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 large variety of resources, including web sites, textbook supplements and the material mentioned above.

- In general, in those unique circumstances, 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 with many on-line resources. In addition, you can use the wiki of the course. 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 shall 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 e. mail to set an appointment in my office.

**Sending e-mail to the TAs and Course Director**

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

- Your e-mail must be sent from your registered yorku email account
  - Do not use the Moodle server messages or non-registered yorku accounts (such as personal Hotmail etc.).
  - E-mails from non-yorku accounts will likely languish in a spam folder that is checked only intermittently.
- Your e-mail must include “BIOL/2905” in the subject line.
- Be sure to include your full name and student number in your e-mail text.
- Your e-mail must NOT include an attachment.
Important Dates for SU2015
- May 18: Victoria Day
- May 19: SU Classes Start
- June 2: Last day to ENROL without requiring the permission of the Course Director.
- June 16: Last day to ENROL even with the permission of the Course Director.
- July 1: Canada Day
- July 13: Last day to DROP the course without a grade being submitted.
- July 21-24: Summer Break
- August 3: Civic Holiday
- August 18, 20, 22, 23: Study days
- August 19: SU classes end

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

Copyright Policy
The Copyright policy of the course is according to the Copyright policy of York University.

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 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... 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.”

Disclaimers
The information presented in the lectures is provided for educational purposes only, and should not be considered as a medical advice.
Enrolling in course without prerequisite declaration form

Course: BIOL2905

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.