Department of Biology Course Outline

SC/BIOL 2905 3.00 Introduction to Clinical Microbiology
SU 2017

Learning Outcomes

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-focussed 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.

Prerequisites

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.

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.

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 Instructor and Contact Information

Dr. Motti Anafi
E-mail: moanafi@yorku.ca
Office hours: E-mail to set an appointment

TA marker: TBA

Schedule

Course Schedule and Location

The course will be offered on Tuesdays 6:30-9:30pm in SLH A

Evaluation

Mid-Term Exam 1 25%

Date: Tuesday, June 27, 2017
Time: 8:00pm
Location: TBA

Mid-Term Exam 2 25%

Date: Tuesday, July 11, 2017
Time: 8:00pm
Location: TBA

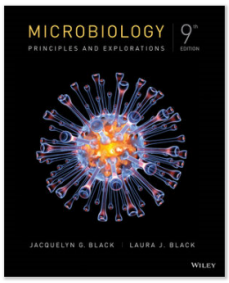
Final Exam 50%

Date and location: will be published by the registrar office.

Important: It is your responsibility as a student to ensure that you are available to sit for examinations during the entire exam period for the term corresponding to your course (Aug 2-11). We strongly recommend that you do not make any travel arrangements prior to the end of the term's examination schedule.

Resources

Optional textbook:



Microbiology: Principles and Explorations, 9th Edition

Jacquelyn G. Black, Laura J. Black
August 2015, ©2015

Two options:

1) The paperback version of the Black book: ISBN 9781119285489 in YorkU bookstore (~$143 + tax)
2) ebook registration card: ISBN 9781118934807 in YorkU bookstore for(~$93.50 + tax)

Other Recommended Readings:

1) Free online resources on the course outline.

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, by Robert Bauman. Any edition is fine. Many copies can be found in Steacie Library.
- Any “Microbiology” text you can found in the library (there are quite a few over there) is likely to be a good reference.

Course Content

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/

Black: 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

Black Chs. 3, 4, 5, 6, 11 (Check the index)

Bacterial genetics

Black Ch. 7

Antibacterial agents and bacterial resistance

http://www.merck.com/mmpe/sec14/ch170/ch170a.html

http://www.cdc.gov/drugresistance/

Black Ch. 13

Diversity of microorganisms

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

Black: Check the index

Part 3: The Immune System

A lot of reading material at:

1) http://www.ncbi.nlm.nih.gov/books/ (use the search box)
2) Black Ch. 16-18

Basic concepts in immunology

http://www.merck.com/mmpe/sec13/ch163/ch163a.html

http://virology-online.com/general/Immunology.htm

http://www.merck.com/mmpe/sec13/ch163/ch163b.html

The specific immune response

Black Ch. 17

Vaccination

http://www.merck.com/mmpe/sec14/ch169/ch169a.html

http://www.cdc.gov/vaccines/

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

Black Ch. 17

Part 4: Human Virology

A lot of reading material at:

http://www.merck.com/mmpe/sec14.html

http://virology-online.com/general/index.htm

Black: Ch. 10

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/

Black Ch. 20, 23

Influenza: epidemiology, complications, treatment and prevention

http://www.cdc.gov/h1n1flu/

http://virology-online.com/general/Outbreak3.htm

http://www.cdc.gov/flu/?s_cid=internal6

http://www.who.int/csr/disease/influenza/en/

Black Ch. 21

Important Dates

Important Dates: For updates check http://www.registrar.yorku.ca/enrol/dates/su17

	SU
Classes start	May 1
Last date to add a course without permission of instructor	May 15
Last date to add a course with permission of instructor	May 29
Last date to drop course without receiving a grade	July 7
Study Day	July 25-28, 30 Aug. 1
Course End Date	July 31
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see the Add and Drop Deadline Information below)	July 8-31
Examinations	Aug. 2-11

Experiential Education and E-Learning

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

Please note that the course director's announcements on the Moodle and in-class updates take precedence over any other 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 technical Moodle-related questions, please direct them to UIT Client Services at 416.736.2100 x55800 or email helpdesk@yorku.ca.

Other Information

Tips on studying for this course:

- For the exams, you must know and understand the material presented in the lectures.
- The online resources (specified in the course outline) 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 lectures. It is your responsibility to attend lectures as my multimedia presentations will not be provided outside the classrooms. Do not rely on the Wiki: take your own notes.
- 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.

Course Policies

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 the registrar's office web site, 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. All approved deferred exams will be consisting of short-answer questions (no multiple-choice).

If you are not happy with your grade you can send an e. mail to the course director (moanafi@yorku.ca) with a formal remark request. In this case the entire short answer section of the test will be remarked by the course director. The new mark (The same, higher or lower) will be used for final grade calculation. In general, as a built-in correction, I add 1-2 buffer points to your grade in order to reduce the effect of any possible problems related to the short answer question section of the exam. If buffer point/s were added they are included on your original grade posted on the Moodle. If buffer points to the short answer portion were added, in the case of remarking by the course director, the buffer points will not be included.

Emailing the TAs and Course Director

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

- Your email must be sent from your regular yorku.ca email account (**not from the moodle server**). Do not use non-yorku.ca accounts (such as hotmail or personal gmail). Emails from non-yorku.ca accounts or from the Moodle 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/2905" the subject line
- Your email must NOT include an attachment.

Copyright Policy at York University (Q & A from YorkU Web site)

"**1. Q Can I (the instructor) 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."

Disclaimers

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

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/

Ethics Review Process

York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants.* In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

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/