

Department of Biology Course Outline

SC/BIOL 2900 3.00 Clinical Microbiology for Nurses Fall 2016-7

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.

Prerequisites

Entry in the collaborative Nursing program. 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.

Course Instructors and Contact Information

- Course Director: Dr. Motti Anafi: Office: Room 108, Farquharson Building

Office hours:

Email to set up an appointment

Our Email: biol2900@yorku.ca . Use only this Email adress.

Schedule

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, you are required to attend only the lectures of the section you are enrolled in.

Evaluation

Mid-Term Exam 1 (on lectures 1-6) 25%

- **Date for section B*:** Wednesday, Oct 19, 2016
 - **Location:** LAS A
 - **Time:** 2:30pm
 - **Duration:** 60 minutes
- **Date for section A*:** Monday, Oct 24, 2016
 - **Location:**
Last name A to N- in LAS C
Last name O to Z in VH D
 - **Time:** 4:00pm
 - **Duration:** 60 minutes

Mid-Term Exam 2 (on lectures 1-9) 25%

Date for section A*: Monday, Nov 14, 2016

- **Location:**
Last name A to N- in LAS C
Last name O to Z in VH D
- **Time:** 4:00pm
- **Duration:** 60 minutes

Date for section B*: Wednesday, Nov 16, 2016

- **Location:** LAS A
- **Time:** 2:30pm
- **Duration:** 60 minutes

Final Exam (on lectures 1-12) 50%

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

***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).

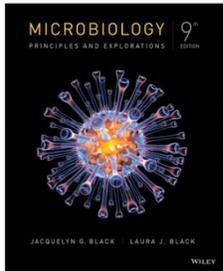
Important Dates

- Sept. 8, 2016: Fall Classes Start
- Sept 21, 2016: Last day to ENROL without requiring the permission of the Course Director.
- Oct. 27-30, 2016: Fall Reading Days
- Oct.5, 2016: Last day to ENROL even with the permission of the Course Director.
- Nov. 11, 2016: Last date to drop courses without receiving a grade
- Dec. 5, 2016: Fall classes end
- Dec. 7-22, 2016 Fall examinations

NOTE: for additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at <http://www.registrar.yorku.ca/enrol/dates/fw16>

Resources

Required textbook: Black Microbiology



Microbiology: Principles and Explorations, 9th Edition

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

Two options for Black Microbiology:

- 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)

My general recommendation is to use the texts as auxiliaries to the lecture material. Read the indicated chapter and check the index of the textbook 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, with Disease by Body System by Robert Bauman.
 - Any "Microbiology" text you can find in the library (there are quite a few over there) is likely to be a good reference.

Learning Outcomes

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.

Course Content

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 prerequisite for BIOL2900). A good overview of these concepts can be found in the Black Microbiology textbook: chapter 7 and Chapter 3. See also <http://ghr.nlm.nih.gov/handbook> , <http://publications.nigms.nih.gov/insidethecell/> and <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=cooper.TOC&depth=2> .

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 Microbiology: 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 Microbiology Chs. 3, 4, 5, 6, 11 (Check the index with keywords)

Bacterial genetics

Black Microbiology Ch. 7

Antibacterial agents and bacterial resistance

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

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

Black Microbiology Ch. 13

Diversity of microorganisms

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

Black Microbiology: 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 Microbiology 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 Microbiology Ch. 17

Immunization and vaccination

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

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

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

Black Microbiology 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 Microbiology: Ch. 10

Basic concepts in human virology

<http://virology-online.com/general/Replication.htm>

<http://www.cdc.gov/std/hpv/default.htm>

Black Microbiology: Ch. 10

HIV: epidemiology, treatment and prevention

http://www.learner.org/channel/courses/biology/support/6_hiv.pdf

<http://www.cdc.gov/hiv/>

Black Microbiology 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 Microbiology Ch. 21

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 (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 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 consist of short-answer questions (no multiple-choice)**

Rules for viewing term tests:

The tests/exams of BIOL2900 are evaluation tools, not a teaching tool.

If you are interested to view your exam and to compare it against the key, you must to send an e-mail to the TA of your section by two week after the day the grades were posted on the Moodle. Every session will be up to 20 minutes for viewing the test and to compare it against the detailed key. During test viewing sessions the regular examination rules will apply. If after you viewed your exam against the written key, you feel that you deserve more marks you can send an e. mail to the course director (Attn: Dr. Anafi) 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 some buffer points to your grade in order to reduce

the effect of any possible problems related to marking 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

All e. mails must be sent only to biol2900@yorku.ca . 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/2900 section A” or “BIOL/2900 section B” in 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/spark/academic_integrity/index.html

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.

Students 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-counselling/what-is-counselling/>

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

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-and-or-harassing-behaviour-in-academic-situations-senate-policy/>