

BIOL 472/41: Virology

BIOL 685/01: Advanced Topics in Microbiology/Virology

3 credits

Summer 2016 (Tues /Thurs 10:15am-1:00 pm)

Location: CC-305

Instructor: Andrew Wieczorek, PhD

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Office hours: Mon/Wed 1:00pm-2:00pm (or email to set up an appointment)

Prerequisite: BIOL 226, BIOL367

Course description: The life cycles of viruses are discussed with emphasis on the molecular basis of their entry into, reproduction in, and exit from host cells. These life cycles are related to the pathogenicity of different groups of viruses to provide an understanding of the variety of viral diseases. Lectures only.

Topics covered

1. Introduction to Virology
2. Virus Structure and Assembly
3. Virus Classification
4. Virus entry
5. Positive-strand RNA viruses
 - i. Picornaviruses
 - ii. Flaviviruses
6. Negative strand & double-strand RNA viruses
 - i. Filoviruses
 - ii. Influenza viruses
 - iii. Reoviruses
6. DNA viruses
 - i. Polyomaviruses
 - ii. Papillomaviruses
 - iii. Adenoviruses
 - iv. Herpesviruses
7. Retroviruses
 - i. HIV
 - ii. Hepadnaviruses (TBD)
8. Antiviral agents and virus vectors
 - i. Antiviral Vaccines
 - ii. Viral vectors (TBD)

Attendance at all lectures is **very strongly** encouraged, and students are expected to **participate fully** in all activities. Students who miss in-class evaluations or assignments will not be able to receive corresponding grades for such activities and assignments. Not all assignments will be announced ahead of time. Please inform the instructor **at the beginning of the term** of any difficulties, physical or learning disabilities that you may have or as soon as possible in the case of an injury, so that you can be accommodated.

Grading and tentative schedule:

1. Midterm (date TBA) 20%
2. Presentation 15%
3. Academic Literature Review 15%
4. Mini-assignments, quizzes, in-class assignments, 10%
5. Final exam (cumulative) 40%

Total: 100%

Student Presentations

Each group of students will give a 20 minute presentation on original research articles. Presentations should include: the background behind the research, important figures demonstrating findings, and a conclusion. 5 minutes will be reserved for questions from peers.

Student Academic Literature Review

Each student will be required to pick a topic of their choosing within the realm of virology and write a 5-page double spaced (8 pages for BIOL685 students) literature review on the topic. A minimum of 4 peer-reviewed scientific articles should be used as the basis for the information discussed in the review.

Grading scheme: A+=90-; A=85-89; A-=80-84; B+=77-79; B=74-76; B-=70-73; C+=67-69; C=64-66; C-=60-63; D+=57-59; D=54-56; D-=50-53; F=<50

The mid-term test and the final exam will comprise multiple choice answer questions and questions requiring short essay type answers.

Text from which figures are derived (unless otherwise specified): Custom Edition of Fundamentals of Molecular Virology, Second Edition by Nicholas Acheson, Wiley publishing. (available on reserve at the Library)

Course Materials:

Lectures, Powerpoint presentations, Guest lectures, .pdf summaries of content, academic articles and academic reviews.

Rights and Responsibilities:

<http://provost.concordia.ca/academicintegrity/plagiarism/>

Other:

- Cellular phones should be turned off and put away.

Disclaimer: "In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change".

The most common offense under the Academic Code of Conduct is plagiarism which the Code defines as **"the presentation of the work of another person as one's own or without proper acknowledgement"** (Article 16a).

This could be material copied word for word from books, journals, internet sites, professor's course notes, etc. It could be material that is paraphrased but closely resembles the original source. It could be the work of a fellow student, for example, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased through one of the many available sources. Plagiarism does not refer to words alone - it can also refer to copying images, graphs, tables, and ideas. "Presentation" is not limited to written work. It also includes oral presentations, computer assignments and artistic works. If you translate the work of another person into French or English and do not cite the source, this is also plagiarism. If you cite your own work without the correct citation, this too is plagiarism.

In Simple Words:

DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT SAYING FROM WHERE YOU GOT IT! DON'T FORGET TO USE QUOTATION MARKS!

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List of Student Services

<http://www.concordia.ca/info/currentstudents/studentservices/>

- **Concordia Counselling and Development:** <http://cdev.concordia.ca/> (offers career services, psychological services, student learning services, etc.)
- **The Concordia Library Citation and Style Guides:** <http://library.concordia.ca/help/howto/citations.html>
- **Advocacy and Support Services** <http://supportservices.concordia.ca/>
- **Student Transition Centre** <http://stc.concordia.ca/>
- **New Student Program** <http://newstudent.concordia.ca/>
- **Access Centre for Students with Disabilities** <http://supportservices.concordia.ca/disabilities/>
- **Student Success Centre** <http://studentsuccess.concordia.ca/>
- **The Academic Integrity Website** <http://provost.concordia.ca/academicintegrity/>
- **Financial Aid & Awards** <http://web2.concordia.ca/financialaid/>
- **Health Services** <http://www-health.concordia.ca/>