

BIOL4610 - VIROLOGY

Spring 2016 (WEB)

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Office hour: Mondays and Wednesdays 10:30-12:00 noon (by phone)

COURSE DESCRIPTION

An introduction to the fundamentals of virology, with an emphasis on viral structure, molecular biology, viral replication, host defence against viral infection and pathogenesis, as well as diagnosis, control and prevention of infection.

PREREQUISITE: Knowledge on cell biology and basic molecular biology.

TEXTBOOK: *Basic Virology*, 3rd ed. by E. K. Wagner, M.J. Hewlett, D.C. Bloom, and D. Camerini. 2008, Blackwell. ISBN10: 1405147156.

GRADING:

Grade for the course is calculated based on results of 6 quizzes and 2 tests.

Weekly quizzes covers course material of each week, worth 12% each

Test 1: covers the first 3 weeks' course material, worth 14%

Test 2: covers the last 3 weeks' course material, worth 14%

LECTURE NOTES AND VIDEO

Lecture notes and a video production of the notes are available at the course D2L site "Course content".

HOW TO STUDY FOR QUIZZES AND TESTS?

1. Memorize basic facts, specifics because it is easier to think broadly and deeply about texts and ideas if you have material ready in mind to think with.
2. Make notes for key concepts and terms.
3. Discern associated concepts by comparison (for commonality) and contrast (for differences)
4. Relate concepts vertically by finding order of a process.

5. Write down answers for study questions rather than going through the answer in mind.
6. Marking your text and notes with Post-Its for quick access, etc.

INFORMATION ON QUIZZES AND TESTS

- All quizzes and tests are conducted online.
- **If you encounter technique problems that disables the completion of the quiz/test, you should contact the distant learning office for help, the number is 807-346-7730.** (suggestion: copy this number somewhere you have handy access in case internet connection problem)

1. Question Format:

Questions in each quiz and test may be in a variety of formats – multiple choice, true/false, match-up, ordering, short essay etc.

2. Marking and Grading

Step 1: automatic marking of questions of **multiple choice, true/false, match-up, ordering, fill in** by the computer against my answer key, so you will receive an immediate grade for these responses after submitting your answers.

- I also go over these responses as well in case there are any irregularities.
- Thus the **mark you receive *immediately*** after submitting your test is only part of your final mark on the test – it does not reflect the answers for any essay questions which will be marked manually.

Step 2: The answers for **short essay** questions are marked manually by me. The earned value of these answers will then be added to your final grade. This means your final mark on the test might well change a bit (i.e. go up) within a day or two after you finish the test.

3. Time Limit and Time Frame

Each quiz or test is strictly **time limited**, about 1 minute per point worth. Each quiz consists a number of questions worth a total points of 30 or less.

Each test consists a number of questions worth a total points of 60 or less.

Each quiz or test will **open** for student response from 12:01 AM - 11:59 PM ET of the designated date.

- Students may do their quiz/test at any point within this time frame – though the cut-off point is firm: do not leave the quiz/test until too late in the evening.
- This allows students to schedule their test when it will be best for them – e.g. before/after work, around elder/childcare, etc.
- **The tests are tightly time controlled to assess what you have learned - NOT what you can look up during the test time.**
- You may have time to look up a few answers, but the tight time constraint is designed to test what you have actually internalized -- learned, mastered -- during the course.
- You will not have time to look up very many answers during the test, so learn the material beforehand.

4. Allowable Materials

These tests are open-book, open-note, open-Internet.

- You are free to use any non-human resources available to you.
- That means you are not allowed to have someone else write your test, ask another person for the answers, etc.: that would constitute academic dishonesty.

5. Policy on missed quizzes/tests

- a. Missed quizzes and exams will receive a 0% grade. Students are expected to finish the quizzes and tests within the time frame of the respective designated date.
- b. The quiz/test dates are fixed and can only be moved in the most dire and documented circumstances. In situations where students miss quizzes or exams due to valid reasons for example:
 - serious illness
 - serious illness in the family
 - death in the family

The student is required to provide a formal documentation (Physician's Note, Death certificate, etc) to be given the opportunity for an alternative quiz or test at a later date.

6. Policy on test paper

The test papers and questions are not released to students as they are part of a larger test bank. However, we do have some options for reviewing the test together:

- a) If you had difficulties with individual questions or sections of the test, please outline these concerns as specifically as possible in an email, and I will be happy to address them. I can walk you through the problematic question(s), explain the expected response(s), and/or direct you to (online) resources that can help you with those matters.
- b) If you did not do as well as you had hoped and are unsure of what was problematic in your test, again email me, and I will review your test and provide you with a personalized summary of the skills/knowledge areas that need to be strengthened.
- c) Or, if you are local to Thunder Bay, you may also make an appointment to meet with me at the Lakehead University Chancellor Paterson library. We can go through your test together and review any problem areas.
- d) If that is not possible, call me (647-556-4451) during office hours (Mondays and Wednesdays 10:30-12:00 noon), and I will go over the test with you on the phone, stopping at each question you had difficulty with to review the issues and content you should revisit and/or the skills you should strengthen before the next test.

Please feel free to avail yourself of any of these options!

Also, know that I review the tests and class statistics after every test period. If there are questions that were problematic for a significant segment of the class, I go over the issues and content of those question(s) in an email that I then send to the class as a whole. That addresses any broad areas of difficulty.

LECTURE SCHEDULE (tentative)

Week 1 (May 2-8)

1. What is a virus?
2. Structure of viruses
3. Genomes and genetics

Quiz 1: Monday, May 9

Week 2 (May 9-15)

4. The infection cycle
5. Attachment and entry
6. RNA directed RNA synthesis

Quiz 2: Monday, May 16

Week 3 (May 16-22)

7. Plus RNA virus replication
8. Minus RNA virus replication
9. Small DNA virus replication

Quiz 3: Tuesday May 24

Week 4 (May 23-29)

Test 1: Wednesday May 25 (covers course material of the first 3 weeks)

10. Large DNA virus replication
11. Retrovirus replication

Quiz 4: Monday, May 30

Week 5 (May 30-June 5)

12. Assembly
13. Viral infection and consequences
14. Host defence- innate immunity

Quiz 5: Monday, June 6

Week 6 (June 6 -12)

15. Host defence- adapted immunity
16. Antivirals
17. Vaccines

Quiz 6: Monday, June 13

Test 2: To be announced (test on course materials covered after the midterm exam)