

MMBB 432/532
VIROLOGY
Syllabus for Fall Semester 2010

Lecture Meeting Time: T/R 8-9:15 AM TLC Room 032

Instructor: Dr. Lee Fortunato
LSS Rm 147 (office)/ Gibb Hall Rm 125/6 (lab)
lfort@uidaho.edu
office hours: T/Th 9:30-10:30AM or by appointment

Recommended Textbook: Principles of Virology: Molecular Biology, Pathogenesis and Control
Second Edition by Flint, Enquist, Krug, Racaniello and Skalka ASM Press copyright 2004

NOTE: There is a more current edition of this text available. It is quite a bit more costly and has not changed enough to warrant me recommending you buying it. I will utilize the newest version to update anything I feel is necessary. In addition, there is a copy of this latest (3rd) edition on reserve for our class in the library if you would like to take a look at it.

Grading for the class:

- a) Your final grade will primarily be determined by your performance on four exams:
Midterm #1 (Sept. 14th - in class) 20% (undergrads) 15% (grad students)
Midterm #2 (Oct. 7th - in class) 20% (undergrads) 15% (grad students)
Midterm #3 (Nov. 4th - in class) 20% for everyone
Final Exam (Dec. 9th - in class if everyone agrees!) 30% for everyone

The exams will be primarily short answer/essay type exams that will be designed to test your comprehension/understanding of the basics that we cover in class. I will provide practice exam questions and answers so that you will be able to prepare for this style of exam. Please let me know **AT LEAST 1 WEEK PRIOR** to a scheduled exam if you have a conflict with the time. I will be happy to arrange for you to take the exam at an alternate time. In addition, reasonable accommodations are available for students who have a documented disability. Please notify me during the first week of class of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through Disability Support Services in the Idaho Commons Building, Room 306, phone # 885-6307.

All exams will be graded on a curve, with the mean of the scores being the dividing line between a B and a C. One standard deviation above the mean is the dividing line between an A and a B, one deviation below the mean divides a C and a D. I will give you your mid-semester grades before drop date (which is Oct. 29 this year) so that you will be able to assess your situation accordingly.

- b) **10% of your grade** will be determined by attendance and in your participation in discussions during grad student presentations. **ALL CLASS MEMBERS ARE EXPECTED TO READ THE PAPERS FOR THESE DISCUSSIONS BEFORE COMING TO CLASS!** To ensure this, **EVERYONE** must turn in **THREE** original questions regarding some aspect of the paper **BEFORE** the presentation begins (more about this later). In addition, after each presentation, you will work in groups to answer questions

posed by the grad student presenters of the paper. Each group will answer one question at the end of the session.

c) For **grad students** in the class, **the final 10%** of your grade will be determined by your leading of one discussion section during class time. This will be a discussion of a paper in the current virology literature (last 6 months). You will be graded on your grasp and presentation of the material, your ability to lead a discussion of the topic and your production of a set of handouts for the class. In addition, you must come up with discussion questions for the breakout groups. These presentations will take place on Sept. 28th, Oct. 19th, and Nov. 18th (these dates may vary slightly).

Guest lecturer(s): We will have one (and maybe two) guest lecturers this semester. Dr. Allan Caplan will give us a lecture on bacteriophages on September 23rd. Dr. Tanya Miura *may* give us a lecture on the immune response to infection (if I can convince her!) sometime later in the semester (TBD).

Tentative list of topics to be covered in class (the order may change):

Topic	Chapter
1. General background/History of virology	1
2. Methods of detection	2
3. Virus classifications (the Baltimore scheme)	3
4. Viral structure (capsids/envelopes/packaging)	4
5. Virus receptors and entry into the cell	5
6. Review of general molecular biology and Overview of viral replication (co-opting the cellular machinery)	
7. Assembly/maturation/release from the cell	12-13
8. Modes of transmission/patterns of infection	16
9. General pathogenesis	14
10. The host immune response/ viral subversion of the host system	15
11. Vaccination and antiviral defenses	19
12. + strand RNA replication strategies	6
13. – strand RNA replication strategies	6
14. virus evolution, emerging viruses and interspecies transmission	20
15. Retroviruses (general strategies) and HIV/AIDS	7, 17
16. Viral transformation (small DNA viruses) and oncogenesis	18
17. large DNA viruses (lessons from HSV and CMV)	
18. viral vectors and gene therapy	2

Readings listed here are in your text. There will also be supplementary readings from primary literature or from other texts, which I will provide as needed.

Website: There is a blackboard website set up for class (MMBB 432-532 Virology). You should have all been added to the user list of this website. Please let me know if you have NOT been added.

This will have my slides as PDFs and the notes for each lecture. **I expect you to print these out and bring them to class with you.** It will also have PDFs of the papers the grad students will be presenting once they are chosen. Lastly, it will have sample exam questions for the different topics we will cover. In addition, I will try and make a more updated schedule of when topics will be covered as we go along. This will be flexible, as I will not rush through the material just to keep to a timetable! I want you to understand what's going on, no matter how long it takes!