Molecular Virology

UMDNJ-GSBS **MICR 5231**
Summer 2012

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Teaching assistant: Anca Selariu (selariai@umdnj.edu, 973-972-4483, ext. 2-3160)

Lecture time: 5:30-8:30 PM, Monday, Tuesday and Thursday

Lecture room: ICPH Auditorium (225 Warren St.)

Office hours: By appointment

Credits: 3

COURSE DESCRIPTION

This course includes lectures and student presentations based on recent research publications. The goal of this course is to introduce students to the basic principles of virus-host cell interactions and the molecular basis of viral pathogenesis. All important human viruses will be discussed, including papilloma, herpes, smallpox, polio, measles, West Nile, HIV, influenza, SARS and hepatitis viruses. Lectures cover viral structures; viral strategies of invasion, transcription, replication, and dissemination; viral offense and host defense; prevention and control of viral diseases; and approaches for studying viruses.

REFERENCE TEXTBOOK

PRINCIPLES OF VIROLOGY: Molecular, Biology, Pathogenesis, and Control of Animal Viruses, 3nd Edition, 2009 by Flint, Enquist, Racaniello and Skalka.

COURSE WEB SITE

All lectures will be posted on the web:
http://njmsmicro.umdnj.edu/index.php?option=com_wrapper&Itemid=75
Both User Name and Password to read the PDF files are "MOLVIR" (case-sensitive).

EXAMINATIONS AND GRADING

Students are responsible for and will be tested on all lecture contents and reading materials. Two exams, a midterm, and a final are scheduled. Each exam will stress the preceding block of lectures and readings. Students are required to complete all multiple-choice questions independently (closed book) in class. Make-up exams will only be given if the student has a valid excuse.

Midterm Exam:	40%
Final Exam:	50%
Readings:	10%

Grading scale:

90% and above:	A
85% to 89.9%:	B^+
80% to 84.9%	B
75% to 79.9%:	C^+
70% to 74.9%:	C
60% to 69.9%:	D
<60%:	F

READINGS

In addition to the research papers assigned and discussed in particular classes, two related papers will be distributed. Each student is required to write a maximum one-page summary. This summary should briefly describe the background, purpose of study, hypothesis, methodology, major findings, and conclusion. Discussions on problems the paper may have and on potential future experiments are encouraged. The summary must be typed with a 12-point Times New Roman font. This paper is due at the Final Exam. Points will be deducted from papers that are handed in late or are over the one-page limit.

SCHEDULE*

Course Coordinator: Hua Zhu, Ph.D.

Class #	Date	Day	Topic	Lecturer
1	5/29	Tue	Introduction to Virology	Whitehead
2	5/31	Thu	Approaches for Studying Animal Viruses	Zhu
3	6/4	Mon	Virus-Host Interaction, Vaccines and Antivirals	Zhu
4	6/5	Tue	Small DNA viruses (Parvo, Papova and Adenoviruses)	Lukac
5	6/7	Thu	Large DNA viruses (Herpes and Pox Viruses)	Zhu
6	6/11	Mon	Positive Strand RNA Viruses	Zhu
7	6/12	Tue	Non-segmented Negative Strand RNA Viruses	Zhu
8	6/14	Thu	***Midterm Exam***	Selariu
9	6/18	Mon	Retroviruses, HIV and AIDS	Whitehead
10	6/19	Tue	Segmented RNA Viruses/Influenza Viruses	Lukac
11	6/21	Thu	Hepatitis Viruses Slow and Unconventional Virus	Whitehead
12	6/25	Mon	Transformation and Oncogenesis Emerging and Reemerging viruses	Lukac Palmeri
13	6/26	Tue	Readings	Selariu
14	6/28	Thu	***Final Exam***	Selariu

**** Please note that the above information is subject to change.***