

# Molecular Virology

Rutgers GSBS MICR 5231  
Spring 2022 (May 31 – June 30)

**Instructors:** Hua Zhu, Ph.D. (zhuhu@njms.rutgers.edu, 973-972-4483-6488)  
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Teaching assistant: Dabbu Jaijyan (dkj28@njms.rutgers.edu, 862-298-1030)

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

**Lecture room:** Online or 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. Important human viruses will be discussed, including papilloma, herpes, smallpox, polio, measles, West Nile, Ebola, HIV, influenza, SARS, Zika, hepatitis viruses and COVID-19. 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.

## COURSE WEB SITE

All lectures are posted on Moodle:

<http://moodle.rutgers.edu/course/view.php?id=3371>

## COURSE RECORDING

We will try to record the lectures, but no guaranty.

## 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 <sup>+</sup>
80% to 84.9%	B
75% to 79.9%:	C <sup>+</sup>
60% to 74.9%:	C
<60%:	F

**READINGS**

(See distributed instruction)

**SCHEDULE\***

Course Coordinator: Hua Zhu, Ph.D.

<b>Class #</b>	<b>Date</b>	<b>Day</b>	<b>Topic</b>	<b>Lecturer</b>
1	5/30	Tue	Introduction to Virology	Whitehead
2	6/1	Thu	Approaches for Studying Animal Viruses	Zhu
3	6/5	Mon	Virus-Host Interaction, Vaccines and Antivirals	Zhu
4	6/6	Tue	Small DNA viruses (Parvo, Papova and Adenoviruses)	Lukac
5	6/8	Thu	Large DNA viruses (Herpes and Pox Viruses)	Zhu
6	6/12	mon	Positive Strand RNA Viruses	Zhu
7	6/13	Tue	Non-segmented Negative Strand RNA Viruses	Zhu
8	6/15	Thu	<i>Midterm Exam</i>	Zhu
9	6/19	Mon	<b>Reading (Take home – no meeting)</b>	Jaijyan
10	6/20	Tue	Segmented RNA Viruses/Influenza Viruses	Lukac
11	6/22	Thu	Retroviruses, HIV and AIDS Hepatitis Viruses & Slow and Unconventional Virus	Whitehead
12	6/26	Mon	Hepatitis Viruses & Slow and Unconventional Virus	Whitehead
13	6/27	Tue	Transformation and Oncogenesis Emerging and Reemerging viruses	Lukac Jaijyan
14	6/29	Thu	<i>Final Exam</i>	Zhu

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