

MCB5505 General Virology

Spring, 2026

Course Format: Online Asynchronous, 3 Credits

Instructor: Dr. Melissa Jones

Office: MCS building, room 1148

Phone: 352-392-5923

Email: Through Canvas

Dr. Jones will have office hours weekly on **Thursdays from 12-1pm** via Zoom. If you need to speak to Dr. Jones privately, send an email to schedule an appointment. When emailing to request an appointment, provide three potential days/times for the meeting, and Dr. Jones will select one and confirm the selected time. You must reply to the confirmation email to finalize the appointment. One-on-one meetings can be held in person or via phone or Zoom

Teaching Assistant

Names and email addresses can be found on the course Canvas page and in the announcement that designates TA assignments (which will be posted a few days after add/drop). Given the large size of this class, students will be assigned to a specific TA after the drop/add period. Please reach out to your TAs if you have questions about course content or material. TAs **cannot** provide extensions to exam or assignment due dates. All of those requests should be sent to Dr. Jones.

Course Description

This course is for graduate students and is designed to introduce you to the field of virology, and teach you the components of viruses, their replication strategies, and the human diseases caused by common and emerging pathogen. This course will also cover the importance of viruses in the maintenance of human health (e.g. the virome, gut homeostasis, and involvement in the development of non-viral disorders) and how viruses can be manipulated by scientists for the treatment of disease.

Course Learning Objectives

Upon completion of this course, you should have a solid knowledge of the basic characteristics of viruses and know the mechanisms of infection and replication for each type of viral genome. You should also be able to name pathogens belonging to each viral genome category and be able to describe the disease, infection, and transmission characteristics of these pathogens.

Course Overview and Purpose

As an online course, there will be a collection of modules that contain lectures, videos, podcasts, and written materials to be viewed by the student to facilitate learning of basic principles of virology. Students will be assessed through weekly quizzes, assignments, and examinations.

Course Prerequisites

Enrollment in a UF graduate program.

Textbooks, Learning Materials, and Supply Fees

Flint, S. J., Racaniello, V. R., Rall, G. F., Hatzioannou, T., & Skalka, A. M. (2020). Principles of virology: Volume 1 (5th Edition)

Students are allowed to use previous editions of the required text. However, it is the student's responsibility to find the corresponding text sections in older editions. Chapter and page designations will only be provided for the edition noted above. If you are interested in a thorough accessory textbook for referencing virology topics, Fields Virology is a wonderful resource. Field's Virology is NOT required. Print versions are quite expensive, but this text is available through the UF library online system. More details about the system are listed below and can be found on the course website.

Instructor Interaction Plan

Dr. Jones will interact with students in several ways. A primary method of communication will be through Zoom. Dr. Jones has weekly office hours that are at the same day and time each will. She will also have "pop-up" sessions that will be held every couple of weeks where the time and day of these sessions vary. Dr. Jones will also send regular announcements to communicate important concepts that should be focused on or important changes to the course or an assignment. **Please** check the announcements as they almost always have valuable information. Dr. Jones also has a FAQ Discussion Board for asking questions, and she is always available via email.

Required Technology & How to Obtain the Technology

Consistent with UF policy, students are expected to have ongoing computer and internet access. Late assignments will not be accepted due to technical errors or malfunctions. As a fully online course, this class requires each student to have access to a computer, a webcam (built into to most laptops), and a reliable internet source.

The Student Computing Requirements state: "The University of Florida requires all students to have continuous ongoing access to computer hardware and software appropriate to their degree program. Coursework in all degree programs requires the use of a computer and reliable high-speed internet connectivity. Activities related to student life including academic advisement, course registration, official university correspondence, use of library resources, and student financial affairs are predicated on access to a computer with internet connectivity." For more information, please see:

<https://policy.ufl.edu/policy/student-computing-requirements/>. A physical keyboard and pointing device are necessary; students should not rely entirely on a touchscreen device. Network connectivity is required, as is a working microphone (for required presentations). A webcam is required for proctored quizzes. Computing labs are available on campus at these locations <https://cals.ufl.edu/current-students/studentresources/computer-lab/>.

For exams, this class uses Honorlock and each student will need to use the Honorlock Google Chrome extension on their browser. Information on how to use Honorlock can be found in the orientation module in the class Canvas page. Honorlock is an online proctoring service that allows students to take exams on-demand 24/7. There are no scheduling requirements or fees. UF Online courses use proctoring for assessments worth 15% or more of the final course grade. A photo ID will be required to take the exams. A microphone may also be necessary.

Zoom will be used for office hours, "pop up" sessions, and one-on-one meetings. Dr. Jones will provide zoom links for each of these sessions.

Communication Guidelines

Questions regarding course material should be submitted to TAs or the FAQ board of the Canvas page. If those means of communication do not answer the question, then email Dr. Jones your question. Please email Dr. Jones directly for any matters specific to the student (e.g., illness). Dr. Jones typically responds to emails within 48 hours.

Class Demeanor/Expectations

Students should check Canvas regularly. Other than the first week of classes, weekly course material will open on Saturday. Students are encouraged to log in at the beginning of each week to review the weekly material and manage their time accordingly. Staying organized and proactive will set you up for success in this class.

Students are given 2-2.5 weeks to complete assignments after the assignment is opened. This is done to provide ample time to complete the assignments around your other coursework and life responsibilities. While Canvas marks “due dates”, I highly encourage you to view them as “final submission dates”. You are welcome to turn assignments in early and do not need to wait until they are “due”.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number.

The UF Helpdesk is available 24 hours a day, 7 days a week. <https://helpdesk.ufl.edu/> | 352-392-4357

Weekly Course Schedule

Week	Topic	Assessment	Due Dates
1 Jan 12	Virology Overview: <ul style="list-style-type: none"> ● Introduction to Viruses ● Virus Structure and Classification ● History of Viruses ● Viral Pathogenesis 	Syllabus Quiz Week 1 Quiz	open note, not graded - course content will not open until passed (80% or better) Due: 1/21
2 Jan 19	Overview of Viral replication: <ul style="list-style-type: none"> ● Infectious Cycle Overview ● Growth Cycle and MOI ● The Baltimore Scheme ● Viral Genomes ● Overview of RNA and DNA Genome Replication 	Week 2 Quiz	Due: 1/28
3 Jan 26	Viral Attachment and Entry: <ul style="list-style-type: none"> ● Overview of Viral Evolution ● Structure of Viral Particles ● Viral Attachment ● Viral Entry ● Viral Uncoating 	Week 3 Quiz	Due: 2/4

Week	Topic	Assessment	Due Dates
4 Feb 2	SS (+) RNA viruses: <ul style="list-style-type: none"> ● Replication of ss(+) RNA viruses ● Epidemiology and Disease of: <ul style="list-style-type: none"> • Norovirus • non-Polio Enteroviruses • Coronavirus • Dengue and ADE 	Week 4 Quiz EXAM #1 (Modules 1-3)	Due: 2/11 Window: 2/6-2/7
5 Feb 9	SS (-) RNA viruses: <ul style="list-style-type: none"> ● Replication of ss(-) RNA viruses ● Epidemiology and Disease of: <ul style="list-style-type: none"> • Influenza • Rabies • Measles • Ebola virus 	Week 5 Quiz	Due: 2/18
6 Feb 16	dsRNA viruses: <ul style="list-style-type: none"> ● Replication of dsRNA viruses ● Rotavirus Disease ● Blue tongue virus Disease 	Week 6 Quiz Class Assignment #1: Viral Pathogen PSA	Due: 2/25 Due: 3/4
7 Feb 23	Retroviruses and RT DNA viruses: <ul style="list-style-type: none"> ● History and replication of retroviruses ● HIV Infection ● Infectious cycle of retroviruses ● HIV disease and epidemiology ● Replication of gapped dsDNA viruses ● Hepatitis B Disease 	Week 7 Quiz	Due: 3/4
8 March 2	ssDNA and dsDNA virus replication: <ul style="list-style-type: none"> ● ssDNA virus replication ● Parvoviruses Disease ● dsDNA virus replication ● Herpes Infectious Cycle ● Pox Infectious Cycle 	Week 8 Quiz EXAM #2 (Modules 4-6)	Due: 3/11 Window: 3/12-3/13
9 March 9	dsDNA virus infection and disease: <ul style="list-style-type: none"> ● Persistent Viral Infection ● Disease of: <ul style="list-style-type: none"> • Herpes Simplex Viruses • Epstein Barr Virus • Varicella Zoster Virus 	Week 9 Quiz	Due: 3/25
****Spring Break****			
10 March 23	Oncogenic viruses and tumor virology: <ul style="list-style-type: none"> ● Cancer Biology 101 ● Cellular Transformation and cancer 	Week 10 Quiz Class Assignment #2: Viruses in the	Due: 4/1 Due: 4/8

Week	Topic	Assessment	Due Dates
	<ul style="list-style-type: none"> History of Oncoviruses Human papillomavirus Disease 	News	
11 March 30	Gene therapy and Oncolytic viruses: <ul style="list-style-type: none"> Introduction to gene therapy Engineering viruses to treat disease Adenoviruses and other viral vectors Oncolytic viruses 	Week 11 Quiz Class Assignment #3 Exam #3 (Modules 7-10)	Due: 4/8 Due: 4/15 Window: 4/3-4/4
12 April 6	Vaccines and antiviral medications: <ul style="list-style-type: none"> Viral vaccines Vaccines and Antiviral Drugs Hepatitis C Disease Influenza Antiviral Drugs 	Week 12 Quiz Extra Credit Assignment	Due: 4/22 Due: 4/22
13 April 13	Viruses of Microbes: <ul style="list-style-type: none"> Viruses of Bacteria and Phage Therapy The Microbiome The Virome The role of viruses in non-viral diseases: <ul style="list-style-type: none"> Enteric viruses and IBD Viruses and Type I Diabetes 	Week 13 Quiz	Due: 4/22
14 April 20	Exam 4	Exam #4 (Modules 11-13)	Window: 4/21-4/22
Exam Week	Final Exam (Optional)	Modules 1-13	Window: 4/29-4/30

Grading Policy

Course grading is consistent with [UF grading policies](#).

Course Grading Structure

Assignment Type	Point Value	Percent of Final Grade
Quizzes (x13, 10 pts each)	130	20.5%
Exams (x4, 75 pts each)	300	47.2%
Class Assignment #1	50	7.9%
Class Assignment #2	25	3.9%
Class Assignment #3	130	20.5%

Assignment Type	Point Value	Percent of Final Grade
Total Points Available	635	100%

Grading Scale

Grade	Percentage
A	93.0 - 100%
A-	89.0 - 92.99%
B+	86.0 - 88.99%
B	82.0 - 85.99%
B-	79.0 - 81.99%
C+	76.0 - 78.99%
C	72.0 - 75.99%
C-	69.0 - 71.99%
D+	66.0 - 68.99%
D	62.0 - 65.99%
D-	59.0-61.99%
S	<58.99%

**Grade rounding will be done as outlined above.

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See

<https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>

Campus Health and Wellness Resources

Visit <https://one.ufl.edu/whole-gator/topics> for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact [UMatterWeCare](#) for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

- Instructure (Canvas)
 - [Instructure Privacy Policy](#)
 - [Instructure Accessibility](#)

- Zoom
 - [Zoom Privacy Policy](#)
 - [Zoom Accessibility](#)

Additional information

Syllabus/Intro Quiz

Important information about the course is found in the syllabus and it is required that each student reads the syllabus to find answers to commonly asked questions and information about various aspects of the class. This quiz also covers the plagiarism lecture found under the “Start Here” link. Information from this video is also on the introductory quiz. This **mandatory syllabus/intro quiz** must be taken and passed with an 80% before access to the first module will be granted. This quiz is open syllabus and open note (from the plagiarism video) and is **NOT** proctored using Honorlock.

Due Dates

All assignments are due by 11:59 pm EST on the specified due date. Any assignment submitted after 11:59 pm EST on the due date will be marked as late, even if the assignment was started (e.g., a quiz) prior to the final submission time. Canvas documents submission times based on the time zone in which the University resides and time stamps submissions accordingly. Therefore, students who reside outside EST will need to ensure their assignments are submitted by 11:59 pm EST and NOT their local time. For each day an assignment is late, 10% will be deducted from the score.

Quizzes

A formative, closed-book quiz will be assigned each week. These quizzes can be taken an unlimited number of times during the open window, but students **MUST** submit the quiz at least once by the due date (which is 10 days from the day the quiz originally opens). Any initial quiz submissions posted after the due date will have points deducted from the final score for being late. Quizzes are due by 11:59 pm EST of the assigned due. Please allow adequate time to take the quiz before 11:59 pm EST. Be aware that if a quiz starts before 11:59 pm EST but is not completed until by that time, it **WILL** be marked late.

After the due date, quizzes will remain open until the exam for that unit opens at which time the quizzes for that unit will be closed. As stated above, the quizzes can be taken an unlimited number of times to practice the material and/or improve the quiz grade. Once a quiz is closed, the grade will be final. Quiz questions will not be used on the exams, but the same material will be covered.

Examinations

There will be four mandatory exams. There will also be a cumulative, but optional, final given during exam week. The score from the optional final may be used to replace a lower exam grade from one of the previous exams. If all four exams are taken by the student, the highest three scores will be used to calculate the final grade. Therefore, if you do poorly on an exam during the semester, you can improve your grade by doing better on the final exam. Exams will be open for a 48-hour window and must be taken within that time period. Make-up of missed exams will follow UF policy.

All exams and quizzes are proctored online using HonorLock.

Assignments

There are three class assignments given during the semester. The purpose of these assignments is to deepen your understanding of the field of virology and aid in applying the knowledge in this course to interpretation of outside information. The Turn-It-In feature on Canvas automatically compares all assignment submissions and checks for plagiarism of both published material and submitted assignments. Plagiarism of outside material or other students will not be tolerated. To avoid accidental plagiarism, refer to the video posted in the introductory module which can be accessed through the “Start Here” link on the course Canvas Page.

Extra Credit Assignment

There will be one extra credit assignment given towards the end of the semester.

Study Guides

At the start of each testing unit, a study guide will be posted. The study guides are not graded assignments but are a study tool. Keep in mind that these are GUIDES. They are NOT step-by-step instructions to every question on the exam. The purpose of these study guides is to help focus your studying and thinking about the course information. It is recommended that you read through the guide prior to watching the lectures and fill the guide out as you go. These should NOT be used in lieu of taking notes. As stated above, they do not cover everything...they are a guide.

Readings

Each week “required” and “suggested” portions of the textbook will be assigned. Required readings will be portions of the textbook that are important for you to know but may not be thoroughly covered in lectures. Exam questions will be taken from these sections. Suggested reading will reiterate what is covered in lectures and are provided to help further your understanding of the material covered.