



Course Name: Virology
Course Number: MB434 (graduate course MB534)
Course Credits: 3
Class Meeting Times: MWF: 9-9:50am

Instructor name: Hannah Rowe (she/her/hers)
Instructor email: hannah.rowe@oregonstate.edu

Office hours: TBD after Canvas Poll

Prerequisites:

([BB 450](#) or [450H](#)) and ([BB 451](#) or [451H](#)) or ([BB 490](#), [491](#) and [492](#)).

A minimum grade of D- is required in [BB 450](#), [BB 450H](#), [BB 451](#), [BB 451H](#), [BB 490](#), [BB 491](#) and [BB 492](#).

Catalog Course Description

Properties of viruses, their biology and pathogenesis. Emphasis on viruses causing human disease.

Learning Resources

Required Textbook: Molecular and Cellular Biology of Viruses by Phoebe Lostroh
Print ISBN: 9780815345237
eText ISBN: 9780429664304

Library access: 3 ebook copies are on reserve at the library:

<https://search.library.oregonstate.edu/permalink/f/ueodtl/CP71351546710001451>.

Note that availability may be limited in the time right before exams and assignment due dates.

Course Content:

Week	Topic	Readings
0	Introduction, Classification, Structure and Viral lifecycles	Chapter 1-2
1	Attachment and Entry Poliovirus translation	Chapter 3 Chapter 5
2	(+) sense RNA virus translation and replication	Chapter 5 EXAM 1

Week	Topic	Readings
3	(-) sense RNA virus replication and gene expression	Chapter 6
4	dsRNA virus replication and gene expression	Chapter 7
	dsDNA virus transcription and cell cycle	Chapter 8
5	dsDNA virus replication	Chapter 8
	ssDNA virus replication and gene expression	Chapter 9 EXAM 2
6	Reverse transcribing viruses	Chapter 10
7	Assembly/Egress and Zoonotic transmission	Chapter 11 and TBD
8	Lytic and Persistent Infection	Chapters 12-13 EXAM 3
9	Viral Metagenomics, Origins and Evolution	Chapter 17 and TBD
10	Medical Applications	Chapter 16

Course Specific Measurable Student Learning Outcomes

At the completion of the course, you should:

1. Be conversant with specialized language relevant to virology;
2. Understand the basic design, infection and replication strategy of viruses, and the diseases they cause;
3. Be able to communicate and explain in writing key aspects of virology;
4. Be aware of currently exciting topics and issues in the field of virology.

Evaluation of Student Performance

200 points: 4 exams at 50 points each

100 points: 3 assignments

50 points: 6 quizzes, 10 points each, lowest grade dropped

Total: 350 points

MB534 graduate students:

2 additional 25 point assignments for 400 total points

Exams:

Exams are not cumulative, covering only the material since the previous exam. They will be a mix of multiple choice and short answer, they will be given on CANVAS open for a three day window (exams 1-3 12:01 am Friday-11:59pm Sunday), you will have one

hour to take the exam. A review session will be held during the class meeting period Friday for exams 1-3.

The dates for the final and the review session are TBD, until finals week schedule comes out.

Exam dates:

- 1: October 8-10
- 2: October 29-31
- 3: November 19-21
- 4: TBD

Quizzes:

Quizzes will cover the lecture material and readings from the previous week, details will be given in lecture on the Friday of the quiz. They will be multiple choice. They will be given on CANVAS, open from noon Friday to 11:59pm Sunday, you will have 10 minutes to complete the quiz.

There will be 6 quizzes, you will drop the lowest grade.

Quiz Dates:

- 1: September 22-26
- 2: October 1-3
- 3: October 15-17
- 4: October 22-24
- 5: November 5-7
- 6: November 12-14

Assignments:

You will sign up for an emerging/re-emerging viral disease to research this term. Details and submission are in the Assignments on CANVAS. All assignments due 11:59pm

Assignment 1, October 1: 30 points. Classification, Structure and Epidemiology

Assignment 2, November 12: 50 points. Lifecycle, Gene Expression and Replication Strategy

Assignment 3, December 3: 20 points. Public Service Announcement

Additional assignments for Graduate Students Enrolled in MB534:

Assignment G1, October 15: 25 points. Viral origin theories

Assignment G2, November 29: 25 points. Viral reverse genetics systems

Letter Grades:

Grade	Percent Range
A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	65-69%
D	60-64%
D-	55-59%
F	Less than 55%

Course Policies:

Communication

Please contact me via email (hannah.rowe@oregonstate.edu) or through the CANVAS Messenger. I will reply to course-related questions within 24 hours. I will return your grades and comments on assignments and exams to you within seven days.

Late Work Policy

Late assignments will be accepted up to one week late and points will be deducted up to 5% per day late.

Corrections

For quizzes and exams 1-3, up to half the missed points can be earned back if the student submits the correct answer and a 1-2 sentence description of why that answer is correct (not just the correct answer) for each missed question, by email within 7 days of the grade being released to the student.

Makeup Exams/Quizzes

Makeup Exams and Quizzes will not be given. The lowest quiz grade will be automatically dropped. In rare cases (serious injury/illness of student or family, death of family member, birth/adoption of child, fire/flood or other disruptive event) at the instructor's discretion, the missed exam grade will be replaced with the average of the other exams. Reach out to me as soon as possible if you need this accommodation.

Academic Calendar

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: <https://registrar.oregonstate.edu/osu-academic-calendar>

Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations."

Student Conduct Expectations

Student conduct is governed by the university's policies, as explained in the Student Conduct Code: <https://beav.es/codeofconduct>

Religious Accommodation

Oregon State University is required to provide reasonable accommodations for employee and student sincerely held religious beliefs. It is incumbent on the student making the request to make the faculty member aware of the request as soon as possible prior to the need for the accommodation. See the [Religious Accommodation Process for Students](#).

Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at oregonstate.edu/ReachOut. If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)