

General Virology **MICR 4351 – CRN 13081** **Fall 2018**
INSTRUCTOR: Dr. Kyle L. Johnson, Department of Biological Sciences
OFFICE: Biosciences Building, 3.148
PHONE: 747-6889
EMAIL: kljohnson@utep.edu
OFFICE HOURS: MW, 1:00 p.m. – 3:00 p.m. or by appointment
LECTURE: MW, 3:00-4:20 p.m., BUSN 331
TEXTBOOK: Murray, *et al.*, Medical Microbiology, 8th Edition – **REQUIRED**
 Podcasts from This Week in Virology (<http://www.microbe.tv/twiv>)

COURSE OBJECTIVES

This course provides an integrated approach to studying the pathogenesis of human viruses and the key molecular mechanisms involved. Our objectives are:

1. To understand the basic mechanisms of viral pathogenesis and of the molecular mechanisms of cell attachment and entry, viral genome replication, transcription, translation, and assembly of virus particles, including the virus-host interactions involved in these processes
2. To develop familiarity with and understanding of standard methods and procedures used in virology research
3. To develop key scientific writing and verbal skills to facilitate communication with colleagues in academic and professional settings
4. To build a foundation of basic scientific principles in order to interpret the key issues facing the fields of virology and public health

COURSE GOALS

1. Learn the fundamental concepts of viral pathogenesis and the underlying molecular mechanisms that comprise the viral life cycle
2. Learn to critically evaluate papers from the current virology and public health literature
3. Apply the concepts you've learned
4. Extrapolate information and facts from what you already know
5. Communicate your understanding of virology both orally and in writing

COURSE APPROACH

Each 90-minute class session will combine my lectures with cooperative learning activities. These activities are designed to give you the opportunity to participate in the learning process. In the first class session we will form groups of 5 students based on functional roles that you will help define. You will remain a member of your group for the duration of the semester. We will use the groups for class discussions, group-learning exercises, and problem-solving assignments. The in-class activities will give each of you the opportunity to discuss issues that are posed to the class and may include course material from your textbook or new material not presented to you beforehand.

BLACKBOARD. I will post all course materials on Blackboard. It is your responsibility to download anything required for the class session and to bring it with you to class. I strongly recommend that you visit the course Blackboard site before each class. RATs will be given on Blackboard.

THIS WEEK IN VIROLOGY (TWiV). This Week in Virology is a podcast about viruses presented by several noted science professors, mostly virologists, from universities across the U.S. The goal of these innovative programs is to have informal conversations about viruses that are accessible to anyone, regardless of their backgrounds. We will use TWiV in place of a textbook this semester. You can access TWiV at <http://www.microbe.tv/twiv> - download the episodes or subscribe to TWiV on iTunes, RSS feed, or by email.

THE UNIVERSITY WRITING CENTER (<http://academics.utep.edu/writingcenter>). The UWC is located in room 227 of the Library. They offer writing assistance to all students, free of charge. The Center's services include help with analyzing your audience; understanding different types of writing (e.g., response papers, research reports, summaries, and arguments); brainstorming ideas and organizing your thoughts; finding the right words to express yourselves; deciding on the best way to revise your drafts; learning how to correct grammatical errors; and properly documenting your sources (this information comes from the UWC website).

CLASS POLICIES

MISSED EXAMS. If you know ahead of time that you will not be able to take an exam on the scheduled date, notify me as soon as possible and I will allow you to take the exam early, with no penalty. If you miss an exam and you can provide PROOF for your reasonable absence, the exam will be rescheduled at my convenience but must be taken before the graded exam is distributed to the class. If you miss the exam, and you cannot provide proof for your absence, you will NOT be allowed to make it up.

LATE HOMEWORK. Homework packets are due at the beginning of class ONLY on the due date (see schedule) WITH NO EXCEPTIONS. LATE homework will NOT be accepted. Drafts and final copies of homework assignments must be typewritten in a legible font and will be accepted ONLY in class (NEVER by e-mail). Failure to turn an assignment in on time will result in an automatic zero.

HONORS AND GRADUATE CREDIT. Please see me by September 11 if you wish to take this course for honors credit. In addition to the class requirements outlined below, I will assign a research paper on a topic relevant to current virology. An outline of your paper must be approved by November 16, and the paper is due no later than November 30.

COURTESY. As a courtesy to your classmates, please give your full attention to all speakers and limit your in-class discussions to topics related to virology. Cell-phones and pagers must be turned off or set to silent mode for the duration of the class sessions. Tablet, laptop, and notebook computers are permitted ONLY if used for class-related activities – they must be turned OFF during exams. Please be on time for class – it disturbs the class when you arrive late.

ACADEMIC DISHONESTY. It is the official policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Please see the Office of Student Conduct and Conflict Resolution (OSCCR) website at <http://sa.utep.edu/osccr/> for details.

DISABILITIES. If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, by email to cass@utep.edu, or go to Union Building East, Room 106. For additional information, please visit the CASS website at <http://www.utep.edu/CASS>. *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*

UNIVERSITY COUNSELING CENTER. If you have personal issues and require assistance, counseling services and resources are available online and in person through the Division of

Student Affairs. You can access these services online (<http://sa.utep.edu/counsel/>), by phone (747-5302) or in person at the University Counseling Center, 202 Union East, El Paso, TX 79968.

HARASSMENT. Please be aware that harassment of any type is unacceptable in the classroom. No jokes or comments of sexual or racist nature will be tolerated. The student who uses harassment will be referred to the Office of Student Conduct and Conflict Resolution (OSCCR) for disciplinary action.

TITLE IX. Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination on the basis of sex in education programs or activities operated by recipients of Federal financial assistance. Sexual harassment of students, which includes acts of sexual violence, is a form of sex discrimination prohibited by Title IX. Sexual violence refers to physical sexual acts perpetrated against a person's will or where a person is incapable of giving consent due to the victim's use of drugs or alcohol. An individual also may be unable to give consent due to an intellectual or other disability. A number of different acts fall into the category of sexual violence, including rape, sexual assault, sexual battery, sexual coercion, stalking, and relationship violence. All such acts of sexual violence are forms of sexual harassment covered under Title IX. In accordance with Title IX of the Education Amendments of 1972, UTEP does not discriminate on the basis of sex in the operation of its educational programs and activities. This commitment to non-discrimination applies to both employment in and admission to such programs and activities. Inquiries regarding Title IX should be referred to the University's **Title IX Coordinator(s), whose contact information is provided on the University's website at <http://admin.utep.edu/Default.aspx?tabid=68750>.**

ABSENCE AND DROP POLICY: It is your responsibility to attend class regularly. If you have a serious illness or a legitimate excuse (includes military personnel called to active duty or training) for being out of town, make arrangements with me before you leave. To receive an automatic "W", students must drop or withdraw from this class by the Drop Date (**November 2**), as indicated in the academic schedule.

GRADING SYSTEM

Your grade will be based on a comprehensive assessment of your skills and their development throughout the course of the semester, using the following criteria.

1. Quizzes. These will be given on Blackboard and are designed to test your knowledge of the class material. The quizzes will ensure that you are keeping up with the class. A total of 25 quizzes will be given, but only the 20 highest scores will count toward your final grade, as the five lowest quiz scores will be dropped.

2. Homework. FOUR individual homework assignments will be given. The homework is designed to promote critical thinking and written communication skills. Assignments will be posted on Blackboard and your completed assignment will be uploaded directly to Blackboard on the due date. Homework must be typewritten in a legible font. It will be graded for spelling, grammar, and content. Homework will be accepted ONLY on the due date, WITH NO EXCEPTIONS. LATE homework will NOT be accepted and failure to turn in an on-time assignment will result in a score of zero.

3. In class Exercises. These are problem-based learning sessions, which will take place in small groups. They focus on your ability to integrate basic science to the solution of research or clinical problems and will encourage you to work together, to develop critical thinking, to improve communication skills, and to get to know one another better. These exercises are

open-book: bring resources you might find helpful, including your textbook and a tablet, laptop, or smart phone for internet access.

4. Exams. A total of SIX exams will be given during the semester, each worth 50 points. This includes a comprehensive final exam during finals week. The exams will test your understanding of all of the materials covered in the textbook, in class, and on homework assignments, and your ability to APPLY the concepts you have learned. Expect that up to 25% of each exam could include material from the previous exam. Exams may combine multiple-choice and short-answer questions.

In summary,

Quizzes	200 points (20 quizzes/10 pts each)	= 20% of total
Homework	200 points (4 assignments/50 pts each)	= 10%
In-class exercises	300 points	= 30%
Exams	300 points (6 exams/50 pts each)	= 30%
<hr/>	<hr/>	
Total	1000 points	

where,

- A = 900 – 1000
- B = 800 - 899
- C = 700 – 799
- D = 600 – 699
- F = 599 and below

Grading is NOT based on a curve. You will each EARN a grade that reflects the effort you put into the course and the knowledge you have gained.

Please note that the exact date on which we will discuss each topic is subject to change, depending on the pace of the course.

#	DATE	TOPIC(S)	CHAPTER
1	M Aug. 28	Introduction; classification, structure, & replication	36
2	W Aug. 29	Viral pathogenesis	37
--	M Sept. 3	Labor Day – no classes	--
3	W Sept. 5	Viruses and disease; laboratory diagnosis	38 – 39
4	M Sept. 10	Basic concepts in the immune response	7 – 10
5	W Sept. 12	Antiviral agents and infection control	40
--	M Sept. 17	EXAM 1	--
6	W Sept. 19	Papillomaviruses and polyomaviruses	41
7	M Sept. 24	Adenoviruses	42
8	W Sept. 26	Human herpesviruses	43
9	M Oct. 1	Poxviruses	44
--	W Oct. 3	EXAM 2	--
10	M Oct. 8	Parvoviruses	45
11	W Oct. 10	Picornaviruses	46
12	M Oct. 15	Coronaviruses and noroviruses	47
13	W Oct. 17	Paramyxoviruses	48
--	M Oct. 22	EXAM 3	--
14	W Oct. 24	Orthomyxoviruses	49
15	M Oct. 29	Rhabdoviruses, filoviruses, and bornaviruses	50
16	W Oct. 31	Reoviruses	51
17	M Nov. 5	Togaviruses and flaviviruses	52
--	W Nov. 7	EXAM 4	--
18	M Nov. 12	Bunyaviridae and arenaviridae	53
19	W Nov. 14	Retroviruses	54
20	M Nov. 19	Hepatitis viruses	55
21	W Nov. 21	Viroids and Hepatitis Delta	55
--	Nov. 22-23	Thanksgiving Break – no classes	--
--	M Nov. 26	EXAM 5	--
22	W Nov. 28	Prion diseases	56
23	M Dec. 4	Emerging viral infections	TBA
24	W Dec. 6	Antiviral defenses and viral counter-defenses	TBA
--	M Dec. 10	FINAL EXAM, 1:00 – 3:45 p.m.	--

DUE DATES FOR HOMEWORK, QUIZZES, AND EXAMS

#	DATE	ASSIGNMENT DUE
1	M Aug. 28	Quiz 1 – Chapter 36
2	W Aug. 29	Quiz 2 – Chapter 37
--	M Sept. 3	Labor Day - no classes
3	W Sept. 5	Quiz 3 – Chapters 38 & 39
4	M Sept. 10	Quiz 4 – Chapters 7 – 10
5	W Sept. 12	Quiz 5 – Chapter 40
--	M Sept. 17	EXAM 1
6	W Sept. 19	Quiz 6 – Chapter 41
7	M Sept. 24	Quiz 7 – Chapter 42
8	W Sept. 26	Quiz 8 – Chapter 43
9	M Oct. 1	Quiz 9 – Chapter 44
--	W Oct. 3	EXAM 2
10	M Oct. 8	Quiz 10 – Chapter 45
11	W Oct. 10	Quiz 11 – Chapter 46
12	M Oct. 15	Quiz 12 – Chapter 47
13	W Oct. 17	Quiz 13 – Chapter 48
--	M Oct. 22	EXAM 3
14	W Oct. 24	Quiz 14 – Chapter 49
15	M Oct. 29	Quiz 15 – Chapter 50
16	W Oct. 31	Quiz 16 – Chapter 51
17	M Nov. 5	Quiz 17 – Chapter 52
--	W Nov. 7	EXAM 4
18	M Nov. 12	Quiz 18 – Chapter 53
19	W Nov. 14	Quiz 19 – Chapter 54
20	M Nov. 19	Quiz 20 – Chapter 55
21	W Nov. 21	Quiz 21 – Chapter 55
--	Nov. 22-23	Thanksgiving Break – no classes; Quiz 22 – Chapter 55
--	M Nov. 26	EXAM 5
22	W Nov. 28	Quiz 23 – Chapter 56
23	M Dec. 4	Quiz 24 – Reading TBA
24	W Dec. 6	Quiz 25 – Reading TBA
--	M Dec. 11	FINAL EXAM