

Infectious Diseases: Biol. 840
Course Syllabus – Fall 2022

Instructor: Dr. Austin Nuxoll

Office: Bruner 201D

Phone: 308.865.8602

Email: nuxollas@unk.edu

Office hours: MWF 1:30 – 2:30 CST or by appointment

Course Description

This course is an introduction to human host pathogen interactions and microbial pathogenesis. Topics will focus on mechanisms of infectious disease transmission, the immune response to these infections, conventional and alternative antimicrobial treatment, and hot topics in current scientific literature.

Course Objectives: Following completion of this course, students should be able to:

1. Understand the complexity and diversity of microbial virulence, specifically understanding different strategies pathogens employ for host manifestation of disease
2. Have a general understanding of the host response to pathogens and different ways pathogens evade the immune response
3. Identify methods of treatment and prevention of infection

Recommended Materials

Text:

Sherris Medical Microbiology

Kenneth J. Ryan and C. George Ray

Seventh edition

McGraw-Hill, New York, NY

Required Materials

Computer and Software:

Access to a computer with internet access, Microsoft Word and PowerPoint. Software can be purchased through UNK bookstore at a discount. We will have video presentations that require the use of a webcam. These can be found through Walmart or Amazon starting around \$10.

Communication

The best way to reach me is through email. I will respond to email fairly quickly and if you need to talk to me please email me and we can set up a time to talk further. You should frequently check your UNK email and Canvas for course assignments or announcements. Powerpoints will be posted on Canvas but you will still be required to watch lectures as additional information provided during lectures will be pertinent.

Grading

Discussion (5pts each)	50
4 Exams (50pts each)	200
Case Studies (10pts/wk)	100
Presentations	30

Final Paper	30
Total	410

Grades will be assigned using the Department of Biology standard grading scale: follows: A (93-100%), A- (90-92%), B+ (88-89%), B (83-87%), B- (80-82%), C+ (78-79%), C (73-77%), C- (70-72%), D+ (68-69%), D (63-67%), D- (60-62%), and F (below 60%).

Discussion

I will post questions on Canvas on Tuesdays and you will have until the following Monday to participate (unless directions specify differently). To receive full credit, students must have significant contributions weekly on each discussion topic. Once we begin the student presentations, you must have 2 meaningful comments on the presentations as well as one comment on each of the other topics posted. Your responses must contribute something new to the discussion and not simply restate what was mentioned in the previous response. References will be required to support your statement. Please be considerate of your classmates' responses, abusive comments or attacking other student's comments will not receive credit as comments should be constructive even if you strongly disagree with another student.

Exams

Exams will consist of multiple choice, listing, and short answer questions in a timed format. Students will be given one hour to complete the exams. Lockdown Browser will be used for the exams and the exams are closed note/closed book. Exam dates are as follows:

Exam 1: available Tuesday, Sept 13; due Monday, Sept 19 at 11:59 p.m. CST.

Exam 2: available Tuesday, Oct 11; due Monday, Oct 17 at 11:59 p.m. CST.

Exam 3: available Tuesday, November 8; due Monday, November 14 at 11:59 p.m. CST.

Exam 4: available Tuesday, December 6; due Monday, December 12 at 11:59 p.m. CST.

Case Studies

For the case study assignments, students will work in groups, and each group is assigned the same case study. Everyone in the group needs to participate and students that do not contribute to their group will not receive credit for that assignment. You need to work with your group throughout the week to help diagnose the patient by Friday at the latest, then each student will be responsible for answering their individual question by Monday of each week. The same guidelines for discussion also apply to participation with the case studies.

Disease Presentation

Students will be responsible for creating a VIDEO presentation over an assigned virus, parasite, or fungus. Students will create a PowerPoint presentation and use VidGrid/Yuja to record the presentation. These presentations should include a small video box of yourself as well. Presentations should be 12-16 minutes long and must include references. At the end of the semester, you will write a case study paper on your assigned pathogen. Students will be responsible for viewing all student presentations each week and commenting on 2 presentations by Friday of each week. Final case study papers will be due **December 12th by 11:59 pm CST.**

Academic Dishonesty

Plagiarism will not be tolerated, please refer to the student handbook or ask me for more clarification on the subject if unsure what constitutes plagiarism. It is expected students work independently on assignments unless otherwise stated by the instructor. Group work where not specified will be considered cheating and students will receive a zero for that assignment. Multiple offenses will result in the student(s) receiving a failing grade for the course and possible removal from the program.

Withdraw (W) and Incomplete (I)

In unusual circumstances beyond the student's control, an incomplete (I) may be issued. The (I) is issued as a final grade with the student having 12 months to complete the necessary work. If the coursework is not completed in this time the (I) will be converted to a failing grade (F) on the student's transcript. Students may withdraw from the course before 9 weeks have been completed and a (W) will appear on the transcript. Students are responsible for filling out the necessary paperwork to complete this process. Instructors are not able to withdraw students. If the student drops the class, the (W) will not contribute to the student's overall GPA.

Student Accommodations

Students with Disabilities

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

UNK Statement of Diversity & Inclusion:

UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: <https://www.unk.edu/about/equity-access-diversity.php>

Students Who are Pregnant

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact the Student Health office at 308.865.8218. The following links provide information for students and faculty regarding pregnancy rights. <https://thepregnantscholar.org/title-ix-basics/>

<https://nwlc.org/resource/faq-pregnant-and-parenting-college-graduate-students-rights/>

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct

and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes she or he may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

- **Local Domestic Violence, Sexual Assault Advocacy Agency** 308-237-2599
- **Campus Police (or Security)** 308-865-8911
- **Title IX Coordinator** 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

Preparation for class	Dates	Schedule
Chapter 1 Chapter 5	Aug 22 – Aug 29	Lecture 0: Syllabus Lecture 1: Introduction to ID Lecture 2: Host-Parasite Interaction
Chapter 2	Aug 30 – Sep 5	Lecture 3: Innate Immunity Lecture 4: Adaptive Immunity Lecture 5: Vaccination
Chapter 23 Chapter 24	Sep 6 – Sep 12	Lecture 6: Antibiotics Lecture 7: Antibiotic Resistance Lecture 8: Staphylococci
Chapter 25 Chapter 26	Sep 13 – Sep 19	Exam 1 Lecture 9: Streptococci Lecture 10: Bacillus
Chapter 27 Chapter 29	Sep 20 – Sep 26	Lecture 11: Mycobacteria Lecture 12: Clostridium Case Study 1
Chapter 30 Chapter 32	Sep 27 – Oct 3	Lecture 13: Neisseria Lecture 14: Helicobacter Case Study 2
Chapter 33 Chapter 35	Oct 4 – Oct 10	Lecture 15: Enterobacteriaceae Lecture 16: Pseudomonas Case Study 3
Chapter 36	Oct 11 – Oct 17	Lecture 17: Yersinia Exam 2 Case Study 4
Chapters 9 - 20	Oct 18 – Oct 24	Virus Presentations Case Study 5
Chapters 9 - 20	Oct 25 – Oct 31	Virus Presentations Case Study 6
Chapters 9 - 20	Nov 1 – Nov 7	Virus Presentations Case Study 7
	Nov 8 – Nov 14	Exam 3 Case Study 8
Chapters 42 - 57	Nov 15 – Nov 21	Fungi/Parasites Presentations Case Study 9

Chapters 42 - 57	Nov 22 – Nov 28	Thanksgiving Break
	Nov 29 – Dec 5	Fungi/Parasites Presentations Case Study 10
	Dec 6 – Dec 12	Exam 4 Final Case Study Paper
	Finals Week	Final Case Study Paper Due