

**Infectious Diseases: Biol. 840**  
**Course Syllabus – Fall 2024**

**Instructor:** Dr. Austin Nuxoll

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

Course Description

This course is an introduction to medical microbiology with coverage of viral, bacterial, fungal, and protozoan disease causing microorganisms. It will cover the basic mechanisms of infection, disease progression, and immune response. It is strongly suggested that students have taken an introductory microbiology course before taking this class. Offered online, Fall only.

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%).

### Finals Week Policy

The final exam will be administered in the time period scheduled during finals week in accordance with University policy ([Final Exam Schedule](#)). More information about UNK's Finals Week Policy, including when it is appropriate to ask for special accommodations to move a course's final exam, can be found here: [Finals Week Policy](#).

### 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 17; due Monday, Sept 23 at 11:59 p.m. CST.**

**Exam 2: available Tuesday, Oct 15; due Monday, Oct 21 at 11:59 p.m. CST.**

**Exam 3: available Tuesday, November 12; due Monday, November 18 at 11:59 p.m. CST.**

**Exam 4: available Tuesday, December 10; due Monday, December 16 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 16<sup>th</sup> 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 12 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](mailto:unkdso@unk.edu)

##### **UNK Policy for Inclusive Excellence**

At UNK, inclusive excellence is rooted in our values.

- **People matter.** The diversity of our students, faculty and staff is essential to our educational mission. Our backgrounds, identities, and lived experiences enrich our learning community.
- **The learning environment matters. We** are committed to an inclusive and equitable student-centered learning environment. In our classrooms we exchange ideas and opinions with respect for one another.
- **Learning matters.** Preparing students to value critical thinking, mutual respect, and open communication is essential for lifelong learning. We are building a community that protects and fosters intellectual inquiry and embraces diverse perspectives.

The following link provides information for students regarding UNK's commitment to inclusive excellence and procedures for improving classroom experience with inclusion and belonging: <https://www.unk.edu/about/dei/inclusive-excellence-in-the-classroom.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.

### Technical Support

LoperTECH Service Desk Phone: 308-865-8363 Email: [support@nebraska.edu](mailto:support@nebraska.edu)  
If you are having problems or technical issues with Canvas, please contact ITS.

### Course Policies

#### **Contact and Response**

- I will try to respond to your emails as quickly as possible (within 2 business days). There may be instances in which I do not respond until the next business day (e.g., if you email me on a Friday night I may not email back until Monday).
- Please check your UNK email account and Canvas announcements on a regular basis. I will only use your official UNK email address for communication, so it is your responsibility to ensure you are receiving emails regarding this course.
- When sending emails, treat the message as if you were sending it in a professional situation (e.g., to a boss or supervisor).

#### **Course Conduct**

Be considerate to your fellow students. In this class, I encourage comments and questions. As such, I ask that you are respectful and courteous towards one another.

#### **Late Policy**

You are responsible for following the course schedule and completing tasks by their due dates. Late assignments and assessments will NOT be graded. There are no exceptions to this policy. Technology issues are NOT an excuse for late submissions. This includes: corrupted files, spotty WiFi, hard drive failures, and other computer problems. [Note: some late assignments may be accepted at the discretion of the instructor with appropriate documentation.]

#### **Copyright**

During this course, you are prohibited from selling notes to or being paid for taking notes by any person or commercial firm without the express written permission of the professor teaching this course.

## AI

Since writing, analytical, and critical thinking skills are part of the learning outcomes of this course, all writing assignments should be prepared by the student. Developing strong competencies in this area will prepare you for a competitive workplace. While A.I. is readily available and can be useful in some circumstances, it is essential that you learn basic skills to help you identify what good writing looks like before you'll be able to accurately and ethically employ their use. To better help you meet the learning goals of this course, A.I.-generated submissions are not permitted at all in this course and any use of A.I. tools at any point in your writing process will be treated as plagiarism.

This course aims to provide students with a comprehensive understanding of the subject matter by engaging in critical thinking, problem-solving, and creative exercises. To promote the development of essential skills and encourage active participation, the use of artificial intelligence (A.I.) tools or technologies such as paraphrasing software or ChatGPT is prohibited in this course. Use of any such tools will be considered a violation of the academic integrity policy and disciplinary action will be taken.

Use of an A.I. Generator such as ChatGPT, iA Writer, MidJourney, DALL-E, etc. is explicitly prohibited. The information derived from these tools is based on previously published materials.

Therefore, using these tools without proper citation constitutes plagiarism. Additionally, be aware that the information derived from these tools is often inaccurate or incomplete. It's imperative that all work submitted should be your own. Any assignment that is found to have been plagiarized or to have used unauthorized A.I. tools may receive a zero and / or be reported for academic misconduct.

Preparation for class	Dates	Schedule
Chapter 1 Chapter 5	Aug 26 – Sep 2	Lecture 0: Syllabus Lecture 1: Introduction to ID Lecture 2: Host-Parasite Interaction
Chapter 2	Sep 3 – Sep 9	Lecture 3: Innate Immunity Lecture 4: Adaptive Immunity Lecture 5: Vaccination
Chapter 23 Chapter 24	Sep 10 – Sep 16	Lecture 6: Antibiotics Lecture 7: Antibiotic Resistance Lecture 8: Staphylococci
Chapter 25 Chapter 26	Sep 17 – Sep 23	<b>Exam 1</b> Lecture 9: Streptococci Lecture 10: Bacillus
Chapter 27 Chapter 29	Sep 24 – Sep 30	Lecture 11: Mycobacteria Lecture 12: Clostridium Case Study 1
Chapter 30 Chapter 32	Oct 1 – Oct 7	Lecture 13: Neisseria Lecture 14: Helicobacter Case Study 2
Chapter 33 Chapter 35	Oct 8 – Oct 14	Lecture 15: Enterobacteriaceae Lecture 16: Pseudomonas Case Study 3

Chapter 36	Oct 15 – Oct 21	Lecture 17: Yersinia <b>Exam 2</b> Case Study 4
Chapters 9 - 20	Oct 22 – Oct 28	Virus Presentations Case Study 5
Chapters 9 - 20	Oct 29 – Nov 4	Virus Presentations Case Study 6
Chapters 9 - 20	Nov 5 – Nov 11	Virus Presentations Case Study 7
	Nov 12 – Nov 18	<b>Exam 3</b> Case Study 8
Chapters 42 - 57	Nov 19 – Nov 25	Fungi/Parasites Presentations Case Study 9
Chapters 42 - 57	Nov 26 – Dec 2	<b>Thanksgiving Break</b>
	Dec 3 – Dec 9	Fungi/Parasites Presentations Case Study 10
	Dec 10 – Dec 16	<b>Exam 4</b> Final Case Study Paper
	Finals Week	<b>Final Case Study Paper Due</b>