

# BIOL845 Forensic Biology

## Fall 2024

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**Office Hours:** by appointment

### COURSE DESCRIPTION

Forensic Biology studies biology and earth science by engaging in investigations of how scientific evidence is used to solve crimes. Students take on the roles of public safety professionals to identify, collect, preserve, test, and analyze physical evidence ranging from general considerations to the latest in molecular techniques. Students will review current literature, discuss case studies, and look at some mass market publications on crime scene investigation.

### COURSE OBJECTIVES

- 1) learn how and why evidence can be used to solve crime
- 2) how biogeological processes affect the preservation and viability of physical evidence
- 3) explain the scientific principles
- 4) professional report writing

### COURSE MATERIALS

- Textbook: *Essential forensic biology* (3rd edition, 2019) by Alan Gunn, ISBN: 9781119141402, Wiley.
- Announcements, assignments, exams, and quizzes will be available on Canvas. Students should check Canvas regularly.
- All students **MUST** use their UNK email account to communicate with the instructor. You should check your email at least once per day.
- Respondus Lockdown Browser is **REQUIRED/MANDATORY** for all quizzes and exams! Here is the link to download: <https://download.respondus.com/lockdown/download.php?id=477439341%20>. More information is on Canvas. This will NOT work on a Chromebook or Linux computer.

### EXPECTATIONS

Grades are based on participation and quality of discussion, quizzes, exams, and assignments. Students are expected to interact with other classmates on Canvas weekly discussion board. The quality of the discussion is exhibited by the contribution of original ideas, respect for differing opinions, and evidence of knowledge on the subject matter. Students are required to maintain a professional and cordial mannerism when communicating with instructor and other students. When you are taking an online course, it is expected that you will read all of the materials and keep up with due dates on your own. I will not be reminding you of the due dates for the course. The calendar I created has all of the course due dates and you should make sure you don't miss any due dates. Students are encouraged to communicate with the instructor by email/zoom about their questions and concerns for the class contents, assignments, quizzes, and exams. I will check my email Mondays to Fridays between 9 am and 5 pm CT. I do not check email after 5 pm CT and rarely on weekends. I will respond to your emails within 24 hours.

### NOTICE ON USE OF COPYRIGHT MATERIAL

The materials on the course Canvas site and given in lecture are only for the use of students enrolled in this course for purposes associated with this course and may not be retained or further disseminated. The materials on the course Canvas site and in class may be protected by copyright, and any further use or dissemination of this material may be in violation of Federal copyright law and University sanctions including failure in the course.

## GRADE SCALE

Grades will be assigned using the standard grading scale for the Department of Biology, as follows: A+ (98.0-100%), A (92.0-97.9%), A- (90.0-91.9%), B+ (88.0-89.9%), B (82.0-87.9%), B- (80.0-81.9%), C+ (78.0-79.9%), C (72.0-77.9%), C- (70.0-71.9%), D+ (68.0-69.9%), D (62.0-67.9%), D- (60.0-61.9%), and F (below 60%). Grade assignments are final unless there is a calculation error.

## GRADING SCHEME

Changes may be made at the discretion of the instructor.

Activities	Points	Due date
Discussion Board (5 @ 10 pts each, plus 1 self-introduction 10-pts)	60	11:59 pm CT on the Sunday of the week
Assignment/Paper reviews (3 @ 20 pts each)	60	11:59 pm CT on the Sunday of the week
Final Case Study Report (40 pts each)	40	October 15th Tuesday by 11:59 pm CT
Quizzes (6 @ 10 pts each)	60	11:59 pm CT on the Sunday of the week
Mid Exam (120 pts each)	120	September 22nd Sunday by 11:59 pm CT
Final Exam (200 pts each)	200	October 16th Wednesday by 11:59 pm CT
<b>Total Points</b>	<b>540</b>	

**EXAMS:** There are one Mid Exam and one Final Exam throughout the semester composed of multiple choice, short answer, and essay questions. Mid Exam covers the materials from week 1 to 4, while Final Exam is comprehensive. Respondus Lockdown Browser is required for online exams and quizzes. The amount of time allotted will be announced at the time of the test. If you run out of time while taking the test, you will not be given extra time. If you have a problem while taking your test, send me an email and I will deal with it as soon as possible. The computer displays a message to me that tells me what kind of problem you had, whether you took too much time or there was a computer problem. **You must take both mid and final exams to receive full credit. If you miss either exam, you will automatically fail and receive a letter grade of an "F".** The exam will be available on Monday of the week and taken off on the dates listed in Grading Scheme. **THE DEADLINE IS FINAL! The tests will be removed at 11:59 pm CT on the due date.** Makeup exams will be given only under extreme or extenuating circumstances, which can be documented! In any and all cases, the final validity and acceptability of any excuse for absence are at the instructor's discretion. The grading will be finished within a week after the quizzes, exams, and assignments are closed.

**QUIZZES:** Throughout the semester, you will be given 6 timed quizzes worth 10 points each, which will be taken using the Respondus Lockdown Browser. The quizzes will cover the book/lecture materials. The dates for the quizzes will be open at 8:00 am CT on the Monday of the week and closed at 11:59 pm CT on Sunday of the week. If you run out of time while taking the quiz, you will not be given extra time. If you have a problem while taking your quiz, send me an email and I will deal with it as soon as possible. **THE DEADLINE IS FINAL! The quiz will be removed at 11:59 pm CT on the Sunday due date.**

**FINAL CASE STUDY REPORT:** Students will have one report writing assignment, which is due on October 15th Tuesday by 11:59 pm CT. In the first week you are provided a forensic scenario case study question. You will have 7 weeks to apply what you have learned during the semester to write a case study report. **THE DEADLINE IS FINAL!** You are to format the document as follows with 1" margins all around, 12pt Arial font, Single spacing, Students name in the *right hand corner of the header*, Case Study and the date in *left hand corner of the header*. Please turn in your report at your earliest convenience.

**ASSIGNMENTS:** Students are to finish three assignments or paper reviews (20 points each) related to your learning materials throughout the semester. You are to format the document as follows with 1" margins all around, 12pt Arial font, Single spacing, Students name in the *right hand corner of the header*, Assignment # and the date in *left hand corner of the header*.

**DISCUSSION BOARD:** There are six graded weekly Discussion Boards worth 10 points each. You are expected to communicate with your classmates during Weeks 1, 2, 3, 5, 6, and 7. In Week 1 you are to post a self-introduction to let other classmates know more about you. Since Week 2, you are to post at least one short paragraph every week to summarize a forensic biology research paper / a forensic case / a forensic topic related to the weekly learning materials (the references should be included). Your weekly post is due on Friday of the week to give your group mates enough time to respond. Every week you are to reply to at least two posts from the other group mates. Your response / comments will be due on Sunday of the week. Each weekly discussion will be scored out of 10 points. You will be graded not on the number of posts per week but on the **quality** of posts.

The score for your posts will be based upon:

- a) Critical thinking (a post rich in content and full of insight)
- b) Connection with real-life situations
- c) Uniqueness (new ideas and new connections)
- d) Depth and detail of posts
- e) Respect for classmates
- f) Discussion with classmates

### **LATE WORK/MAKE-UP EXAM POLICY**

Assignments, quizzes, and exams are announced during class and/or on Canvas in advance. Students are strongly encouraged to complete assignments, quizzes, and exams on time. Makeup will be given only under extreme or extenuating circumstances, which can be documented! In any and all cases, the final validity and acceptability of any excuse for absence are at the instructor's discretion.

### **LEARNING COMMONS (TUTORING)**

The UNK Learning Commons offers support for this course! The Learning Commons, located on the 2<sup>nd</sup> floor of the Calvin T. Ryan Library, offers Subject Tutoring, the Writing Center, Success Coaching, and Language Support. These services are available to all UNK students in-person and on Zoom. The Learning Commons can help you with course content for select subjects, time-management skills, getting organized for class, and any type of writing project. To get the most out of your time with the Learning Commons, visit early and often! Contact the Learning Commons at 308-865-8905, [unklearningcommons@unk.edu](mailto:unklearningcommons@unk.edu), or stop by in person. Website: [www.unk.edu/lc](http://www.unk.edu/lc)

### **ATTENDANCE POLICY**

Class attendance is different based on the mode of class delivery (face to face and online) and determined by the primary instructor. For face to face classes, regular attendance is desirable and expected. Depending on if online courses are synchronous or asynchronous dictates online class attendance/participation. If a student is absent or anticipates an absence for either class mode, the student's primary responsibility is to directly contact the primary instructor, and the student should consult with them accordingly. A student who misses a class or does not have an online presence is personally responsible for information and assignments communicated during that class session. The University-wide attendance policy will apply.

[Undergraduate Student Attendance Policy](#)

[Graduate Student Attendance Policy](#)

### **ACADEMIC HONESTY POLICY**

Academic honesty is essential to the existence and integrity of an institution of higher education. The responsibility for maintaining that integrity is shared by all members of the academic community. To further serve this end, the University of Nebraska at Kearney has a policy relating to academic integrity.

[Undergraduate Academic Integrity Policy](#)

[Graduate Academic Integrity Policy](#)

### **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](#).

## **MENTAL WELLNESS**

The UNK Counseling Center provides mental health services to support the academic success of students. The Counseling Center provides a full range of short-term professional mental health services. Getting help is a smart and courageous thing to do. Contact the UNK Counseling Center at 308-865-8248 or visit their website for more information: [https://www.unk.edu/offices/counseling\\_healthcare/counseling\\_care/index.php](https://www.unk.edu/offices/counseling_healthcare/counseling_care/index.php)

## **MILITARY AND VETERAN SERVICES**

Military and Veteran Services assist veterans, service members, and their dependents with education benefits and academic and supporting resources. They serve as a liaison between students and the Veterans Administration and branches of the military.

Contact the UNK Military and Veteran Services office at 308-865-8677 or visit their website for more information: [https://www.unk.edu/offices/financial\\_aid/veterans\\_services/index.php](https://www.unk.edu/offices/financial_aid/veterans_services/index.php)

## **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)

## **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.

## **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>.

## COURSE TIMELINE

Topics and dates are tentative and subject to change by the instructor.

Week / Date	Chapter / Topic	Activities
#1 / (8/26 – 9/1)	Ch 3, 4, & 5: Basic Molecular Biology & Body fluids. Independent reading: Ch 1 & 2 - The decay, discovery, recovery & study of human bodies	Timed quiz #1 Discussion #1
#2 / (9/2 – 9/8)	Ch 6 & 7: Human Tissues & Wounds. Independent reading: Ch 7 - Wounds	Assignment #1 Timed quiz #2 Discussion #2
#3 / (9/9 – 9/15)	Ch 13: Microbes and Viruses	Timed quiz #3 Discussion #3
#4 / (9/16 – 9/22)	Ch 12: Protists, Fungi, and Plants	Assignment #2 <b>Mid Exam</b>
#5 / (9/23 – 9/29)	Ch 8: Invertebrates 1	Timed quiz #4 Discussion #4
#6 / (9/30– 10/6)	Ch 9: Invertebrates 2	Timed quiz #5 Discussion #5
#7 / (10/7 – 10/13)	Ch 10 & 11: Vertebrates & Wildlife Forensics	Assignment #3 Timed quiz #6 Discussion #6
#8 / (10/14 – 10/18)	Molecular Forensics - Deeper consideration	<b>Final Exam</b> <b>Case study report</b>