

# BIOL845 Forensic Biology

## Summer 2022

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### 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 the 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 be sure to download it and either transfer the dates to your calendar or keep a copy to make sure you don't miss any due dates. Students are encouraged to communicate with the instructor by email 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	11:00 pm CT on the Sunday of the week
Assignment/Paper reviews (3 @ 20 pts each)	60	11:00 pm CT on the Sunday of the week
Final Case Study Report (50 pts each)	50	July 22nd Friday by 5:00 pm CT
Quizzes (6 @ 10 pts each)	60	11:00 pm CT on the Sunday of the week
Mid Exam (120 pts each)	120	June 26th Sunday by 11:00 pm CT
Final Exam (200 pts each)	200	July 22nd Friday by 11:00 pm CT
<b>Total Points</b>	<b>550</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 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 11:00 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 11:00 pm CT on the Sunday due date.**

**FINAL CASE STUDY REPORT:** Students will have one report writing assignment, which is due on July 22nd Friday by 5:00 pm CT. In the first week you are provided a forensic scenario case study question. You will have 8 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 early.

**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 Week 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 **a)** to summarize a forensic biology research paper / a forensic case related to the weekly learning materials (the references should be included); **OR b)** to share your ideas / questions about the weekly contents / the final case study. Your weekly post is due every 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 every 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

### **UNK LIBRARY**

The library is a good resource when looking for articles that may not be available online. The following links are especially usefully to distance students.

<http://library.unk.edu/services/distance.php>

<http://library.unk.edu/services/illdd.php>

If you have specific questions about Interlibrary loan contact Sheryl Heidenreich at [heidenreichs@unk.edu](mailto:heidenreichs@unk.edu).

### **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.

### **PLAGIARISM AND ACADEMIC DISHONESTY**

Neither will be tolerated! I have a **ZERO TOLERANCE POLICY** for both of these. Do either of them and you will automatically fail this course, not be allowed to re-enroll, possibly have criminal charges brought against you, and possibly be unable to enroll in future Biology courses.

### **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 Cindy Ference in Student Health, 308-865-8219. The following link provides information for students and faculty regarding pregnancy rights. <http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

## 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>

## 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. If you have questions regarding the information please contact **Mary Chinnock Petroski, Chief Compliance Officer** ([petroskimj@unk.edu](mailto:petroskimj@unk.edu) or phone 8400).

## COURSE TIMELINE

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

Week / Date	Chapter / Topic	Activities
#1 (5/31 - 6/5)	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 (6/6 - 6/12)	Ch 6 & 7: Human Tissues & Wounds. Independent reading: Ch 7 - Wounds	Assignment #1 Timed quiz #2 Discussion #2
#3 (6/13 - 6/19)	Ch 13: Microbes and Viruses	Timed quiz #3 Discussion #3
#4 (6/20 - 6/26)	Ch 12: Protists, Fungi, and Plants	Assignment #2 <b>Mid Exam</b>
#5 (6/27 – 7/3)	Ch 8: Invertebrates 1	Timed quiz #4 Discussion #4
#6 (7/4 – 7/10)	Ch 9: Invertebrates 2	Timed quiz #5 Discussion #5
#7 (7/11 – 7/17)	Ch 10 & 11: Vertebrates & Wildlife Forensics	Assignment #3 Timed quiz #6 Discussion #6
#8 (7/18 – 7/22)	Molecular Forensics - Deeper consideration	<b>Final Exam</b> <b>Case study report</b>