

BIOL3357 DNA STRUCTURE AND ANALYSIS, FALL 2023, CRN# 17044

Instructor: Dr. Hsini Lin; Email: hlin@utep.edu

Lecture Time: 7:30 – 8:50 am, MW

Location: Undergraduate Learning Center 346

Course Objective

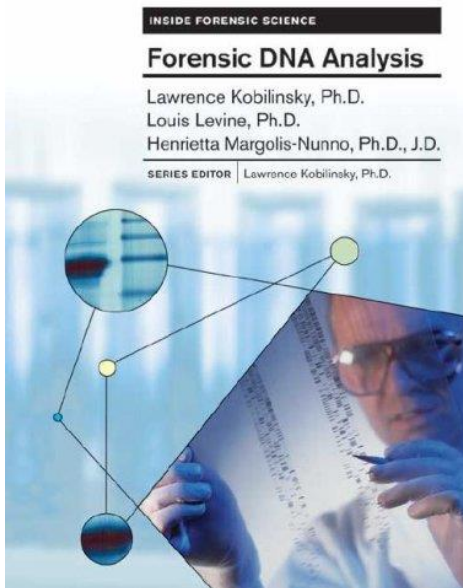
This course will provide students with a general understanding of the science of DNA analysis in criminal investigations. Students will learn the scientific principles behind DNA techniques.

Upon completion of this course, you will be able to:

- Demonstrate an understanding of the techniques used to obtain samples and proper storage of the samples.
- Demonstrate an understanding of the technique used to extract, quantitate, amplify, and separate DNA from forensic samples.

Required Materials

- A good attitude and willingness to work hard.
- Access to online course materials on Blackboard.
- An e-mail address on record that you check regularly.
- *Textbook: Forensic DNA Analysis*. Lawrence Kobilinsky, Louis Levine, Henrietta Margolis-Nunno 2010. ISBN 0791089231



Technology Requirement

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and

a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or switch to another browser.

You will need access to a computer/laptop, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and can access all parts of the course.

If you do not have word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook, and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about [Microsoft Office 365](#) and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP [Help Desk](#), as they are explicitly trained to assist with students' technological needs. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

Course Communication

There are several ways we can keep the communication channels open:

- **Email:** UTEP e-mail is the best way to contact me. I will make every attempt to respond to your e-mail within 24-48 hours of receipt. When emailing me, be sure to email from your UTEP student account, and please put the course number in the subject line. In the body of your e-mail, clearly state your question. At the end of your e-mail, put your first and last name and university identification number.
- **Announcements:** Check the Blackboard announcements frequently for updates, deadlines, or other important messages.
- **Discussion Board:** If you have a question that you believe other students may also have, please post it in the Help Board of the discussion boards inside of Blackboard. Please respond to other students' questions if you have a helpful response.
- **Office Hours:** If you need to meet with me, please contact me to schedule an appointment. My office hours will be held on Zoom or Blackboard Collaborate.

Course Schedule

Students are expected to complete the assigned activities associated with the Course Schedule and Blackboard topics within the scheduled timeline. If students fail to submit any required work before the deadline, they will receive a grade of zero (0) for that assignment, with no exceptions.

Course Schedule (Please Note that this schedule is subject to change)

Date		Topic	Required Reading
08/28	M	Introduction	
08/30	W	How to Identify a Criminal	Chapter 1
09/04	M	No Class (Labor Day)	
09/06	W	How to Identify a Criminal	Chapter 1
09/11	M	DNA: Sources and Structure	Chapter 2
09/13	W	DNA: Sources and Structure	Chapter 2
09/18	M	EXAM 1	
09/20	W	The Genetics Underlying Forensic DNA Typing	Chapter 3
09/25	M	The Genetics Underlying Forensic DNA Typing	Chapter 3
09/27	W	Sample Collection and Storage	
10/02	M	EXAM 2	
10/04	W	Procedures in Forensic DNA Analysis	Chapter 4
10/09	M	Procedures in Forensic DNA Analysis	Chapter 4
10/11	W	Interpretation of Autosomal STR DNA Analysis	Chapter 5
10/16	M	Interpretation of Autosomal STR DNA Analysis	Chapter 5
10/18	W	EXAM 3	
10/23	M	Mitochondrial DNA	Chapter 6
10/25	W	Mitochondrial DNA	Chapter 6
10/30	M	Y Chromosome Testing	Chapter 7
11/01	W	Y Chromosome Testing	Chapter 7
11/06	M	EXAM 4	
11/08	W	Group Project Presentation 1	
11/13	M	Group Project Presentation 2	
11/15	W	Group Project Presentation 3	
11/20	M	Group Project Presentation 4	
11/22	W	Frequency and Probability	Chapter 8
11/27	M	The Future of DNA Analysis	Chapter 9
11/29	W	The Future of DNA Analysis	Chapter 9
12/04	M	No Class	
12/06	W	EXAM 5	
	M		
	W		

Grading

The letter grading system will be used. A = 90–100; B = 80–89; C = 70–79; D = 60–69; F = <60. I do round off. Your grade will be determined based on Attendances, Assignments, Exams, and Quizzes.

Activity	% toward to final grade
Attendances	10%
Assignments	10%
Exam	50%
Group Project	10%
Quizzes	20%

Attendance (10%): Submit an exit ticket to receive the attendance credits.

Assignments (10%): Assignments will be posted on the blackboard. Assignments should be submitted before their deadlines. I'm very strict with deadlines. 10 points per day will be deducted for a late submission. No assignments will be accepted after the closing date. So, it is your responsibility to leave enough time to deal with possible personal issues or technical difficulties that may arise during online submission

Exams (50%): There will be 5 exams during the semester. Exams are only available during the scheduled time. If you fail to complete the exam before the deadline, 10 points/day will be deducted from your grade until the exam is closed. If you fail to complete the exam before the closing date, the exam will be closed, and you will receive a grade of zero (0) for that exam. The exams are timed.

Group Project (10%): Conduct research on the selected historical crime case and present it to the class. The presentation should be 10-15 minutes, including the case summary, evidence description, legal aspects, personal analysis, and source citation. See the blackboard for more details.

- Important due dates:
 - Sep 18th: Case & name of team members
 - Oct 2nd: Presentation date

Quizzes (20%): You have to take the quizzes before their deadlines. If you fail to complete the quiz before the deadline, the quiz will be closed, and you will receive a grade of zero (0) for that quiz.

Missed Examination Policy: A missed examination contributes zero percent toward the student's final course grade. Since this is an online course, exams are delivered via a database. Once an exam has closed, it will no longer be possible to retake the exam. Do not use a

wireless internet connection to complete assignments or take exams, as these connections can be unreliable and cause the submission of your work before you've completed the work, and nothing can be done.

Make-up work will be given *only* in the case of a *documented* emergency. Make-up work may be in a different format than the original work, require more intensive preparation, and be graded with penalty points. If you miss an assignment and the reason is not considered excusable, you will receive a zero. Therefore, it is important to reach out to me—in advance if at all possible—and explain with proper documentation why you missed a given course requirement. No further extensions or exceptions will be granted once a deadline has been established for make-up work.

Discussion Board: Discussion Board Topics allow students to strengthen their ability to communicate effectively in writing. Students should answer the question posed in the Discussion Board Topic and comment on responses made by other students. Students are expected to post contributions that are well thought out, well written, and that apply the principles of effective communication.

Responding to Posts

It's called a discussion forum because people are supposed to discuss ideas! Clever, huh? That means it will only be helpful if you respond to others, not just post your messages. You will not get the best results or grades from this kind of communication if you don't react to your classmates.

To respond to a message, simply enter the appropriate forum, then click on the subject of a message. Read the message, and if you want to respond, scroll to the bottom and click "Reply." Type your message and "Submit." Here are more hints:

- **Don't agree with everything.** "Good idea!" "I agree" or, "I think the same thing" is not worthwhile responses. They don't add to the conversation. If you agree with the poster, try to add another example or clarify the point more. It's OK to have a different opinion. On the other hand, ...
- **Don't disagree with everything.** You won't impress anyone by being critical of every posting made. Try to be generous in interpreting others. Ask clarifying questions if you are not sure you understand.
- **Search for balanced replies.** When you respond to others, try to include both positives and negatives about what they have said. Tell them what you like about their ideas or complement their intentions. Then let them know what part of their response they should consider giving more thought or looking at again.
- **Replies should be helpful.** A good reply will give everyone following along more to think about. If it is critical, the critique will be specific, clear, and point toward possible improvements. Often, asking more questions is the best sort of reply. A good reply will encourage the poster to respond again. Hopefully, they will look forward to more interactions with you in the future.

- **Attack arguments, but don't attack people.** Don't get personal in a discussion forum. At the worst, be generous and assume that it is the person's idea that you don't like, not the person. Ad hominem attacks (against the person) will lose friends and participation points for you. So will racist, sexist, ageist, and other bigoted comments. So will profanity and obscenity. Let's stay civil!
- **If you encounter difficulties or the argument gets too hot, let your instructor know.** Your instructor will be checking the forum regularly but may miss a critical posting. If someone posts something that upsets you, talk to your instructor about it. In some cases, your instructor might help clear up misunderstandings, or if necessary, delete an offensive message from the discourse.

Inappropriate Behavior

Some behaviors are inappropriate in a discussion group. This is especially true for academic groups. Remember that your professor is reading this discussion and act accordingly. Examples of improper conduct are:

- Using abusive, disrespectful, or foul language
- Using sexually suggestive language (explicit or implicit) that could be perceived as offensive or harassing.
- Threatening others
- Insulting others or denigrating the opinions of others. It is pretty normal to disagree but do so respectfully and without personal attacks.
- Making personal attacks
 - Posting in all capital letters, it looks like you are screaming
 - Responding in anger – if you are angry, take a ten-minute break before responding
 - Posting racist or hateful comments about ethnicity, gender, intelligence, or income level
 - Be very careful if you decide to use sarcasm – it can easily be misunderstood

Absence/Drop/Incomplete Policy: It is your responsibility to complete the scheduled activities before the deadline. If you cannot complete the assigned activities due to a severe illness or a legitimate excuse, such as military personnel called to active duty or training, make arrangements with me before you leave. **November 3rd** is the last day students may drop with an automatic “W.” An “I” (incomplete grade) can only be considered only if requested by the student in advance of the conclusion of the course and only for legitimate, documented emergencies. Failure to request and negotiate the terms of an “Incomplete” grade before the conclusion of the course will result in denial except in the most extraordinary circumstances.

Academic Integrity Policy: You must submit work that you yourself have completed. Work you submit that was not directly written by you is considered cheating and will result in a 0 for the assignment. Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes but is not limited to cheating, plagiarism, and collusion. Cheating may involve copying or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one's own.

Persistent submission of work performed by someone/something else will be reported to the Office of Student Conduct for evaluation. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#). UTEP's policies regarding academic integrity apply in this course. Information on this policy can be found at <http://academics.utep.edu/Default.aspx?tabid=23785>

Accommodation Policy: The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services, and activities with documented disabilities to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, email them at cass@utep.edu, or apply for accommodations online via the [CASS portal](#). The student is responsible for presenting any DSS accommodation letters and instructions to the instructor.