

CHEM 4360: PRINCIPLES OF FORENSIC SCIENCE (SPRING 2024)

Instructor Contact

Name: Dr. Charlie Williams

Pronouns: she/her/hers

Office Location: Chem 263

Office Hours: WF 9:00 – 10:00 am or by appointment

Email: Charlie.williams@unt.edu

Communication Expectations:

I can be reached most easily via email or the internal Canvas messaging system. If you are attaching pictures to a Canvas message, however, please clearly indicate you are doing so in your message. I will typically respond within 24 hours unless you email me between 5 pm Friday and 5 pm Sunday. I will typically be available in person for office hours. Other appointments may be made for in-person or virtual meetings.

Course Description

This course will introduce forensic topics in a continuation of CHEM 3330. It is designed to reinforce knowledge of forensic techniques and skills critical to evidence preservation and collection. It will also provide students with an understanding of professional ethics in forensic science and courtroom techniques.

Course Prerequisites or Other Restrictions

Prerequisite: CHEM 3330 (C or better)

Course Objectives

By the end of this course, successful students will be able to:

1. Discuss the basic duties of pathologists, anthropologists, and entomologists and make broad assessments of evidence analyzed in these fields.
2. Demonstrate a basic understanding of illicit drugs and forensic toxicology, including legal aspects, separation methods, and field tests.
3. Apply principles learned in CHEM 3330 and 4360 by processing a mock crime scene and analyzing evidence.
4. Discuss the professional and ethical issues faced by forensic scientists.
5. Demonstrate professional competencies necessary for internship and career success.
6. Explain scientific principles used in forensic analyses related to a real case

Materials

Houck, Max M., Siegel, Jay A. (2015) Fundamentals of Forensic Science (3rd edition) Academic Press
ISBN: 978-0128000373

1 bound lab notebook (not spiral-bound, may use notebook from 3330 if desired) and blue or black ink pen

Lab safety glasses or goggles

Course Technology & Skills

Minimum Technology Requirements

- Computer
- Reliable internet access
- Speakers
- Microphone
- Zoom
- Webcam
- Microsoft Office Suite
- [Canvas Technical Requirements](https://clear.unt.edu/supported-technologies/canvas/requirements) (https://clear.unt.edu/supported-technologies/canvas/requirements)

Computer Skills & Digital Literacy

Provide a list of course-specific technical skills learners must have to succeed in the course, such as:

- Using Canvas
- Using Microsoft Office (primarily Word and Powerpoint)

Course Structure

Lecture

Location: CHEM 253

Schedule: MWF 8:00 – 8:50 (Wednesday, January 17 – Wednesday, May 1)

Lab

Location: CHEM 283

Section 1: W 1:30 – 4:20 pm

Section 2: F 12:00 – 2:50 pm

Schedule

WEEK	DATES	TOPIC
1	1/17 1/19	Introduction to course; evidence admissibility and collection review Pathology (Chapter 7)
2	1/22 1/24 1/26	Pathology in-class activity Pathology Quiz and discussion Anthropology (Chapter 8) – introduction – biological profile
3	1/29 1/31 2/2	Anthropology – estimating sex, age, and ancestry/population affinity – imaging Anthropology Quiz and discussion Entomology (Chapter 9)
4	2/5 2/7 2/7-2/9	Entomology Quiz and discussion Exam 1 Review Entomology lab
5	2/12 2/14 2/16	Exam 1 Separation Methods (Chapter 6) Demo and/or diagram activity
6	2/19 2/21 2/23	Separation Methods Quiz and discussion Drugs (Chapter 13) – intro, classifications, schedules Drugs - analysis
7	2/26 2/28 3/1	Drugs Quiz and discussion Forensic Toxicology (Chapter 14) – intro, metabolism Forensic Toxicology – sampling, analysis
8	3/4 3/6 3/8	Forensic Toxicology – BAC & breathalyzer lab Exam 2 Review Exam 2
9	3/11-3/15	SPRING BREAK
10	3/18 3/20 3/20-3/22	Paint Analysis (Chapter 16) Paint Analysis Quiz and discussion Mock Crime Scene – Part 1
11	3/25 3/27 3/27-3/29	Questioned Documents (Chapter 20) Questioned Documents Quiz and discussion Mock Crime Scene – Part 2
12	4/1 4/3 4/5	Legal Aspects of Forensic Science (Chapter 24) Legal Aspects Quiz and discussion Ethics and Professional Issues (Chapter 25)
13	4/8 4/10 4/12	Professional Development Activity Exam 3 Review Exam 3
14	4/15 4/17 4/19	Presentations Presentations Presentations
15	4/22 4/24 4/26	Presentations Presentations Presentations
16	4/29 5/1 5/3	Presentations Presentations Reading day – no class

Teaching Philosophy

In order to benefit most from this course, students should attend each lecture. I try to build in time for you all to discuss concepts and ideas amongst yourselves. I have found that the networking that takes place in 3330 and 4360 often benefits students beyond this class – you all have the benefit of a small class with peers interested in the same topics you are interested in. I encourage you not to take it for granted and put effort into group assignments.

I am a facilitator of learning, but I cannot learn for you. I place great value on students seeking out their own answers. As such, I have a pretty relaxed cell phone policy as long as the freedom is not abused. I encourage students to look up information when they have a question (if possible) and seek me or a TA out for clarification or reinforcement. I believe learning is much more effective and long-term when it takes place in this manner.

I do not believe in busy work or assigning homework simply to have something to grade. If I ask you to complete a task, it's because I think it will help you learn material and help you progress on your journey to becoming a professional in the forensic field.

Course Requirements

This is a combined lecture/lab course, but the requirements for each environment are separated below for simplicity.

Lecture

Attendance to lecture is part of your grade and is expected. Students are responsible for all material presented in lecture whether present or not.

Each lecture topic will be reinforced with assignments such as end of chapter questions from the text, short essay assignments, and in-class discussion or activities.

Major grades will consist of three exams, lab activities (including the mock crime scene), and a presentation.

Lab

Each lab entry will be kept in a notebook with blue or black ink. Your TA will cover specific requirements during your first lab for how labs are graded and a summary will be provided on Canvas. Lab attendance is mandatory and no make-up labs will be possible without a university-approved excuse. If you are more than 15 minutes late, you may not be allowed to participate in lab that day.

Proper attire must be worn during lab – no exposed skin below the waist, full shoes, long hair preferably tied back. Some labs can be quite messy, so keep that in mind as you dress for lab as well.

You should record all lab activity in your notebook to help you complete your lab assignments and reports. You may use your CHEM 3330 notebook if you like.

Grading

A = 90.0% and above

B = 80.0% - 89.9%

C = 70.0% - 79.9%

D = 60.0% - 69.9%

F = 59.9% and below

If you feel that there have been any errors in assignment grading, you are responsible for contacting myself or the TA within 1 week of receiving that grade.

Grade Weight Categories

Homework: 40%

Lab activities: 20%

Exams: 20%

Final Paper/Presentation: 15%

Attendance/Participation: 5%

Course Evaluation

Student Perceptions of Teaching (SPOT) is the student evaluation system for UNT and allows students the ability to confidentially provide constructive feedback to their instructor and department to improve the quality of student experiences in the course. This will be announced in class when available.

Course Policies

Attendance Policy

Attendance is expected and is an integral part of success in this course and the forensic science program in general. In conjunction with participation, this is worth 5% of your grade in this class.

Attendance will be taken with iClicker. If you have trouble with iClicker, it is your responsibility to notify the instructor after class and troubleshoot before the next class if possible. If there are other barriers to using iClicker, it is your responsibility to communicate with me so we can make appropriate arrangements.

Class Participation

Class participation is often a key piece of this course and is part of your grade. If you arrive more than 15 minutes late for an in-class activity, you may not receive points for that activity.

Late Work

Late work will be accepted indefinitely with an increasing point penalty (10% the first day, 20% the second day, up to a maximum of 50%).

Examination Policy

There will be three exams throughout the semester. There is no final exam.

Exam 1 covers all material from Weeks 1-4.

Exam 2 covers all material from Weeks 5-8.

Exam 3 covers all material from Weeks 10-13.

No one may begin an assessment after the first student has completed and turned in their assessment.

No one will be given extra assessment time due to lateness.

Assignment Policy

Assignment due dates will generally be announced at least 2 periods before they are due. Assignment instructions and due dates will be included in the assignment on Canvas.

All assignments should be submitted in Canvas as .DOC, .DOCX, or .PDF (preferred).

Turnitin will be used for short essay submission. If your similarity score is above 50%, you may receive a zero for that assignment so be sure to write everything in your own words. Always cite your sources!

The University is committed to providing a reliable online course system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and contact the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324 and obtain a ticket number. The instructor and the UNT Student Help Desk will work with the student to resolve any issues at the earliest possible time.

Instructor Responsibilities and Feedback

- It is my responsibility to help students grow and learn, provide clear instructions for projects and assessments, answer questions about assignments, identify additional resources as necessary, review and update course content, etc.
- I will typically reply to emails within 24 hours except on weekends as discussed in the Contact section
- Grades will typically be posted within 1 week unless an announcement is made otherwise

Syllabus Change Policy

This syllabus may be changed at any time. Changes will be announced via Canvas in as timely a fashion as possible.

Due dates will be announced in class and will be visible on the assignments themselves on Canvas and are also subject to change.

UNT Policies

Academic Integrity Policy

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of

academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

As students in the forensic science program, ethical behavior is paramount. Therefore, I adopt a zero - tolerance policy with respect to any violations of academic integrity. Any students found to be cheating may immediately receive a failing grade.

ADA Policy

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the [ODA website \(https://disability.unt.edu/\)](https://disability.unt.edu/).

Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's [Code of Student Conduct \(https://deanofstudents.unt.edu/conduct\)](https://deanofstudents.unt.edu/conduct) to learn more.

Academic Support & Student Services

Student Support Services

Mental Health

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (https://studentaffairs.unt.edu/care)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling)

Chosen Names

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- [UNT Records](#)
- [UNT ID Card](#)
- [UNT Email Address](#)
- [Legal Name](#)

**UNT euIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.*

Pronouns

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can [add your pronouns to your Canvas account](#) so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- [What are pronouns and why are they important?](#)
- [How do I use pronouns?](#)
- [How do I share my pronouns?](#)
- [How do I ask for another person's pronouns?](#)
- [How do I correct myself or others when the wrong pronoun is used?](#)

Additional Student Support Services

- [Registrar](https://registrar.unt.edu/registration) (https://registrar.unt.edu/registration)
- [Financial Aid](https://financialaid.unt.edu/) (https://financialaid.unt.edu/)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (https://studentaffairs.unt.edu/student-legal-services)
- [Career Center](https://studentaffairs.unt.edu/career-center) (https://studentaffairs.unt.edu/career-center)
- [Multicultural Center](https://edo.unt.edu/multicultural-center) (https://edo.unt.edu/multicultural-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (https://edo.unt.edu/pridealliance)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (https://deanofstudents.unt.edu/resources/food-pantry)

Academic Support Services

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (https://clear.unt.edu/canvas/student-resources)
- [Academic Success Center](https://success.unt.edu/asc) (https://success.unt.edu/asc)
- [UNT Libraries](https://library.unt.edu/) (https://library.unt.edu/)
- [Writing Lab](http://writingcenter.unt.edu/) (http://writingcenter.unt.edu/)

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk: [UIT Student Help Desk site](http://www.unt.edu/helpdesk/index.htm) (http://www.unt.edu/helpdesk/index.htm)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

For additional support, visit [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328) (https://community.canvaslms.com/docs/DOC-10554-4212710328)