



Chemistry 300 Forensic Science

Instructor: Kathleen McNamara

Office: CSL313

Campus office hours M and W 9-10:30 am (if allowed)

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You may also feel free to ask a question on discussion board

TEXTBOOK: Criminalistics 10th ed. By Richard Saferstein, available at the bookstore (\$9.98 from Amazon, \$9.99 from Chegg, also try Valore) Note we will use the 10th, not the 11th or 12th, the price is less to rent or purchase used, and I want to save you money.

Prerequisite: Chemistry 100 or completion of General Education requirement in Foundations of Learning II.A. Natural Sciences and Quantitative Reasoning. Not applicable for degree credit for Chemistry majors, minors acceptable.

What is this course about? The catalog description is “Techniques and case studies of mysteries solved by molecular analysis: chemical and DNA analysis of crime scenes, biochemical explanations of mysterious deaths and accidents, molecular hallmarks of forgery, chemical methods in crime deterrence, chemical causes of fires and structure failure.” Realistically, this class will NOT teach you everything you need to know to be a forensic scientist, but it hopefully will give you insight into how a crime lab operates, the types of examinations done on evidence, and spark an interest in learning more about forensics. I also hope it will make you better informed jury members as most of you will be called for jury duty at some point in your life, and many will serve on a trial. Forensic Science fulfills your GE Explorations Natural Sciences requirement, and builds upon the goals and skills of your earlier GE Foundation courses. Exploration courses include more extensive reading and written analyses incorporating complex comparisons, well-developed argumentation, and appropriate references to the scientific literature.

What are the Student Learning Outcomes (SLOs)? SLOs provide a set of explicit learning goals for students, the “big picture” SLOs for the whole course level are provided below

- *Learn how the scientific method influences our daily lives
 - *Define basic terms used in analysis of evidence and presented in the courtroom
 - *Explain how evidence is used to make connections to a suspect
 - *Examine the techniques used in the crime laboratory and the chemical theory supporting them.
 - *Apply analysis techniques to criminal cases, and argue the relevance of evidence.
- There will also be specific learning objectives for each chapter, these double as a study guide for quizzes and exams.

How will the course work? The Blackboard (Bb) course page <https://blackboard.sdsu.edu/> for Chem 300 will serve as the access site for all course materials (e.g., video recorded lectures, streaming video, pdf and online readings, webpages, etc.) All of the posted material will be possible quiz/exam material, unless notified otherwise. The course will be divided into six “weeks”. Each “week” will conclude with a Bb quiz that can be completed at anytime over the time window stated as part of the weekly material. These quizzes will together account for almost 30% of your course grade. Missed quizzes may not be made up.

How will your learning will be assessed and graded? Your course grade will be based on 6 weekly quizzes (90 pts total, 15 pts per quiz), Bb discussions/case study (60 pts), and two exams worth 80 pts EACH (310 pts total). Each exam consists of two parts: Part A will be a one-hour Bb “super-quiz” comprised of numerical answer, multiple choice, true/false, etc. questions. Part B will be comprised of short answer and essay questions with responses typically limited to less than 200 words. The questions to part B will appear the morning of the midterm, you will have time to compose answers and submit them to me (look for announcement on that procedure). Part B must be received by 11 pm the day of the midterm. **It will take an hour to complete part A, and more than that to complete part B, make sure to allow adequate time.** Quizzes and exams strive to assess your understanding of major ideas and concepts, not just your ability to regurgitate specific facts, figures, and terms. So, while you are free to refer to any materials during quizzes and exams, you simply will not have time to start from scratch and “look up” answers to every question. Also, you are not allowed to collaborate with other Chem 300 students or to be assisted by any other individuals. **Please start arranging your busy life and work schedules now to accommodate the below examination dates.** Missed exams may not be made up without a medical excuse.

90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, below 60%=F The lower end of each grade on the scale will be a minus (-) grade, the upper end will be a plus (+).

How can you ask questions about content? The requested forum for content questions is NOT email to me, but posting your question, written as clearly and specific as possible, to the appropriate Bb module’s discussion board (see “Discussion” menu link). This approach will allow my response to be read by you as well as your classmates, if one person has a question possibly others have the same question. I will strive to check and respond to discussion board post about once a day, and may modify/combine postings as appropriate. Thus I recommend that you check it out periodically

When should you email me? if there is ever a problem with Bb (e.g., link not working, etc.) or you have a non-content-based concern or problem, do email me directly at kmcnamara@sdsu.edu or through the “Email” menu link. In either case, your email subject line must include “Chem 300” and should include some short informative title for your email. I will respond to your email as soon as possible, but it is your responsibility to re-contact me if you do not hear back within 24 hours. If we can’t solve the issue via email, a phone call or individual Zoom session can be arranged.

How can you ensure that you get course-related emails? Check and update your email address at SDSU WebPortal (<https://sunspot.sdsu.edu/portal/>) as Bb announcements will be sent to this address.

Will the syllabus or course design change? I reserve the right to make minor modifications to this syllabus and schedules as we progress through the course. Any such changes will be widely distributed via Bb announcements and email, and then via updated course syllabus posting.

What constitutes academic misconduct? Section 41301 of Title V of the California Code of Regulations defines academic misconduct as “cheating or plagiarism in connection with an academic program at a campus.” Examples of cheating include copying others’ work during an exam, falsifying data or records for an exercise, etc. Note that while you can use your course materials (e.g., handouts, notes, etc.), you may not collaborate with other Chem300 students or receive assistance from other individuals during quizzes or exams. Examples of plagiarism include copying other students’ answers or not stating answers in your own words based on your own understanding. More information is available from the SDSU Center for Student Rights and Responsibilities (<http://csrr.sdsu.edu/index.html>). Instances of cheating may result in failure of the course and referral for disciplinary procedures that may result in dismissal from the university.

Expectations

I expect students to:

1. Please read the assigned readings as you go through the course—don’t put it off.
2. Study for exams.
3. Write at a college level and follow directions on assignments.
4. Participate in all activities as indicated in the directions for each week.
6. Honor due dates.

You can expect me to:

1. Treat you with respect.
2. Be organized and post all needed material by the beginning of each week.
4. Give feedback.
5. Answer Emails within 24 hours, except on weekends.
6. Grade exams and discussion questions in a timely fashion.

Can this course accommodate students with disabilities? If you have or think that you may have a disability, please immediately contact SDSU Student Disability Services (SDS) at http://go.sdsu.edu/student_affairs/sds/ Once you have established a formal dialog with SDS, please contact me so that we can all work together to provide effective accommodations for your specific needs.

What is Respondus LockDown Browser?

Respondus LockDown Browser is a secure browser for taking tests in Blackboard. It prevents you from printing, copying, going to another URL, or accessing other applications during a test. **You will not be able to take the quizzes and exams with a standard web browser.** Respondus LockDown Browser should only be used for taking Blackboard tests. It should not be used in other areas of Blackboard. Make sure you use the absolute newest version, people who use older versions often have problems.

DISCUSSION BOARD:

The discussion board is designed to generate conversation regarding topics. This is a classroom environment, so please conduct yourself accordingly. Use tasteful and respectful language. Do not use abbreviations that are common with online chatting. Do not use something like UR GR8!! Spell it out. Instructor will monitor each of the discussion topics and may comment occasionally but primarily this is a forum for you interact (and practice the thinking skills you will need to write the case study).

It is expected that you complete some of the weekly reading requirements (reading, lecture, and assignments) for some discussion topics before you reply (instruction and due dates in the discussion board is provided).

Schedule and details

Each section closes at 11 pm on last day listed in the week. All work must be completed (not started) by that time.

<u>Week</u>	<u>Chapters</u>	<u>Assignment</u>
May 26-June 5 (extended to allow everyone to get book)	Scientific method Introduction (ch 1) The crime scene (ch 2)	Discussion board- Introduction Weekly quiz 1
June 2-8 (June 3 drop deadline)	Physical evidence including pathology and entomology (ch 3) Physical properties (ch 4) Organic analysis (ch 5)	Dis- Scientific method Video- web of clues weekly quiz 2
June 9-15	Inorganic analysis (ch 6) The microscope (ch 7) Drugs (ch 8)	Dis- ch 1-8 case, weekly quiz 3
June 15	Midterm covers ch 1-8, video and scientific method	Opens at 6:00 am, closes 11:00 pm
June 16-22	Forensic toxicology (ch 9) Forensic serology (ch 10) DNA (ch 11)	Video- invisible death Weekly quiz 4

June 23-June 29	Bloodstain pattern analysis (ch 12) Hairs, fibers, and paint (ch 13) Forensic aspects of fire investigation (ch 14)	Video-from the ashes Dis- ch 9-17 case weekly quiz 5
June 30- July 6	Explosions (ch 15) Fingerprints (ch 16) Firearms (ch 17)	Weekly quiz 6
July 5	Case study due	11 pm
July 6	Final exam covers ch 9-17, 2 videos, and scientific method	Opens at 6:00 am, closes 11:00 pm