

CHE 108 Topic: Forensic Science: Real Life CSI
CHE 261 Topic in Chemistry: Forensic Chemistry
Block 9 2005-2006

Instructors

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Course goals

First, we want to be clear about what this course is not: This course will not train you to be a forensic scientist or a criminologist. Rather, we will use forensics to teach you about what science is and is not; how scientists do their work; the portrayal of science and scientists in the media; the scientific theory and operating principles behind the tools of the trade in forensic science; and, most importantly, the fundamental scientific principles behind everything a forensic scientist does. We hope you will develop an appreciation of science along the way. Since these are chemistry courses, we will naturally focus on the chemical aspects of forensic science. However, forensic science is interdisciplinary and we will discuss some aspects of the broader field.

Required texts and other materials

Criminalistics: An Introduction to Forensic Science, 8e, by Saferstein
A scientific calculator (graphing not necessary)

Meeting times, format, and expectations

We will meet each day from 9:00-11:00 am and from 12:30-3:00 pm on Mondays and Fridays. In addition, we will have one field trip (Wednesday 24 May) where you will be occupied from 7:45 am-3 pm. Class will be a mixture of lecture, discussion, problem solving, and group work. Prompt attendance at all class sessions is expected, although attendance will not count specifically in the grade *except* during Week 4 (poster and oral presentations). Active participation in class is expected, and you will get more from the class if you are more involved. CHE 261 will also meet 1:00-3:00 pm Tuesday-Thursday.

Reading the material more than once is strongly recommended. Ideally, you would read the appropriate sections of the text, we will discuss the material in class, and then you would reread the same sections again. Reading a chemistry text is not like reading a novel; plan to spend a substantial amount of time reading.

Point distribution and explanation

Attendance, ECQs, class participation, and group work	30
Quizzes	14@15 (two lowest dropped) 180
Case study and CSI responses	6@25 150
Activities	60
Chapter summaries (CHE 108) / Class discussions (CHE 261)	60
Poster presentation (CHE 108) / Oral presentation (CHE 261)	120
Midterm exam	150
Final exam	250
Total	1000

End of Class Questions (ECQs): At the end of a class session, we will often ask you to write down one or a few questions you have regarding the material covered so far. We will then often begin the next class session by addressing one or more of these questions. There are no ‘stupid questions.’ The points in this subsection are nothing more than an effort grade. As mentioned above, we will not specifically take attendance except during Week 4.

Quizzes: These will be short, in-class problems to work. Most days will begin with a quiz. Your two lowest quiz scores will be dropped.

Case study and CSI responses: These will be short papers describing and responding to each case study and discussion and each CSI episode and discussion. More details to follow.

Activities: A short writeup will be required for each activity we carry out in class. More details to follow.

CHE 108 Chapter summaries: For each chapter that is assigned, write a summary that includes an overview of the chapter and definitions of key terms. Also include a paragraph for each significant topic or technique in the chapter. Be sure to explain how a technique works, the scientific basis for the technique, how it applies to forensics, and what the technique can and cannot do. The summaries are due at 9:00 am on exam days (18 May and 31 May). A significant part of the grade will depend on the summaries being organized, neat, and complete.

CHE 261 Class discussions: When CHE 261 meets on Tuesday-Thursday afternoons, we will have in-depth discussions of the material. Each day you will be responsible for bringing in outside material relevant to the topic at hand, and you should be ready to explain your material to the rest of the class. The points in this section will be based on your class discussions, your leadership in discussing your material, and the quality of the material you choose to bring in.

CHE 108 Poster presentation and CHE 261 Oral presentation: All presentations will be open to the public. More details to follow.

Midterm exam: This will cover a specific portion of the course.

Final exam: The final exam will be comprehensive, but the material in the latter portion of the course (since the midterm exam) will be weighted more heavily to provide balance to all material covered.

Extra credit: If you find a legitimate error in the textbook and are the first student to report this error to us via email, you will receive bonus points. The number of bonus points will be dependent on how many errors the class finds as a whole throughout the entire block. This offer is good for the text only.

Grading

Cutoffs will be no higher than:

A-/B+	900
B-/C+	800
C-/D+	700
D-/F	600

Cutoffs may be lower depending on the difficulty of the exams.

Miscellaneous

Students wishing to drop on the 15th day must have faithfully attended and participated in class.

Late work will not be accepted, and makeup assignments (quizzes, exams) will not be given. If you need to miss class, let us know ahead of time; if the reason is good the assignment in question may be excused at our discretion.

Any student needing accommodation for a disability should contact us within the first two days of the course. Any student with a situation which could affect your learning (e.g., serious family trouble) is urged to contact us soon, ideally as soon as the problem arises.

Academic and scientific misconduct will be dealt with harshly. Examples include, but are not limited to, ‘collaborating’ on exams, illegal material stored in your calculator, submitting another’s work as your own, and falsification of data. **Any** question about what is (or is not) appropriate in academia or science should be directed to us. If there is any doubt at all then please ask.

Schedule

The following schedule is tentative; deviations will be announced in class.

Day			Chap.	Topic
1	M	8 May	1-2	Introduction; the crime scene
2	T	9 May	3-4	Physical properties; glass and soil
3	W	10 May	5	Organic analysis
4	R	11 May	6	Inorganic analysis
5	F	12 May		am: Case study I: readings from text pm: CSI episode and discussion
6	M	15 May	8-9	Fibers, paint, drug identification
7	T	16 May	11	Arson and explosions
8	W	17 May	14-15	Fingerprints, gunpowder residue
9	R	18 May		Midterm exam (9am-11am)
10	F	19 May		am: Case study II: The Shroud of Turin pm: CSI episode and discussion
11	M	22 May	10,12	Toxicology, serology
12	T	23 May	12-13	Serology, DNA
13	W	24 May		Field trip to state crime lab (7:45am-3pm)
14	R	25 May	13	DNA
15	F	26 May		am: Case study III: The O.J. Simpson Case pm: CSI episode and discussion
16	M	29 May		am: oral presentations pm: poster session
17	T	30 May		oral presentations
18	W	31 May		Final exam (9am-noon)