

Chemistry 105: Forensic Chemistry

Fall - 2011

Instructor: Prof. Kevin Range

Email: krange@lhup.edu

Office: Ulmer 417

Phone: 570-484-2959

Required materials:

- *Investigating Chemistry: A Forensic Science Perspective, 2nd edition*, M. E. Jhll
- *CHEM105: Forensic Chemistry Laboratory Manual*, K. Range
- scientific calculator (See me if you have questions.)
cell phones are NOT allowed
- safety goggles (for laboratory)

Lecture: Please bring your textbook and calculator to lecture. They may be needed during our discussions.

F - 11:10AM–1:00PM FOUN003

Laboratory: Please bring *all* of the above required materials to lab. Please dress appropriately and follow all instructions, for your safety and that of your peers. Failure to follow safety protocols or directions from the instructor may result in your expulsion from the lab and grade penalties.

section	time	place
90	Friday, 8:15AM–10:05AM	FOUN008
91	Friday, 2:10PM–4:00PM	FOUN008

Office hours:

day	time	place
Wednesday	9:00AM–11:00AM	Ulmer 417
Thursday	9:00AM–11:00AM	Ulmer 417
Friday	1:00PM–2:00PM	FOUN008

and by appointment

Course website: <http://www.lhup.edu/krange/courses/chem105/>

Description: An introduction to chemical principles as they apply to forensic investigations. By applying the scientific method to these basic principles, students will investigate the role of chemistry in solving crimes. The laboratory experience is designed to reinforce the scientific method and the topics from the lecture. Students make real world determinations as they investigate and apply chemistry to their lives.

In particular, we will be covering chapters 1–4, 6, 7, and 9–10 in the *Investigating Chemistry* text.

Quizzes: There will often be quizzes lasting 10 to 15 minutes at the beginning of our meetings.

Exams: There will be three exams. The first will cover chapters 1–3, the second will cover chapters 4, 6, and 7, and the final exam will be a comprehensive exam for this course.

The first two exams are tentatively scheduled to be on 2011-10-07 and 2011-11-11.

The final exam is scheduled for 10:00AM–11:50AM, 2011-12-13.

Other coursework: There will be several other forms of coursework: laboratory exercises, essays, discussions, homework problems, etc. The details of these other tasks will be made clear as we approach each assignment.

Attendance: Attending your assigned laboratories and lectures is strongly encouraged. Absence from lecture carries no formal penalty but excessive absences will affect your grade, if only through the lowering of your quiz average.

If you do not complete a graded assignment due to an unexcused absence (e.g., you miss a quiz) you will receive a grade of zero for that assignment and will not be afforded an opportunity to make up the assignment in question.

Absences will only be excused in advance.

Any absence from lab (including missing lab due to safety violations (e.g., failure to wear goggles)) is grounds for failing the course. Students that do not complete 13 laboratory assignments (either by attending all 13 regular lab meetings or by using the make-up lab period to bring their total to 13) will fail the course. If you miss lab, you fail.

If you are unclear in any way about the above attendance policy, please seek clarification as soon as possible. You will be held to this standard whether you understand it or not.

Student responsibilities: You are expected to complete all assignments on time, with academic integrity, and in the manner instructed. You are expected to come to class and lab prepared (e.g., having read and understood the laboratory procedure *before* stepping into the lab) and ready to participate in the day's activities. Failure to meet these responsibilities will have a detrimental effect on your grade. Specifically, assignments that are late and/or the product of unethical conduct will receive a grade of zero.

Computer malfunction is generally not an excuse for missing assignments. Proper backup practices and use of the technology services available at Lock Haven and on the Internet should allow you to access a relatively recent copy of any data you may need from nearly any computer at anytime.

Grades: Your final percentage grade will be the weighted average of all of your coursework:

Quizzes	Exams*	Final	Lab
20%	25%	25%	30%

* excluding the final exam

Your final letter grade will be computed from your final percentage grade using the fairly standard set of brackets below. In the event that there are few or no students in the top bracket (>93%) the instructor *may* adjust the brackets to give a more meaningful distribution of letter grades. Such adjustments will *never* result in a lower letter grade than that obtained from the brackets below.

A	93–100	C+	77–79
A-	90–92	C	73–76
B+	87–89	C-	70–72
B	83–86	D+	67–69
B-	80–82	D	60–66
	E	<59	

Academic integrity: Copying of another group’s lab data, copying of another person’s work, obtaining copies of tests prior to their administration, using unauthorized materials during tests, sharing or stealing information during and exam, and alteration of a graded exam and then requesting a re-grade, plagiarism in any form, and any other violation of academic integrity standards are all forbidden. Violations will result in a grade of zero being assigned for the work in question and may be reported to the proper authorities. For further discussion of academic integrity see the *Student Handbook* http://www.lhup.edu/stulife/student_handbook/index.htm

If you have any questions about academic integrity, plagiarism, or anything else *please* come and see me. I hate having to fail students for violating academic integrity standards and then having them plead ignorance. *Ignorantia juris non excusat.*

Reasonable accommodations for students with disabilities: Students with disabilities are encouraged to discuss requests for reasonable accommodations with the professor at the beginning of the semester. In order for accommodations to be provided, your disability must be verified by Disability Services for Students.

Tentative laboratory schedule

Date	Lab
2011-09-02	Safety and Introduction
2011-09-09	Separation of a mixture
2011-09-16	Measurements
2011-09-23	Polymer identification
2011-09-30	Fingerprints
2011-10-07	Epidemic
2011-10-14	Identification of household chemicals
2011-10-21	Moles
2011-10-28	Blood alcohol concentration
2011-11-04	Spectroscopic determination of tartrazine
2011-11-11	Chemical spot tests for illicit drugs
2011-11-18	Thin layer chromatography
2011-12-02	Low explosives and gunshot residue
2011-12-09	5 bottle mystery