University of Michigan
Fall 2018
Chemistry 125/126 sections 100 / 200 / 300
Lecture Room: 1800 CHEM

Course Coordinator: Dr. Poniatowski
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Office Hours (4642 CHEM):
Mo./We./Fr. noon – 2:00 PM

Course Description:
Chemistry 125/126 is a pair of general chemistry laboratory courses condensed into a single semester of calendar time. We will be concerned with many of the same topics that are purview of the Chem 130 lecture course (measurement, the mole, reactions in aqueous solution, gas mixtures, enthalpy, *&c.*), though there is no requirement that Chem 130 be taken concurrently (or at all, for that matter). The primary goal of this course is to emphasize practical, hands-on experience in laboratory chemistry with an emphasis on the scientific method, critical thinking, and teamwork.

Required Course Materials:
You will need a bound notebook dedicated to the task of keeping laboratory records (this notebook need not be fancy). Laboratory lessons and experimental details will be provided via regular updates on the course canvas site.

Recommended Materials:
-A scientific calculator will be helpful for routine lab work. An expensive calculator is not required (nor particularly recommended).
-You may find a copy of any recent vintage general chemistry textbook helpful for reference.

Class Format:
Lectures: held in 1800 Chem in a 50-minute format, these meetings will serve as an organizational basis for the course. Lecture themes will include theoretical and practical demonstrations involving the chemistry performed in the laboratory that week.

Laboratory: held in your assigned classroom in a 3-hour format, this is your opportunity to conduct chemical experiments and generate data. Emphasis will be placed on practical application of chemical knowledge to scientific inquiry. Teamwork is required, and a positive outlook is appreciated.

Discussions: occur in conjunction with your laboratory lessons, and in the same classroom. This is your opportunity to talk about experiments and data with your classmates and instructor. Your problem solving demonstrations will also take place during this time.

Laboratory Safety:
This is a laboratory-based course. Your health and safety are very important to us. We require that you wear proper lab attire, including safety goggles and clothing that covers from shoulder to foot. Tops that have sleeves (even short sleeves) are required, as are footwear that fully enclose the foot.

A few words on eye protection: at the beginning of each lab session, there will come a time (following any pre-lab paperwork) when your instructor will request that eye protection be worn. If a student is observed to be in the lab without their goggles in place, that student will receive one (1) verbal reminder to keep their eyes protected. If such a student is observed to be without eye protection a second time in a class session following a verbal reminder, that student is choosing to be removed from the course for the semester.

Evaluation:
Your performance will be compared only with those students in your laboratory section. Your Graduate Student Instructor (GSI) will compile your score for the course based on the following components:

Assignment Type		Subtotal
Participation Points	GSI points: 12 lab sessions @ 2 pts each	24 pts.
	Problem Solving audience @ 2 per demo	20 pts.
Pre-lab activities	10 experiments @ 5 points each	50 pts.
Problem Solving Demos	1 presentation @ 50 points	50 pts.
Post-lab assignments	Short assignments for 6 labs @ 30 points each	590 pts.
	Notebook pages for 2 labs @ 20 points each	
	Short manuscripts, 5 labs @ 50 pts.	
Other	1 Laboratory practical	75 pts.
TOTAL		809

Pre-lab activities will be assigned by your GSI. These exercises may take the form of written assignments or quizzes, and they represent your opportunity to come to the laboratory prepared to work on the topic of that particular day.

Written post-lab manuscripts are prepared by each student (not shared authorship) in a limited format summarizing your **conclusions** based on your lab **data** (which were in turn generated from an **experiment**, which followed from an initial **hypothesis**). On several occasions these activities may take the form of a student-authored short manuscript, which should be no longer than 500 written words (but may also include any tables and figures for illustration). On other occasions, these activities will take the form a shorter, GSI-authored assignment to be completed outside of class. Specific directions will be given during each lab by your GSI. One is responsible for one's own written work, though you may rely on your GSI for advice and critique

Problem solving demonstrations will occur each week during the discussion portion of your lab meetings. A team of two students (pairs determined by GSI) will be responsible for presenting a challenging chemistry problem to the class. This is your chance to act in the role of teacher. The particular problem of the week will be distributed to the class a week in advance, but only the selected team is responsible for its presentation.

Audience participation during problem solving demos is important because the presenter of the week values your feedback. Using a professional demeanor, it is perfectly reasonable (expected, even) that the audience ask for clarification, challenge an assertion, request data, or follow up on an interesting point made by the presenter. This is not meant to be a punishing “gotcha” experience for the presenter. This is an introduction to the way scientists should ideally conduct conversations in public: friendly, but skeptical. Being engaged with the presenter and taking responsibility for your own mastery of the topic at hand is crucial.

Notebook records are also an important aspect of being a professional scientist. We will expect you to keep an up to date record of your experimental details and data in this course. Your notebook should be dedicated to this class only, with no extraneous content unrelated to your lab work, and must be bound and purpose-dedicated.

GSI points are an opportunity from your GSI to provide feedback on your skill in the laboratory. This will include subjective and objective observations, including things like working safely in a conscientious, calm and orderly manner. We will be evaluating your conduct for things like working respectfully in a team setting, meeting deadlines, punctuality and other indicators of professional disposition.

Laboratory practical: An experiment conducted by each student alone, with your GSI acting only in the roles of evaluating your laboratory skills, and as safety advisor.

The course coordinator is responsible for assigning letter grades after conferring with your GSI. Letter grades will be assigned based on total percentage score for the entire semester. Grades will be calculated according to the two following schemes, with each student receiving **the higher of the two calculations.**

Scheme 1:
A = 93% < total score ≤ 100%
A– = 90% ≤ total score ≤ 93%
B+ = 87% ≤ total score ≤ 89%
B = 83% < total score ≤ 86%
B– = 80% ≤ total score ≤ 83%
C+ = 77% ≤ total score ≤79%
C = 73% < total score ≤ 76%
C– = 70% ≤ total score ≤ 73%
D+ = 67% ≤ total score ≤69%
D = 63% < total score ≤ 66%
D– = 60% ≤ total score ≤ 63%
E = 0% ≤ total score ≤ 59%

Scheme 2:
A range: percentage score greater than 1 standard deviation above the mean
B to **A–** range: percentage score less than 1 standard deviation above the mean
C to **B–** range: percentage score less than 1 standard deviation below the mean
D to **C–** range: percentage score greater than 1 standard deviation below the mean
E: having missed more than 1 lab AND in the "D" range

Note: Departmental policy indicates the first step in inquiring about the accuracy of a final grade should be directed to the lead instructor of the course. This initial inquiry should take place within the first fifteen University business days of the first full term following the term in which the disputed grade was issued. If, after this inquiry, the student is not satisfied with the instructor's response, the student may choose to initiate a formal grade grievance. To initiate a formal grade grievance, the student should contact the Associate Chair of Undergraduate Studies (ACUS) of the home department of the course in question before the end of the fifth week of classes in the first full term following the

term in which the disputed grade was issued.

Attendance Policy:
In a lab course, attendance is paramount. We expect you to be learning chemistry through a hands-on, practical approach. Your teammates will also be depending on you. We know that things come up during the semester, expected or otherwise, that will cause individuals to miss class. We will allow a student one (1) absence without penalty. For each student in the course, we will simply ignore or "drop" your lowest pre-lab and post-lab scores. If you have been absent once, this means we will simply "drop" your zero-scores.

If you find yourself in a situation that will require more than one week's absence, please speak with the course coordinator, as we should discuss your individual circumstances. In true matters of life and death, we will be able to find an acceptable academic solution. In the case of more trivial matters, we will likely advise you to withdraw from the course.

Academic Integrity:
The University of Michigan community functions best when its members treat one another with honesty, fairness, respect, and trust. The College promotes the assumption of personal responsibility and integrity, and prohibits all forms of academic dishonesty and misconduct. All cases of academic misconduct will be referred to the Office of the Assistant Dean for Undergraduate Education. Being found responsible for academic misconduct will usually result in a grade sanction, in addition to any sanction from the College.

For CHEM 125/126, this primarily involves (but is not limited to) one being responsible for the preparation of one's own manuscripts.

Disability Resources:
If you think you need an accommodation for a disability, please let the course coordinator know at the beginning of the term. Next, you should contact the Services for Students with Disabilities (SSD) office. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation (VISA) for and we can arrange for your accommodation. Any information you provide is private and confidential and will be treated as such. If you already have a VISA from SSD, please present this form to the course coordinator at the beginning of the term, but no later that at least two weeks prior to the need for the accommodation so that there is enough time for the appropriate arrangements to be made.

Student Sexual Misconduct Policy:
Title IX prohibits discrimination on the basis of sex, which includes sexual misconduct — including harassment, domestic and dating violence, sexual assault, and stalking. We understand that sexual violence can undermine students' academic success and we encourage anyone dealing with sexual misconduct to talk to someone about their experience, so they can get the support they need. Confidential support and academic advocacy can be found with the Sexual Assault Prevention and Awareness Center (SAPAC) on their 24-hour crisis line, (734) 936-3333 and at sapac.umich.edu. Alleged violations can be non-confidentially reported to the Office for Institutional Equity (OIE) at institutional.equity@umich.edu.