Chemistry 126

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Location

All lab sections in the Beaupre Center undergraduate labs
Section time and dates in ecampus

Course Description

CHM 126 is the laboratory course that accompanies the CHM 124 lecture. It involves hands-on experimentation and direct observation of physical and chemical changes. Credit for or concurrent enrollment in CHM 124 is a prerequisite for this lab course. Students should be aware that the CHM 124 lecture and CHM 126 lab are separate courses and while the lab is intended to complement the lecture by illustrating many of the lecture concepts, the timing of these concepts *may* or *may not* be synchronized with the lecture presentation. The lab also includes some additional concepts that are *not* taught in lecture.

It is recognized that a number of students enrolled in the CHM 126 lab completed the CHM 124 lecture in a previous semester or previous academic year. For this reason, each of the experiments in the lab manual is written as a complete lesson, and supplemental materials – including video tutorials – are available at the Sakai course site. It is intended that any student who does a thorough job studying the provided course materials, preparing for each experiment, practicing the required skills, and utilizing the Study Help Resources should be able to succeed in the course. Specific information regarding the course is given below.

Note for students who are concurrently enrolled in CHM 126 and the CHM 124 lecture course: If you drop the CHM 124 lecture course, you MUST also drop the CHM 126 lab.

First Week of Classes

All students must attend their laboratory session on the first week of classes to undergo the safety training, check-in, and complete the required paperwork. Any student who does not get this done on the first week will be dropped from the course and his/her spot given to someone on the waitlist who has done the safety training.

Required Laboratory Materials

- CHM 126 Laboratory Manual (URI Bookstore)
- Safety equipment: goggles/safety glasses, knee-length lab coat, nitrile gloves (Chemistry stockroom, Beaupre 180), and shoes that completely enclose your feet.
- A scientific calculator (with logarithm and exponent functions) and pen

Attendance

Attendance is required at the day and time for which each student is registered. The course schedule is set up for 10 laboratory experiments, a Laboratory Final, and an 11^{th} make-up experiment. Students are required to complete 10 experiments and the Laboratory Practical/Final. Students who miss a lab MUST complete the make-up experiment on the designated days on the last week of classes. A reservation at the Beaupre 180 Stockroom is required to participate in a make-up lab session. The make-up lab cannot be used to replace a lower lab grade. **Students who do not complete 10 experiments and the Laboratory Practical/Final can expect to receive a failing grade in the course.** "Complete" means the student submitted the Pre-Lab Assignment, took the Pre-Lab Quiz, worked the experiment, and submitted the Lab Report sheet.

Grading Policy

The course grade will be calculated as follows:

	Points per item	% of Grade
Pre-Lab Assignments (10)	20 points	13 %
Pre-Lab Quizzes (10)	20 points	13 %
Lab Report Sheets (10)	100 points	60 %
Laboratory Practical/Final	100 points	14 %
Total		100 %

Course grades will be assigned according to the scale shown:
90%+ = A- / A; 80-89% = B- / B / B+; 70-79% = C- / C / C+; 60-69% = D / D+; <60% = F

Grades in CHM 126 are *earned* by demonstrating mastery/proficiency in the required skills; these include not only the organic laboratory techniques, but also problem-solving, critical thinking, and the ability to apply organic chemistry concepts to relevant laboratory scenarios (e.g., predicting physical and chemical properties from a study of molecular structure). Each student's grade is determined by the *quality* of that student's performance on the CHM 126 work items (described in detail below). The grade is *not* open to negotiation, and it is *not* dictated by what's needed to progress in the student's chosen program of study. The grade must be *earned* by achieving *proficiency in* (and ideally – *mastery of*) the skills identified as essential to ongoing success in the student's degree program.

- ***Pre-Lab Assignments and Pre-Lab Quizzes***
  Each laboratory experiment includes both a Pre-Lab Assignment and Pre-Lab Quiz, so students can demonstrate that they've thoroughly prepared for their experimental work. Information about the Pre-Lab Assignments and Pre-Lab Quizzes is provided in the *"Introduction"* presented on pages 3 – 12 of the CHM 126 lab manual. Students must take responsibility for reviewing these materials, contacting their lab instructor with any questions, and taking the necessary steps to prepare. Pre-Lab Quizzes will be given promptly at the start of each lab period, after attendance and drawer inventory. Students who arrive late (after the quiz has been completed) will receive a zero for that day's quiz.
  Any student who comes to lab and does NOT have the lab manual, the completed Pre-Lab Assignment, and the required personal protection items will NOT be permitted to conduct the experiment (and will thus receive a ZERO for that week's experiment).

- ***Lab Reports***
  The Lab Report is due the week after the experiment is performed, and it must be submitted at the *START* of that lab session. No lab reports will be accepted after the due date and will be given a grade of zero.

  Refer to the *"Introduction"* part of the lab manual for information on how to record data and observations for the Lab Report Sheet. Your lab instructor *MUST* look over your data/observations, and sign the Lab Notebook pages before you leave the lab.

  During each experiment, the lab instructor will objectively assess each student's performance in the lab, and assign points for appropriate laboratory behavior and technique (maximum of 20 points). Lab Technique points are ***awarded*** for: coming in and finishing on time, demonstrating familiarity with the day's experimental procedure, exhibiting proper experimental technique, and good record keeping.

  Performance points will be ***deducted*** for: improper waste disposal, leaving personal lab bench/hood and communal areas unclean, leaving dirty glassware for the next student using the shared drawers, disruptive and unsafe behavior, and plagiarism.

- ***Laboratory Practical/Final***
  We will have a comprehensive Final Exam including a laboratory practical. A Lab Skills Summary will be provided in the Sakai course site to assist students in preparing for the final.

Grading

All work handed in during lab is to be graded and returned to you at your next lab session. The teaching assistant assigned to your section does all of the grading for the course. If you have not received your graded work promptly, please notify the course director immediately so that the graded work is returned to you by the next lab. Contact your TA immediately if you have a problem with the grading of your work. If the problem does not get resolved through your TA, contact Dr. Geldart immediately. No changes in grades will be made if the problem is not addressed within 1 week of receiving your graded material back

Do not compare the grading on your work to that of a student with a different TA. All teaching assistants grade slightly differently. At the end of the semester, the course director evaluates the grades of each TA and will assign a scale (if necessary) to each section to ensure that the overall grades of the teaching assistants will be similar.

Laboratory Safety

NOTHING is more important than the personal safety of the occupants of the laboratory. Any student who deliberately or carelessly disregards a written or oral safety instruction will be expelled from the laboratory and will receive a grade of zero for the experiment. A student who is expelled twice from the laboratory for safety violations will automatically receive a failing grade in the course. Careless disregard of safety instruction includes (but is not limited to) the following:

- Any student who improperly disposes of chemical waste (pours solutions into laboratory sinks, or places solid waste into a trash can).
- Any student who does *NOT* have the following personal protection items: safety glasses or goggles, lab coat (clothing which covers the arms to below the elbow and legs to below the knee), protective (nitrile) gloves (when required), shoes which fully enclose the foot (no open toe or heel) and socks.
- Any student who has *NOT* completed the Pre-Lab Assignment or is *NOT* able to answer questions on the Pre-Lab Quiz (so as to demonstrate effective preparation for that day's experiment).
- Any student who uses a cell phone in lab without prior permission, or for reasons other than a laboratory emergency.

Department Safety Policies:

- Students must be wearing their personal protection gear (lab coat and goggles/safety glasses) and have the proper footwear *BEFORE* they enter a teaching laboratory. (Students are to put on nitrile gloves at the time they begin working the experiment.) These items *MUST* be worn at all times while students are in a chemistry lab, and they can be removed only *AFTER* students have safely exited the lab room.

- Chemistry department personnel are *prohibited* from loaning safety glasses by State of Rhode Island health/hygiene regulations. Students who forget their safety glasses should *NOT* ask about loaner eyewear, and *must* purchase a replacement pair of safety glasses at full cost.

Laboratory Equipment Bills

Each lab student is responsible for the equipment provided in his/her assigned drawer. Because that drawer is shared with students in other sections, each student must carefully inventory the equipment in the drawer to verify that all items are present and in good working order. This inventory must be conducted at both the beginning and end of every lab period. Students will be charged for any items that they break during their own lab section. Students will also be charged for any items reported missing or broken by the student who inventories that drawer at the beginning of the next lab section.

Students must take responsibility for checking the Chemistry Stockroom website to determine whether they have an outstanding lab equipment bill. A link to the Stockroom website is available from the CHM 126 Sakai course site. The deadline to pay lab equipment bills at the Chemistry Stockroom is at the close of business at the end of Final Exam week. Any student who has an unpaid bill at the Chemistry Stockroom after that day will have a sanction (a hold) placed on their e-Campus account. This sanction may prevent students from registering for classes, obtaining a transcript, or obtaining a diploma.

Study Help Resources

- Beaupre 115 Chemistry Learning Center. Help is available from Chemistry TAs at the Learning Center. The schedule will be posted in Sakai. The Beaupre Learning Center is your best help resource for questions about chemistry lab courses since the TAs actually teach the chemistry lab courses. They are far more familiar with the particular experiments and expectations for lab reports than the tutors at the Academic Enhancement Center.
- AEC (Academic Enhancement Center). The AEC provides walk-in tutoring services and academic coaching for students. Information regarding the center is available on the 4th floor of Roosevelt Hall, 874-2367 (http://www.uri.edu/aec/).

Study Help Advice

Whether you're seeking help from Dr. Ngo, a Chemistry Teaching Assistant, or an AEC Tutor, you'll want to arrive at your help session *on time* and *fully prepared*, to make the discussion as productive and efficient as possible. This means you should bring all relevant study/reference materials with you to the session. This would include your CHM 126 lab manual, your data/observations from the lab experiment, your scientific calculator, and your *written* list of specific questions and/or your goals for the help session.

Disability Accommodations

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please contact the Disability Services for Students Office at 330 Memorial Union, 874-2098 (http://www.uri.edu/disability/dss/) for the proper documentation.

Academic Integrity

The university policy on academic honesty will be strictly enforced. While experiments are conducted in pairs, each student's Pre-Lab Assignment, Pre-Lab Quiz, and Lab Report Sheet ***must*** represent the work of the individual student. Any incidence of academic dishonesty, as defined by the policies outlined in the URI's Student Handbook, will result in ***either one or all*** of the following: a grade of zero for the particular work, failure for the course, formal notification to the Dean.

No section of your Pre-Lab Assignment, Pre-Lab Quiz or Report Sheet can be identical (or nearly identical) to that of another student without attribution. If sections of Pre-Lab Assignments/Quizzes or Report Sheets are the same (or nearly the same) as another source (e.g., a student's paper, a section of the lab handout or lecture textbook, an explanation from a TA, information posted on the internet), it will be regarded as plagiarism. The consequence of a first instance of plagiarism is a grade of zero on that section of the graded paper. If there is a repeat instance of plagiarism, the penalty is a grade of zero on the entire Pre-Lab Assignment, Pre-Lab Quiz or Report Sheet.

CHM 126 Schedule of Experiments – Spring 2019

Dates	Day	Experiments
1/21-1/25	M	No labs
	Tu	No labs
	W	check in
	Th	check in
	F	check in
1/28-2/1	M	No labs
	Tu	check in and Lab 1:Organic Compounds
	W	Lab 1. Organic Compounds
	Th	Lab 1. Organic Compounds
	F	Lab 1. Organic Compounds
2/4-2/8	M	No classes
	Tu	Lab 2. Thin-Layer Chromatography
	W	Lab 2. Thin-Layer Chromatography
	Th	Lab 2. Thin-Layer Chromatography
	F	Lab 2. Thin-Layer Chromatography
2/11-2/15	M	No labs
	Tu	Lab 3. Distillation
	W	Lab 3. Distillation
	Th	Lab 3. Distillation
	F	Lab 3. Distillation
2/18-2/22	M	**Presidents day**
	Tu	Lab 4. Dehydration of Cyclohexanol
	W	Lab 4. Dehydration of Cyclohexanol
	Th	Lab 4. Dehydration of Cyclohexanol
	F	Lab 4. Dehydration of Cyclohexanol
2/25-3/1	M	No labs
	Tu	Experiment 5 (Ka)
	W	Experiment 5 (Ka)
	Th	Experiment 5 (Ka)
	F	Experiment 5 (Ka)
3/4-3/8	M	No labs
	Tu	Lab 6. Synthesis of Aspirin
	W	Lab 6. Synthesis of Aspirin
	Th	Lab 6. Synthesis of Aspirin
	F	Lab 6. Synthesis of Aspirin

Dates	Day	Experiments
3/11-3/15	M	**Spring Break**
	Tu	**Spring Break**
	W	**Spring Break**
	Th	**Spring Break**
	F	**Spring Break**
3/18-3/22	M	No labs
	Tu	Lab 7. Esters and Soap
	W	Lab 7. Esters and Soap
	Th	Lab 7. Esters and Soap
	F	Lab 7. Esters and Soap
3/25-3/29	M	No labs
	Tu	Lab 7/8. Esters and Soap/Synthesis of Nylon
	W	Lab 7/8. Esters and Soap/Synthesis of Nylon
	Th	Lab 7/8. Esters and Soap/Synthesis of Nylon
	F	Lab 7/8. Esters and Soap/Synthesis of Nylon
4/1-4/5	M	No labs
	Tu	Lab 9. Characterization of Carbohydrates
	W	Lab 9. Characterization of Carbohydrates
	Th	Lab 9. Characterization of Carbohydrates
	F	Lab 9. Characterization of Carbohydrates
4/8-4/12	M	No labs
	Tu	Lab 10. Organic Functional Group Analysis
	W	Lab 10. Organic Functional Group Analysis
	Th	Lab 10. Organic Functional Group Analysis
	F	Lab 10. Organic Functional Group Analysis
4/15-4/19	M	No labs
	Tu	Lab practical
	W	Lab practical
	Th	Lab practical
	F	Lab practical
4/22-4/26	M	No labs
	Tu	Makeups
	W	Makeups
	Th	
	F	