

CHEM 251L Organic Chemistry I Laboratory Fall, 2016 Syllabus

Part 1: Course Information

Instructor Information

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Textbook & Course Materials

- Readings and assignments will be made available in Moodle, our learning management system

Course Requirements

- Spartan '16 (free download to RHIT students, requires network to use, limited site licenses require you to "exit" when you are not actively working)
- ChemDraw Pro (free download to RHIT students, does not require network to use)
- Internet connection (DSL, LAN, or cable connection desirable)
- RHIT network access (for running Spartan '16)
- Bound composition notebook
- Safety goggles

Course Structure

This course is comprised of laboratory experiments intended to teach you the necessary skills for working safely in an organic laboratory. We rely on a mixture of skills-based labs, lab projects, and computational exercises for professional development. We will be using Spartan as our primary tool for computational modeling, and it will be used only once in lab, but can support your learning in lecture and as you develop as a professional in the chemical sciences. The two skill-based labs are intended to provide you with the specific understanding of how and why certain techniques are used as well as provide context. The three projects in the course provide an opportunity to incorporate deeper design-based thinking. Grades will reflect this mixture of methods, so you will have some competency-based grading using a practicum-based approach as well as grades assigned based on accuracy, professionalism, and formatting of scientific reports.

Part 2: Topic Outline/Schedule

Week	Topic	Purpose	Deliverable	Due Date
1	Lab Introduction & Molecular Modeling	Lab introduction*, Molecular modeling instruction (how to use Spartan)	Pre-lab quiz (5 points), Spartan assignment (30 points) Total points:35	Individual lab report due WK 2
2	PD skill lab I	IR and mp technique	Pre-lab quiz (5 points), Report form (20 points) Total points:25	Individual lab report form due WK 3
3	Aldol Reaction	Mixture melting point analysis, recrystallization, green chemistry	Pre-lab quiz (5 points), Lab report (30 points) Total points:35	Pair lab report due WK 4.
4	PD skill lab II	Liquid-liquid extraction, Acid-base chemistry, Glassware recognition	Pre-lab quiz (5 points), Report form (20 points) Total points:25	Individual lab report form due WK 6
5	No lab	Fall Break	n/a	n/a
6	Bromination of Stilbene	Alkene addition reaction, analysis, and structure determination using mp	Pre-lab quiz (5 points), Lab report (30 points) Total points:35	Pair lab report due WK 7
7	Career fair lab – come in to set up fermentation	Fermentation project orientation	Pre-lab quiz (5 points) Total points: 5	
8	Biofuel Project I (set up second fermentation)	Simple distillation, fermentation set up	Pre-lab quiz (5 points) Total points: 5	
9	Biofuel Project II	Fractional distillation, analysis	Pre-lab quiz (5 points), Lab report (55 points) Total points:55	Pair lab project report due WK 10
10	Check out	Lab clean up and check out	Course evaluation	TBA

Part 3: Grading Policy

Graded Course Activities

Total Points	Post-Lab Assignments
30	The Spartan assignment should be professionally typed and should include your lab notebook entry as an appendix. Make sure you answer each question and provide appropriate tables and illustrations where prompted.
20	The PD Skill Lab report form may be hand-written and submitted early. You must finish the unknown assignment before leaving lab, however, you have until the following week to finish filling out the report form.
30	The Aldol lab report should be professionally typed and should include each partners' lab notebook entries in the appendix. Make sure you have each section of the lab report clearly marked and that your calculations are easy to follow.
20	The PD Skill Lab report form may be hand-written and submitted early. You must finish the extraction assignment before leaving lab, however, you have until the following week to finish filling out the report form.
30	The Stilbene lab report should be professionally typed and should include each partners' lab notebook entries in the appendix. Make sure you have each section of the lab report clearly marked and that your calculations are easy to follow.
60	The Biofuels project lab report should be professionally typed and should include each partners' lab notebook entries in the appendix. Make sure you have each section of the lab report clearly marked and that your calculations are easy to follow.
Total: 190	

Visit the **Topical page** in Moodle for details about each assignment listed below.

Pre-lab quizzes will be 5 points and will be due BEFORE coming to lab each day. The purpose of the quizzes are to assess your readiness for lab.

Late Work Policy

Be sure to pay close attention to deadlines—there will be no make up assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval.

Letter Grade Assignment

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage	Performance
A	90-100%	Excellent Work
B+	87-89%	Very Good Work
B	80-86%	Good Work
C+	77-79%	Above Average Work
C	70-76%	Average Work
D+	67-69%	Below Average Work
D	60-66%	Poor Work
F	0-59%	Failing Work

Important note: For more information about grading at Rose-Hulman, visit the academic policies and grading section of the student catalog.

Understand When You May Drop This Course

It is the student's responsibility to understand when they need to consider dropping a course. Refer to Rose-Hulman Institute of Technology Registrar's page and academic calendar for dates and deadlines for registration.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if a health condition arises that prevents the student from completing his or her assignments. All incomplete course assignments must be completed by the end of the following term. In the event of a grade of incomplete, the instructor will need to inform the student and the department head of the necessary items to complete for a grade in the course. If the instructor does not submit a grade the following term, the incomplete will automatically result in a grade of F in the course. It is the responsibility of the student and faculty member to arrange deadlines for the assignments.

Inform Your Instructor of Any Accommodations Needed

Rose-Hulman Institute of Technology is committed to equal educational opportunities for qualified students with disabilities in compliance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. The purpose of Disability Services is to assist students with disabilities to realize their academic and personal potential. Students with disabilities needing accommodation are required to contact Karen DeGrange, degrange@rose-hulman.edu or the student affairs office, 812-877-8919. All requests for accommodations need appropriate advance notice by the student to avoid a delay in services. Please discuss approved accommodations with your course instructor.

Commit to Integrity

As a student in this course (and at Rose-Hulman Institute of Technology) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

Academic Dishonesty Policy

1. Academic dishonesty includes such things as cheating, inventing false information or citations, plagiarism and helping someone else commit an act of academic dishonesty. It usually involves an attempt by a student to show possession of a level of knowledge or skill that he/she does not possess.
2. Course instructors have the initial responsibility for detecting and dealing with academic dishonesty. Instructors who believe that an act of academic dishonesty has occurred are obligated to discuss the matter with the student(s) involved. Instructors should possess reasonable evidence of academic dishonesty. However, if circumstances prevent consultation with student(s), instructors may take whatever action (subject to student appeal) they deem appropriate.
3. Instructors who are convinced by the evidence that a student is guilty of academic dishonesty shall assign an appropriate academic penalty. If the instructors believe that the academic dishonesty reflects on the student's academic performance or the academic integrity in a course, the student's grade should be adversely affected. Suggested guidelines for appropriate actions are: an oral reprimand in cases where there is reasonable doubt that the student knew his/her action constituted academic dishonesty; a failing grade on the particular paper, project or examination where the act of dishonesty was unpremeditated, or where there were significant mitigating circumstances; a failing grade in the course where the dishonesty was premeditated or planned. The instructor will forward a formal letter describing the incident to the Dean of Students, the Registrar, the Academic Advisor, and the Department Head. This letter shall include a description of the alleged incident of academic dishonesty, any relevant documentation, and any recommendations for action that he/she deems appropriate.
4. The Dean of Students shall maintain an Academic Dishonesty File of all cases of academic dishonesty with the appropriate documentation.
5. Student may appeal any actions taken on charges of academic dishonesty to the "Rules and Disciplines Committee."
6. The Rules and Disciplines Committee shall consist of faculty, staff and at least one student.
7. Individuals may not participate as members of the Rules and Disciplines Committee if they are participants in an appeal.
8. The decision of the Rules and Disciplines Committee will be forwarded to the President of Rose-Hulman Institute of Technology, whose decision is final.

Important Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

Course policies are subject to change. It is the student's responsibility to check Moodle for corrections or updates to the syllabus. Any changes will be posted in Moodle.