Organic Chemistry I Laboratory 50:160:339 Syllabus

Fall 2024

Course Description

The Organic Chemistry I Laboratory (50:160:339) is a 1 credit course that is a co-requisite with Organic Chemistry I (50:160:335) Lecture. Pre-requisites include successful completion of Chemical Principles I Lecture (50:160:115), Chemical Principles II Lecture (50:160:116), Chemical Principles I Laboratory (50:160:125), and Chemical Principles II Laboratory (50:160:126). Successful completion of both the first lecture and lab with a grade of "D" or better is the pre-requisite for the second semester lab. This class is designed to illustrate the principles and practices of Organic Chemistry. Weekly recitation meetings and the weekly lab period will be mandatory in this course. This class and the grade you earn is independent of the Organic Chemistry Lecture course and grade.

Goals and Learning Objectives

Chemistry is an experimental science; this includes but is not limited to, careful observations, proper laboratory techniques, use of instrumentation, analysis of data, and formation of a conclusion. Observational skills, as well as the analysis of data and formation of a conclusion, are vital techniques in this course, as well as in the overarching science field. Each week of this course presents a new experiment designed to expose the student to a new topic or technique. Students will perform the experiment and analyze their obtained data. A weekly introductory discussion includes defined objectives for both the theory and the necessary laboratory skills that will be required when performing the experiment. Additionally, each student will keep a lab notebook, which is a legal and scientific record of their work. This is useful regardless of the career path you follow: research, forensics, education, etc. Students will develop a set of skills that include but are not limited to:

- Problem-solving
- Chemical literature and information management
- Oral and written communication
- Ethics: responsibility as a chemist to the world at large and to classmates
- Laboratory and chemical safety

The development of these skills will involve:

- Careful observations
- Good laboratory techniques through observation
- Analysis of data
- Formation of an in-depth conclusion

Required Course Materials

- Safety gear:
    - Cloth, long-sleeved lab coat (PROVIDED TO YOU)
    - Safety goggles (PROVIDED TO YOU)
    - Ziploc and plastic bag for placing PPE into after lab period
- Printed procedure for each experiment (must have it at the start of class)
- Notebook to record in-person observations and data
- Canvas account
- Basic scientific (non-graphing) calculator

- Computer access and internet connection
- Microsoft office programs for reports

One lab coat and pair of goggles will be provided for the duration of your chemistry career (chem principles lab II, organic chem lab, etc.) Be sure to keep your gear safe and write your name in it during the first day of class.

Class Format

This course has several different assignment types, including prelabs, quizzes, exams, the creation of a lab notebook, data analysis, the formation of an in-depth conclusion, and attending recitation. Deadlines are strictly enforced, and points are lost each day assignments are submitted late according to the late assignment guidelines section. There are two parts to this course: a mandatory recitation period every Thursday and lab period. The recitation period is a lecture that introduces the theory and practical steps of the week's experiments, and a quiz is used to wrap up the experiment performed or studied in class prior to recitation. The lab period is used to perform the experiment, record data, and apply the information learned in recitation to the hands-on experiment.

Attendance

Exams, quizzes, recitation, and lab attendance cannot be made up. If you miss an exam/quiz or recitation/lab, you will receive no credit for that assignment. Extenuating circumstances may occur, but proper documentation will be required for these instances. As this is a hands-on laboratory course, weekly participation is required. Exceptions will be made on a case-by-case basis with your lab instructor, but proper documentation will be required (contact as soon as possible if you need to miss a lab due to illness or other extenuating circumstances). Missing more than three labs during the semester will result in an automatic grade of F for the lab course.

Communication guidelines

Please feel free to contact your instructor throughout the semester with any questions or concerns you have. General course questions, specific assignment questions, or confusion, as well as concerns you may have, are all welcome.

Email

When contacting your instructor, please include your full name. When you send your email, you can expect a response based on the following guidelines:

- Monday-Friday: within 24 hours (between 10:00am EST and 6:00pm EST, will likely be sooner).
- Weekend emails: within ~48 hours.
- Emails received between 8:00pm EST and 7:00am EST will not be answered until the next day.

Office hours

Office hours will be during designated times (provided by your instructor) or by appointment, which require 48-hour notice. Please email in advance with the specific reason you would like to meet if asking to schedule an appointment. Office hours may be subject to change depending on your instructor's availability. Each instructor will provide you with information about when and where office hours will be held.

What you can expect from your instructor in this course

- Communications to the entire class will come via Announcements in Canvas. This will be a way to send out reminders, clarifications, or to announce when an assignment or video has been uploaded if not previously discussed. To ensure you receive these announcements/emails, please make sure your Canvas Notifications are set to alert you to new announcements immediately.
- Individual emails will be sent to your scarletmail email account. Please be sure to check this email daily.
- Provide feedback on all submitted prelabs/notebooks, reports/post-notebooks, and exams promptly to allow you to improve throughout the course.
    - To view feedback: click on the assignment of your choosing and then click "view feedback".
- Respond to emails based on the above guidelines.

Assessment and Grading Scheme

Grade Percentage	Letter Grade
100-90.00	A
89.99-85.00	B+
84.99-80.00	B
79.99-75.00	C+
74.99-70.00	C
69.99-60.00	D
59.99-0	F

Activity Type	Percentage of Grade
Recitation attendance and lab participation	20%
Quizzes	10%
Prelab questions and pre-notebook	25%
Post-notebook/lab results analysis	25%
Exams	20%

Late assignment guidelines

If you miss a deadline for an assignment, please submit to the appropriate assignment tab on Canvas as soon as possible. Prelabs, postlabs, and notebooks lose points according to the late grading scheme below:

- Immediately following deadline time to 7 days late: 5% of points deducted **per day**
- 8-14 days late: 50% of points available
- 15-21 days late: 25% of points available
- After 21 days: 0% of points available

Assignment Descriptions and Expectations

Recitation attendance and participation

You are expected to attend recitation each week Thursday at 8:00am. The purpose is to introduce both theory and practical steps of the experiment so it may be performed in a SAFE manner. Mechanisms, equations, and pertinent information will be covered. If you are more than 5 minutes late, you will lose points.

Prelab Questions and Pre-Notebook

Students will complete a prelab assignment before coming to lab. The prelab will ensure students understand the background information related to each particular experiment and are able to connect it to what they will be performing in the lab. The prelab can include basic questions as well as a general notebook outline. Guidelines and an example for this are found in the Course Modules. ***If the entire prelab assignment is not***

completed prior to lab, students will not be permitted to perform the experiment. Instead, you will observe, and lose 30% of the credit available on the post-notebook. This is for safety reasons since this assignment introduces the hazards of the chemicals used. You will access the Modules tab and choose the appropriate lab to submit your document. All assignments must be in PDF format and only one file must be submitted. **Assignment resubmissions after the deadline are not permitted.**

Notebooks and lab results analysis

Students will write a lab notebook documenting the experimental process and the data obtained. Detailed instructions for this notebook are found in the Course Essentials module on Canvas and an outline will be provided for you to fill in. The notebooks must be kept up to date in accordance with the course syllabus. This is a professional summary of the experimental work that was performed in the lab. For the data analysis portion, it is expected all relevant calculations will be performed using data obtained in the lab, graphs (if applicable to the experiment) will be created, and a detailed analysis of what the data means in connection with the experiment will be performed. An in-depth 2-4 paragraph long conclusion will be written, including restating the purpose, a general summary/overview of the experiment, data and data analysis, what the data means in the context of the experiment, discuss if data obtained was expected, if the purpose was met, and possible sources of error that could have occurred. Again, after this extensive data analysis, you will access the Assignments tab, find the Notebook heading, and choose the appropriate lab to submit your PDF. Only one file must be submitted. An example notebook with extensive data analysis including mechanisms, equations, prelab and postlab calculations, and IR analysis can be found in the Course Modules. **Assignment resubmissions after the deadline are not permitted.**

Quizzes

Quizzes will be given weekly promptly on Thursdays at 8:00am. You will have a specific time limit assigned for each. The lecture portion of the recitation will follow immediately after finishing the quiz. If you miss a quiz (are late to recitation), it cannot be made up and no credit will be given for this missing assignment.

Exams

Two exams will be given containing information from all experiments performed and studied throughout the semester. Test questions can be of the following types: matching, fill in the blank, calculations, mechanisms, equations, and short answer.

In-Person Experiments

When in-person, contact lenses may not be worn. Glasses must be worn in their place. No open-toed shoes, crocs, shorts, tank tops, etc. may be worn in the lab. Pants and close-toed shoes must be worn in addition to goggles, gloves, and lab coats at all times. If you are asked three times to put goggles or a different piece of personal protective equipment back on, you will be asked to leave the lab. Gloves must be removed before leaving the lab, and you also must wash your hands. Cell phones and headphones of any kind are strictly prohibited in the lab.

Academic Integrity

Rutgers University takes academic dishonesty very seriously. By enrolling in this course, you assume responsibility for familiarizing yourself with the Academic Integrity Policy and the possible penalties (including suspension and expulsion) for violating the policy. As per the policy, all suspected violations will be reported to the Office of Community Standards. Academic dishonesty includes (but is not limited to):

- Cheating on exams, quizzes, assignments, etc. (Example: copying work from students or online/unsolicited sources)
- Plagiarism

- Aiding others in committing a violation or allowing others to use your work
- Failure to cite sources correctly
- Fabrication
- Using another person's ideas or words without attribution
- Re-using a previous assignment
- Unauthorized collaboration
- Sabotaging another student's work

If in doubt, please consult the instructor. Please review the Academic Integrity Policy at https://deanofstudents.camden.rutgers.edu/sites/deanofstudents/files/Academic%20Integrity%20Policy.pdf.

Medical Conditions

- Should you have any medical condition that could endanger yourself or classmates during the lab period, it is important that you notify the instructor immediately and confidentially.
- If you are pregnant or become pregnant, please speak with your instructor immediately.
- If you have a service dog, immediately contact your instructor.

Students with Disabilities

Students with disabilities are welcomed into all of the University's educational programs. If you have any concerns regarding your participation in a class for any reason, it is wise to know the services and accommodations that are available through the University. See the links below.

- https://success.camden.rutgers.edu/disability-services
- https://webapps.rutgers.edu/student-ods/forms/registration
- https://ods.rutgers.edu/students/documentation-guidelines

If you obtain a Letter of Accommodations from the Office of Disability, it is the student's responsibility to provide a copy of that Letter to the lab instructor within the first two weeks of the semester, if possible.

Serious Emergencies and Absences

If a serious emergency or problem (hospitalization, serious automobile accident, death of a family member, COVID-19 related, etc.) should occur during the course that will cause you to be absent from the class, please contact your instructor directly to report your absence. In certain instances, contacting the Dean of Students Office by calling 856-225-6050 or emailing deanofstudents@camden.rutgers.edu will be necessary. Documentation will be required for failing to complete the assignments or come to class on time.

Campus Resources

For a full list of resources on campus available to students, navigate to the sidebar of this canvas site and click on the tab labeled "RUC Student Resources", and click open link in new tab.

Schedule of Experiments: Fall 2024

Week	Recitation Date/Lab Dates	Experiment/Topic	Exam/Quiz During Recitation
1	Recitation: September 5 Labs: September 9-11	Syllabus, Check In Safety, Molecular Modeling	-
2	Recitation: September 12 Labs: September 16-18	Recrystallization/Melting Point	Quiz 1
3	Recitation: September 19 Labs: September 23-25	Simple Distillation/IR	Quiz 2
4	Recitation: September 26 Labs: Sep 30-October 2	Two Base Extraction	Quiz 3
5	Recitation: October 3 Labs: October 7-9	Isomerization	Quiz 4
6	Recitation: October 10 Labs: October 14-16	S_N2	Quiz 5
7	Recitation: October 17 Labs: October 21-23	Catch Up Week	Quiz 6
8	Recitation: October 24 Labs: October 28-30	S_N1	Exam 1 (Weeks 1-6)
9	Recitation: October 31 Labs: November 4-6	NMR	Quiz 7
10	Recitation: November 7 Labs: November 11-13	Kinetics & Solvolysis	Quiz 8
11	Recitation: November 14 Labs: November 18-20	Bromination of E-Stilbene	Quiz 9
12	Recitation: November 21 Labs: December 2-4	Extraction of Trimyristin	Quiz 10
13	No Labs/recitation: Nov 25-28	N/A Thanksgiving	-
14	Recitation: December 5 Labs: December 9-11	ChemDraw and Reaxys	Exam 2 (Weeks 7-13)

Lab Instructors Contact Information

Ms. Blessing	bvb9@camden.rutgers.edu	Sec. 01, 02	SCI-110
Mr. Bhembe	qab3@scarletmail.rutgers.edu	Sec 03, 05	SCI-110
Ms. Rufai	bor4@scarletmail.rutgers.edu	Sec. 04	SCI-110

Fill In/Sign and Submit to Canvas

I have read and understand ALL of the requirements for this lab course, including those in the syllabus. Failure to comply with them will result in a loss of points and ultimately a lower grade.

Date: _____ Course number & section: 50:160:339:____

Student's Signature: _____ Printed Name: _____