

Intermediate Organic Chemistry II Lab - CHEM 3110

Tuesday/Thursday MMII Section (CRN 12662/21552)

Course Syllabus - Spring 2021

Department of Chemistry
Georgia State University

Instructor: Dr. Thomas J. Robilotto

Email: trobilotto@gsu.edu

Class Meeting Time: Tues/Thurs 8:00 am – 9:00 am via Webex (Synchronous Lecture will be held at this time)

Lab session: On Labflow platform: Tues/Thurs 9:00 am – 12:45 pm

Online Office Hours: Wed 12:00 – 3:00 pm or by appointment via Webex through iCollege

Please allow 24 hours for a response via email Monday through Friday, emails on the weekend will not be checked until Monday. Any email concerning technology issues needs to be accompanied with a help ticket from the appropriate source (iCollege or labflow).

Course Description

This is a second semester organic chemistry lab which will introduce the student to techniques and instruments commonly used in an organic chemistry lab. There will be an emphasis on methods for the preparation, isolation, purification, and identification of chemical structure characteristics by using IR, melting point apparatuses, ¹H NMR, ¹³C NMR and literature search. This course is designed for students majoring in science, engineering, pre-medicine, pre-dentistry, and pre-pharmacy. The bulk of this course will be administered through Labflow in which you will watch videos of labs and concepts and then answer follow up questions. You will receive instruction on iCollege on how to set up your Labflow account **at no cost to you**.

Please note that this syllabus reflects a plan for the semester. Deviations may become necessary.

Materials

You will need a device capable of using the Respondus Lockdown Browser and the Respondus Monitor if you do not have a device you can obtain one here: <https://cetl.gsu.edu/resources/resources-for-learning-remotely/internet-options/>

A spreadsheet program capable of graphing Microsoft excel is recommended and can be downloaded through the Microsoft Office Suite free of charge here: <https://technology.gsu.edu/technology-services/it-services/software-computer-purchase/software-download-and-purchase/>

General Course Objectives

1. Understand and be able to explain the general principles, laws, and theories of chemistry
2. Use critical thinking and logic in the solution of problems
3. Apply learned chemistry skills to new situations
4. Demonstrate an understanding of chemistry through technological advancement
5. Apply chemical principles in the laboratory setting
6. Develop independent and cooperative learning skills
7. Understand the language and diagrammatic notation of organic chemistry and be able to communicate and apply this knowledge.
8. Develop an awareness of the value of chemistry in our daily living

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Student Learning Outcomes

After studying all materials and resources presented in the course, the student will be able to:

1. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
2. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
3. Use spectroscopic techniques such as IR and NMR to characterize organic molecules and subgroups.
4. Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
5. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
6. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.

Assessment/Grading

Below is a breakdown of points for each assessment activity in each module (except modules 1&8)

Pre-lab Questions	= 10 points
Pre-lab Quiz	= 10 points
Lab Report + Post-lab Questions	= <u>80 points</u>
Total Points =	= 100 points

The overall total points for each module are indicated below:

Module #	Lab Contents	Points
1	Lab Safety Review	15
	Syllabus Quiz (iCollege)	15
2	Grignard Reaction: Synthesis of Benzoic Acid	100
3	Diels-alder Reaction	100
4	Nucleophilic Aromatic Substitution Reaction	100
5	Hydration of 1-Hexene	100
6	Reducing Benzil	100
7	Cannizzaro Reaction Without Solvent	100
8	Synthesis of Aspirin	60
9	1-H NMR	100
10	13-C NMR	100
11	Experiment Review & Prepare for Final Exam	
12	FINAL EXAM	200
	<u>Attendance (module 1-10, 1pts each)</u>	<u>10</u>
	Total Points	1100

Letter Grades

A+: 96%, A: 92%; A-: 89%; B+: 86%; B: 82%; B-: 78%; C+: 76%; C: 72%; C-: 68%; D: 64%; D-: 60%; F < 60%.

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Course Structure and Organization

This course will be administered through Labflow and you will be responsible for completing the lab modules every week for the next 6 weeks (mini-mester schedule). The modules will open at 8:00 AM and close at 8:00 am the following day (24-hours) of that particular lab session. It is anticipated that you will complete the lab during the scheduled lab time.

Each lab module will have pre-lab questions, a report, and quiz and each module will take several hours to finish. Please plan according to make sure you can finish on time during the allowed window. All assignments will be graded within one week of them being turned in.

Students are required to attend all class meetings; absence will cause credit loss.

For each lab everyone should perform the following:

- Read background information and procedure
- Watch videos posted on Labflow and iCollege
- Review posted presentations on iCollege
- Attend pre-lab lectures
- Finish pre-lab questions and take the pre-lab quiz
- Complete lab report and post-lab questions

Make up Policy

It is the student's responsibility to finish all assignment on time, you have 24 hours to finish each assignment. However, please do not try to finish your assignment at the last minutes, you may be out of time and lose points. Please know that there will be no make-up given. If a student is unable to finish due to extenuating circumstances, such as a family emergency, illness, or injury, then possible time extension may be offered to the student at the instructor's discretion, please email me as soon as possible. Otherwise, late submission/extension will result in credit loss (50% of the module points will be deducted in 2 days after due date/time, it will be counted as zero after 2 days).

Regrades

If you wish to request a regrade you must request it within one week of the assignment being graded. No change will be made after this period.

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Course Help

Note that this is a 100% online course. Here are a few tips to get you started:

How Do I Contact You?

Official GSU email is the best method of communication between the instructor and the students. Use your GSU student email, not the iCollege email. Every effort will be made to reply to emails within 24 h. Please include the course number in the subject line, e.g. CHEM 3110.

How Do I Access My Course?

In the beginning of the semester, you will be given an access code to the online laboratory platform, where experiments are conducted. In addition, announcements regarding assignments, due dates, etc. will be made in iCollege, Georgia State University's learning management system. It is the student's responsibility to follow the iCollege schedule and keep up to date with the assignments.

How do I Activate iCollege Notifications?

On iCollege, click on your name then click on "notifications" and select the notifications in the list given. The most important notification you must select is the "announcements-new announcements available". I will be putting daily announcements to remind you of due dates and any updates about experiments. Please feel free to select as many notifications as possible.

What Are The Required and Optional Materials?

You need access to a computer to view online materials. You will require a composition notebook and a basic scientific calculator. Experimental Organic Chemistry by Wilcox and Wilcox, 2nd edition (recommended but not necessary).

Are There Any Required Meetings?

Students are required to attend all class meetings; absence will cause credit loss. It is highly recommended that students meet with the instructor at least once a week during office hours to discuss progress with lab experiments.

Are There Any Additional Fees?

This course has no additional fees.

How Do I Succeed in this Course?

If this is your first time taking an online course, you should refer to GSU's online student success guide.

If you want to borrow equipment such as an ipad or a chrome book, please contact <https://library.gsu.edu/services-andspaces/spaces-and-technology/borrow-equipment/> or <https://cetl.gsu.edu/resources/resources-for-learning-remotely/internet-options/>

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Schedule

Although this is an online course, we do have a set schedule. Please note that deviations may become necessary as the semester progresses. You'll want to refer to the calendar below frequently as we work together. I've also designed the course in such a way to help you stay on track, weekly intros, due dates attached to grade items, announcements, etc. If this is your first time taking an online course, you'll want to review the Online Time Management Essentials guide (<https://cetl.gsu.edu/resources/resources-for-learning-remotely/internet-options/>). Please note that deviations may become necessary as the semester progresses.

Tentative Laboratory Schedule

Module #	Starting Time and Date	Ending Time and Date	Labflow Assignments
1	8:00 am Mar-2	8:00 am Mar-5	<ul style="list-style-type: none">• Lab Safety (www.Labflow.com)• Syllabus Quiz (iCollege)• Review: Melting Points, IR, Sig. Figs.
2	8:00 am Mar-9	8:00 am Mar-10	<ul style="list-style-type: none">• Grignard Reaction: Synthesis of Benzoic Acid
3	8:00 am Mar-11	8:00 am Mar-12	<ul style="list-style-type: none">• Diels-Alder Reaction
	Mar-15 to Mar 19		<ul style="list-style-type: none">• SPRING BREAK
4	8:00 am Mar-23	8:00 am Mar-24	<ul style="list-style-type: none">• Nucleophilic Aromatic Substitution Reaction
5	8:00 am Mar-25	8:00 am Mar-26	<ul style="list-style-type: none">• Hydration of 1-Hexene
	Mar-26		Last day to withdraw and receive a W
6	8:00 am Mar-30	8:00 am Mar-31	<ul style="list-style-type: none">• Reducing Benzil
7	8:00 am Apr-1	8:00 am Apr-2	<ul style="list-style-type: none">• Cannizzaro Reaction Without Solvent
8	8:00 am Apr-6	8:00 am Apr-7	<ul style="list-style-type: none">• Synthesis of Aspirin
9	8:00 am Apr-8	8:00 am Apr-9	<ul style="list-style-type: none">• ¹H-NMR Experiment
10	8:00 am Apr-13	8:00 am Apr-14	<ul style="list-style-type: none">• ¹³C-NMR Experiment
11	8:00 am Apr-15	8:00 am Apr-16	<ul style="list-style-type: none">• Review all iCollege and labflow contents to prepare for the final exam
12	9:00 am Apr-20	11:59 pm Apr-22	<ul style="list-style-type: none">• Final Exam on iCollege

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Remaining Course Policies

I have developed several policies that seem to work well in this course. Please review these very closely. You'll have an opportunity to voice your opinion on these policies and other aspects of the course when we reach evaluation points during the semester.

Attendance and Participation Policy

Participation and completion is required of all labs. Completion of all components of individual experiments and the final exam is required to successfully pass the lab. Participation is monitored and recorded. However, this level of instruction includes expected personal responsibility that will not always be addressed. YOU are responsible for missed work. Legitimate reasons such as emergencies, hospitalization, etc. will be considered as excused absences for missed work provided proper documentation. Participation be counted as part of your grade.

Withdrawal: Semester midpoint and the last day to withdraw from the course without a penalty is Mar 26th, 2021. After this day, withdrawing results in a 'WF' grade on your transcript. Missed work does not guarantee automatic withdrawal. Any student who does not withdraw formally and has unexcused absences for the lab assignments/s will receive an 'F'. A withdrawal from this course will necessitate re-taking the laboratory. ***Please talk to your instructor and your advisor before withdrawing from the course. We care about your success and are here to discuss your options with you.**

Make-up Exam Policy

Students are required to complete ALL lab experiments, take ALL the quizzes and submit All the reports by the DUE DATES given in the syllabus. Incomplete assignments WILL count as zero. Assignments will NOT reopen after the due date. The final exam is also not exempt from this policy and also must be completed in its given window.

Course Evaluation

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.

Other Policies

GSU Policy Regarding Student Conduct and Integrity:

The Georgia State University Policy on Academic Honesty is in force in this course, including, but not necessarily limited to, infractions in the areas of plagiarism, cheating on examinations, unauthorized collaboration, falsification, and multiple submissions. The University's policy is published in the "On Campus: The Student Handbook", available to all members of the university community. Therefore, all exams taken must represent your individual unaided efforts.

Cheating: "Cheating" is defined as unauthorized help on an examination or assigned course material.

A student must not receive from any other student or give to any other student any information, answers, or help for a lab assignment. A student must not "steal" the answers or data from an unsuspecting student. A student must not use any sources for answers during a quiz or completion of a report (including, but not limited to: notes, books, or electronic devices) without prior authorization from the instructor. A student must not obtain quiz/report questions illegally, tamper with the exam questions, nor change the results of an exam after it has been graded. All cheating infractions will result in a grade of "0" for the assignment. This policy shall be adhered to unless mitigating circumstances should prove a lesser penalty should apply. Students shall have the right to contest a cheating claim. The appeals process is specifically defined in the student handbook. Sharing information/cheating via group messaging apps such as GroupMe or Slack is a violation of the Academic Honesty Policy.

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Plagiarism: "Plagiarism" is defined as the taking of a person's ideas, words, or information and claiming those properties as one's own. The use of all ideas, words, or information from any source must be properly referenced and due credit must be given to its author. Any assignment which scores higher than 30% on copied material will automatically receive a grade of "0". Properly quoting and citing borrowed information is NOT plagiarism. However, since the integrity of the assignment is based upon the originality of the student's work, no student may turn in a paper which exceeds a 30% score in properly quoted and cited material. The instructor reserves the right to employ means to check the "originality" of a student's work. Students shall have the right to contest a plagiarism or cheating claim. The appeals process is specifically defined in the student handbook.

Conduct or actions that disrupt class or test periods or falsification of information related to chemistry courses by any student will be taken as violation of the policies of the Board of Regents of the University System of Georgia and the GSU Student Code of Conduct, Section 6.0. Any suspected offenses may be referred to the Department Chair and the Dean of Students for appropriate disciplinary action. Any student presenting falsified documentation will receive an "F" for the course and be referred to the Chemistry Department Chair or Dean of Students for disciplinary action. **Consequences beyond school-** Should you consent to a background check, GSU is required to report all academic integrity violations which could interfere with plans for a promising career in a given field.

Special Needs

Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought. Students with special needs should then make an appointment with me during the first week of class to discuss any accommodations that need to be made.

FERPA

In keeping with USG and university policy, this course website will make every effort to maintain the privacy and accuracy of your personal information. Specifically, unless otherwise noted, it will not actively share personal information gathered from the site with anyone except university employees whose responsibilities require access to said records. However, some information collected from the site may be subject to the Georgia Open Records Act. This means that while we do not actively share information, in some cases we may be compelled by law to release information gathered from the site. Also, the site will be managed in compliance with the Family Educational Rights and Privacy Act (FERPA), which prohibits the release of education records without student permission.

Sexual Harassment

In instances of sexual misconduct, the present instructor(s) and teaching assistants, are designated as Responsible Employees who are required to share with administrative officials all reports of sexual misconduct for university review. If you wish to disclose an incident of sexual misconduct confidentially, there are options on campus for you to do so. For more information on this policy, please refer to the Sexual Misconduct Policy which is included in the Georgia State University Student Code of Conduct.

Basic Needs Statement

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide resources that we may possess. The Embark program at GSU provides resources for students facing homelessness.