Intermediate Organic Chemistry II Lab (CHEM 3110)

Online Course Syllabus – Summer 2020(CRN 53942)

Department of Chemistry

Georgia State University

Instructor: Dr. Nilmi Fernando
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Required Text: Organic Chemistry by John E. McMurry, 9th Edition
Recommended Texts: 1) Experimental Organic Chemistry by Wilcox and Wilcox
2) Introduction to Spectroscopy by Pavia, Lapman, Kriz

Office Hours: MWF 11:00 am – 12:00 pm via Webex through iCollege
https://gsutech.service-now.com/sp?id=kb_article&sys_id=424c82bedb3973402c5b9696db961929

Course Description

Intermediate Organic Chemistry Laboratory II (CHEM 3110) is an equivalent of two laboratory sessions a week. The course is designed to accompany Organic Chemistry II lecture. Content learned in the lecture will be emphasized with a practical aspect. Students will learn modern quantitative and physical laboratory methods applied to the synthesis, separation, purification and identification of organic compounds.
The experiments are conducted in an online platform. Work assigned in a week is delivered as a module. Students will watch videos and read handouts on the background information of the experiments and submit a data report in the end.

General Course Objectives

1. To introduce fundamental and advanced reactions in organic chemistry
2. To expose students to fundamental and advanced laboratory techniques and apply learned organic chemistry skills to new situations
3. Demonstrate an understanding of chemistry through technological advancement
4. Develop independent and cooperative learning skills
5. Understand the language and diagrammatic notation of organic chemistry and be able to communicate and apply this knowledge.
6. Develop an awareness of the value of chemistry in our daily living

Student learning Outcomes

1. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
2. Describe organic reaction mechanisms in terms of energetics and thermodynamics.
3. Recognize nucleophiles, electrophiles and their reactivity, in order to predict the course of a reaction
4. Use spectroscopic techniques to characterize organic molecules and subgroups. How to characterize products by physical and spectroscopic means including mp, IR and NMR
5. Perform chemical experiments, analyze procedures, and waste disposal in a safe and responsible manner.
6. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
7. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
8. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
9. How to perform common laboratory techniques including reflux, distillation, recrystallization, vacuum filtration and thin-layer chromatography

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Assessment

Course learning goals are continuously assessed by periodic pre-lab quizzes, pre-lab questions, laboratory results and data laboratory reports, and assigned work.

Course Grades

The grading scale for this course is as follows:

Pre-lab questions	10 ×	10 =	100
Pre-lab quizzes -	10 ×	10 =	100
Reports -	10 ×	80 =	800
Total Points			1000

Letter Grades

A+	=	95%
A	=	90%
A-	=	87%
B+	=	84%
B	=	80%
B-	=	77%
C+	=	74%
C	=	70%
C-	=	67%
D	=	60%
F	=	< 60%

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.

What Are the Required and Optional Materials?

Organic Chemistry by John E. McMurry (9th Ed) is a required text. Experimental Organic Chemistry by Wilcox and Wilcox, 2nd edition is also recommended.

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Are There Any Required Meetings?

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?

There are no additional fees for this course.

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-and-spaces/spaces-and-technology/borrow-equipment/

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, including module 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.

This course is divided into 10 modules. You will have a week to complete each Module. For detailed information about what's required for each Module, visit iCollege and check out the syllabus and the module introductions. While you're working, I'll also be working hard to give you quality feedback and grade your assessments by the dates indicated below.

So, how much time do you need to spend working on this course? This is a 2-Credit Hour course. GSU recommends that you spend around **2 hours or more per week** interacting with readings, videos, and other sorts of content and **then 2 hours per credit hour per week** completing activities and assessments.

Withdrawal: Semester midpoint and the last day to withdraw from the course without a penalty is July 6th, 2020. 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.**

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Lab schedule

Start Date	End Date	Module	Assignment (in Labflow)
June 8 7:00 am	June 14 11:59 pm	**(1)** **(2)**	1. Overview Video Lecture (on iCollege) 2. Lab safety and quiz 3. Melting point of compounds and mixtures 4. Grignard reaction - **McMurry chapters 19.7 & 20.5**
June 15 7:00 am	June 21 11:59 pm	**(3)** **(4)**	1. Diels-Alder reaction - **McMurry chapter 14.4 &14.5** 2. Nucleophilic aromatic substitution - **McMurry Chapter 16.6**
June 22 7:00 am	June 28 11:59 pm	**(5)** **(6)**	1. Hydration of 1-Hexene –**McMurry Chapter 8.4** 2. Hydroboration of 1-Hexene –**McMurry Chapter 8.5**
June 29 7:00 am	July 5 11:59 pm	**(7)**	1. Reducing Benzil – **McMurry Chapters 5.1, 5.6, 5.7, 19.7**
July 6 7:00 am	July 12 11:59 pm	**(8)** **(9)**	1. Williamson ether synthesis - **McMurry Chapter 8.2** 2. Synthesis of Aspirin – **McMurry chapter 21.5**
July 13 7:00 am	July 23 11:59 pm	**(10)**	1. Video lecture and practice problems on NMR (iCollege) – **McMurry chapter 13** 2. Practice NMR (iCollege) 3. NMR experiment

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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.

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.

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.

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 students 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.

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 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.