

Course Description

Organic Chemistry IIA CHE 322 is the continuation of Organic Chemistry I (CHE 321), with discussion of the structure, reactivity, and properties of organic compounds introduced in CHE 321. It is an accelerated version of CHE 322 offered in the spring semester, condensed to about six weeks. The material learned from CHE 321 is essential to build upon and develop a deeper understanding of subsequent chapters. Therefore, it is vital to keep up with the coursework and not fall behind.

Prerequisite: A grade of C or better in CHE 321 (or any equivalent course from another university).

Staff and Contact Information

Instructor: Dr. Zachary E. Katsamanis
Zoom Personal Meeting ID: 974-208-3323
Email: zachary.katsamanis@stonybrook.edu

Teaching Assistants: contact information and office hours for each TA (and instructor) will be provided on our course website (OSKER) before the semester begins.

Course Structure

This is a fully online course that will be taught both synchronously and asynchronously. We will use Zoom as the primary platform for synchronous teaching. Sign into Zoom at stonybrook.zoom.us using your Stony Brook NetID and NetID password. The key to successfully learning organic chemistry is through working on problems, and by keeping engaged with your peers and instructors. The course is structured to keep you involved on an almost daily basis.

All documents, exams, quizzes, grades and announcements will be delivered in Blackboard (<https://blackboard.stonybrook.edu>) and OSKER (<https://organic.cc.stonybrook.edu/che322-summer-20/>). Both require your NetID and NetID password.

Pre-recorded lecture videos will be posted online. Lecture discussion sessions will be held on Mondays and Wednesdays 10:00-11:30am in Zoom. These discussion sessions will generally involve working on problems together based on the content of the pre-recorded videos assigned for that day. Participation during these lecture times will be required. Also, lecture quizzes will be given on OSKER that will be based on the videos. See "Lectures" section for more details.

Fridays during lecture time will be used for online exams on OSKER. See "Exams" section for more details.

Recitation sections (workshops) will be run by TAs using Zoom as the meeting platform and OSKER to view problems and upload answers. These workshops will meet Tuesdays and Thursdays. A workshop quiz (OSKER) will precede each workshop, serving as basic problems that will be covered during the scheduled recitation. See "Workshops" section for more details.

Students must be mindful of all course expectations, deliverables and due dates. All assignments and course interactions will utilize internet technologies. See "Technical Requirements" section for more information. It is always recommended to complete assignments in advance of deadlines in case of technical difficulties or in case they require more time than expected.

Required Text and Materials

- *Organic Chemistry, 6th edition*, by Loudon and Parise.
- Molecular Model Kit (**recommended, not required**) - While it is not required to purchase models, they are very useful tools for visualizing molecular structure.

Course Web Sites

The course website (<https://organic.cc.stonybrook.edu/che322-summer-20/>) and the Blackboard supported web site (<https://blackboard.stonybrook.edu>) should be checked on a regular basis. Online quizzes (workshop quizzes and lecture quizzes), exams, course announcements, lecture notes, lecture videos and various other course materials can be found there. Course information, grades, old examinations (posted selectively), and workshop copies can be found on the course websites. The most recent class notice and/or announcement will be emailed through Blackboard. **In order to receive the most recent email notice and/or announcement through Blackboard, you must check the email account associated with Blackboard.**

There are several features on **Oscerfolio** but we will only use some of them. You can post a note or question using the **Howler**, which is our version of Twitter. You can post short messages to the class and attach a photo taken with your cell phone. You can use the **Howler** to post solutions to problems or to ask a question. More will be explained during lecture and by your TAs.

Lectures

Lecture videos will be posted periodically in either Blackboard or Oscer (pay attention to announcements) that will be associated with lecture quizzes (which will go live when the videos are posted). A group of videos will be associated with an upcoming lecture session. Instead of one long lecture video corresponding to the textbook sections listed on the schedule section, the content will be divided into a few videos, each covering one topic. Lecture sessions will be conducted on Zoom Mondays and Wednesdays 10:00-11:30am. They will be recorded. We will use OscerClick (our own clicker system) during these sessions for problem solving. They will primarily be used for participation credit. The sessions will be somewhat informal, encouraging students to discuss and ask questions openly.

The lecture quizzes will close on the day of a lecture session at 9:00am. **For the first set of lecture quizzes, the due date is extended to Tuesday, July 7 at 9:00am.**

Each lecture quiz will be graded and worth **2 lecture points**. The clicker quizzes given during each lecture session will be worth a total of **5 lecture points** per session. Most of the clicker points will be earned based on attendance and some on correctness. When you take a graded quiz you will see two buttons. The Save button saves your work, the Submit button submits your work. You can save as often as you like, but the number of submissions is limited. When you submit, the **Oscerfolio** program will tell you which answers are correct and which are incorrect. Many of the quizzes use **OscerSketch**. It is a chemical drawing program. You press a button to open the **OscerSketch** window, draw your answer in the drawing window, and then hit the save button above the drawing window. When you close the window, you should see your drawn structure saved on the quiz page. When you submit your quiz for grading, **Oscerfolio** will assess your structure.

Workshops

Each workshop (recitation session) will have a workshop quiz associated with it due by 9:00am on Tuesday and Thursday. Two workshop quizzes will go live every Friday at noon. **For the first workshop quiz, the due date is extended to Wednesday, July 8 at 9:00am.** The workshop quizzes will be graded (full credit for correctly answering 70%, and half credit for correctly answering at least 30%). Full credit for each workshop quiz is worth **4 workshop points**. Zoom attendance and participation at your recitation is required and will be worth **5 workshop points**. During workshop, you will log into Oscerfolio and complete 'Exercise' problems and upload them into the system. TAs will guide you during these Zoom meetings and lead discussions. Student will also have the ability for to interact and share answers.

Attendance and Late Work Policy

Attendance and participation in this online course is crucial. You cannot make up work in this class, so failing to stay on top of your course responsibilities can quickly spiral into a failing grade for the course.

Late work will not be accepted. If you anticipate being unable to complete assignments for a day or two, you should work ahead to assure timely completion. While we do allow for you to miss some lecture points and workshop points without a grade penalty, it is to your advantage to participate in all of them if possible.

Technical Requirements

If you are unsure of your NetID, visit <https://it.stonybrook.edu/help/kb/finding-your-netid-and-password> for more information. You are responsible for having a reliable computer and Internet connection throughout the term. **Caution! You will be at a disadvantage if you attempt to complete all coursework on a smart phone or tablet.**

The following list details a minimum recommended computer set-up and the software packages you will need to have access to, and be able to use:

- PC/Windows or Macintosh with currently supported operating system
- Latest version of Chrome, Firefox or Explorer; Mac users may use Chrome, Firefox or Safari. (A complete list of supported browsers and operating systems for Blackboard can be found on the My Institution page when you log in to Blackboard.)
- High speed internet connection
- Speakers (either internal or external) or headphones
- Microphone (You will not get credit for workshop participation if you do not have a microphone. Participation by typed text alone is not sufficient.)
- **Webcam (it is advantageous if we can see you during lecture and workshop discussions, but more importantly require this for exams. See “Exams” for more detail)**
- Smart phone or camera that allows you to photograph your work on paper and upload to Osker or a graphics drawing tablet to use during your scheduled recitation/workshops.

Technical Assistance

If you need technical assistance at any time during the course or to report a problem with Blackboard you can:

- Visit the Stony Brook University Student Help Desk Page
- Phone:
 - (631) 632-9602 (technical support and Blackboard issues)
 - (631) 632-9800 (client support, wifi, software and hardware)
- E-Mail: helpme@stonybrook.edu
- Live Chat: [Chat Live with the TLT Student Help Desk!](#)
- For assistance after **5 PM or over the weekend**, please contact the Open SUNY help desk at 1-844-673-6786 or OpenSUNYHelp@suny.edu

Exams

There will be 5 mini-exams and one final exam. Each mini-exam will be worth 50 points. The final exam will be worth 150 points. **Each mini-exam will be an hour long and administered at 10:00am on Fridays (July 10, July 17, July 24, July 31, August 7). The final exam will take place on Friday, August 14 (9:00 – 11:30am).** You will take the exam on Oskerfolio, but **you will also be required to log into Zoom and turn on your webcam for proctoring purposes.**

Exams will be based on the content of lectures, the textbook chapters, workshops, workshop quizzes, clicker quizzes and lecture quizzes. The questions will be a mix of multiple choice and short answers. For these exams, use of your textbook and other course materials will be allowed, including molecular models. Any student who violates this privilege will be charged with academic dishonesty.

There are no make-up exams for the mini-exams missed due to illness or other personal matters. If an exam date falls on a religious holiday that you observe, the instructor should be informed as early in the semester as possible. An exam grade will be generated for the missed mini-exam, based on the other four mini-exams and the final exam (scaled to account for differences in class averages).

All students must take a final exam. Any student missing the final exam must notify Dr. Katsamanis within 24 hours in order to be eligible for the make-up exam. The make-up exam is primarily used to determine whether or not the student deserves the grade indicated by the student's average. The make-up final cannot be used to raise a student's grade above that indicated by the midterm exams. The date for the make-up exam will be determined upon notification of a missed final exam.

Exam Regrade Request Procedure

Although extraordinary care is taken to assure an error free process, errors may occur. If you believe there is an error in the grading, then you can request a regrade. You must send an email to Dr. Katsamanis (with "Exam Regrade" in the title of the email) asking which problem(s) to be reviewed and why. Make sure you review the answer key before requesting a regrade. Only request a regrade if you feel there was an error in grading, not because you disagree with the key. **The deadline for each exam regrade is the next exam (i.e. once mini-exam 2 has been given, you can no longer request a regrade for mini-exam 1). Regrade requests will not be considered past the deadline.**

You are required to read the exam taking protocol document that will be posted on both Blackboard and Oscr at the beginning of the semester.

Grades

The possible total number of lecture points will equal more than 100 points, and the total number of workshop points will also equal more than 100 points. However, you can only earn 100 points max in each category. This means that you can miss some points with no penalty. **Therefore, there will be no make-up lecture or workshop points.**

There are a total of 600 points possible in the course:

- Lecture points (clicker quizzes and lecture quizzes): 100 points
- Workshop points (workshop quizzes and workshop attendance): 100 points
- Mini-exams (50 points each): 250 points
- Final exam: 150 points
- Total: 600 points

Your grade will be determined from using the following scheme.

Points	0	240	270	300	360	396	432	468	504	540
Grade	F	D	D+	C	C+	B-	B	B+	A-	A

Many students ask why we do not use a "curve." The answer is simple. We want everyone to have the opportunity to get a good grade. With an absolute scale your grade does not depend upon how well others in the class perform. We would like to give lots of A's and B's, but you must do well on the exams.

Extra Help

We provide considerable help to all students taking the course. You should take full advantage of the TAs' office hours on Zoom. They go above and beyond to provide help to our students. Our TAs will be available online often as well. The TAs are very knowledgeable with the course content but they are not experts on it. They are here to help you understand difficult concepts and should not be held accountable for any errors they may make. If you feel you need additional help, there are various independent tutoring services available. You may wish to check out these various services. However, none of these services are endorsed by us and should never be viewed as a substitute for hard work.

Responsibilities

Each student is responsible for knowing all procedures and course expectations detailed in this document, in other handouts, on the websites or those announced in lecture. Failure to attend a lecture is not an excuse for not knowing what was presented or announced. If you miss a lecture it is your responsibility to find out what transpired.

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>.

Each student must take each exam independently with no assistance from any other student and without the aid of any unauthorized materials or electronic devices. Each student is expected to read and follow the rules set in the 'exam-taking procedure' file (posted on the course website). Deviations from this standard will result in a report to the Academic Judiciary.

Student Accessibility Support Center (SASC)

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Student Accessibility Support Center (631) 632-6748 or email: SASC@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. The SASC office is located in 128 Educational Communications Center (ECC), directly behind the Psychology A building and diagonally across the back parking lot of the Student Activities Center (SAC). For procedures and information go to the following website: <https://stonybrook.edu/SASC/>.

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Learning Objectives in Organic Chemistry

Two fundamental learning objectives of organic chemistry are:

1. The knowledge of organic chemistry. That is, what we currently know about the structure, dynamics and synthesis of different molecular entities and how this knowledge is interpreted in terms of modern theories. This is the stuff or facts of organic chemistry.
2. The application of the above knowledge to the solution of complex problems in organic chemistry. This is a more important learning objective because problem solving skills developed in organic chemistry can be transferred to problem solving in other fields such as medicine.

Two other learning objectives of organic chemistry introduced in the course but not explicitly evaluated on exams are the following:

3. The role organic chemistry has played in the development of our modern society.
4. The development of team skills to solve complex problems.

Exam questions for evaluating learning objectives 1 and 2.

Learning Objective 1. The knowledge of organic chemistry is often evaluated using multiple choice questions such as the following:

- (a) Choose the order that has the following structures (compounds) correctly arranged with respect to some physical or chemical property such as boiling point, solubility, acidity, reactivity, etc.
- (b) Choose the major product of the following reaction.
- (c) Choose the reactant and reagents that would give the following compound.
- (d) Choose the compound most consistent with the following data.

The knowledge of organic chemistry is also evaluated using short answer questions. An advantage of short answer questions is that they require a written answer rather than a selection from a list. Some examples are the following:

- (a) Give the major product of the following reaction.
- (b) Give reactants and reagents for performing the following transformation.
- (c) Give the correct name (structure) of the following structure (name).

Learning Objective 2. The application of the knowledge of organic chemistry to the solution of complex problems must be accomplished using written rather than multiple choice questions. Common questions are the following:

- (a) Give the structures of compounds A-E consistent with the following observations.
- (b) Using the curved arrow formalism show how the bond making and bond breaking occurs in the following transformation.
- (c) Show how the following compound could be prepared from reactants and reagents containing four carbon atoms or less. This problem develops skills of working a problem backwards.

Tentative schedule for CHE 322

A schedule file can also be found on Blackboard in calendar format.

Date	Lecture Videos and Sessions	Workshop
July 6-7	Ch. 15 (15.1, 15.2, 15.4, 15.6): Conjugation, synthesis of dienes and addition to dienes	WS1 – Conjugation, synthesis of dienes and addition reactions of dienes
July 8-9	15.3, 15.7: Diels-Alder reaction and aromaticity.	WS2 – Diels-Alder reaction & aromaticity
July 10	Mini-exam 1: 10:00-11:00am	
July 13-14	Ch.16: Electrophilic aromatic substitution Ch. 17 (exclude 17.5A,B, 17.6): Allylic and benzylic reactivity	WS3 – Electrophilic aromatic substitution, and allylic reactions
July 15-16	18.1, 18.3, 18.4: Nucleophilic aromatic substitution Begin Ch. 19 (exclude 19.3)	WS4 – Nucleophilic aromatic substitution and intro to additions to carbonyls
July 17	Mini-exam 2: 10:00-11:00am	
July 20-21	Finish Ch 19 Ch. 20 (exclude 20.3): Carboxylic acids	WS5 – More carbonyls & carboxylic acids
July 22-23	Ch. 21 (exclude 21.4, 21.12): Carboxylic acid derivatives	WS6 – Reactions of carboxylic acid derivatives
July 24	Mini-exam 3: 10:00-11:00am	
July 27-28	Ch. 22 (exclude 22.3B-D, 22.5 and 22.7): Intro to enolates (22.1-22.3, 22.8)	WS7 – Intro to enolate chemistry
July 29-30	Ch. 22 continued: Condensation reactions	WS8 – Claisen and aldol condensations
July 31	Mini-exam 4: 10:00-11:00am	
August 3-4	Ch. 22 continued: Conjugate addition Ch. 23 (23.1-23.7, exclude 23.4): Amines	WS9 – Conjugate addition and amines
August 5-6	Finish Ch. 23 (23.8-23.12) 18.5, 18.6: Organometallic chemistry	WS10 – More amines and organometallic chemistry
August 7	Mini-exam 5: 10:00-11:00am	
August 10-11	Ch. 24 (24.1-24.11): Carbohydrates	WS11 – Carbohydrates
August 12-13	Review	WS12 - Review
August 14	Final Exam – 9:00-11:30am	